

9/1/03-00626

Final

Decision Document
SWMU 15
NAS Oceana
Virginia Beach, Virginia



Prepared for

Department of the Navy
Atlantic Division
Naval Facilities Engineering Command
Norfolk, Virginia

Contract No. N62470-95-D-6007
CTO-0105

September 2003

Prepared by

CH2MHILL

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Contents

Acronyms.....	iii
1 The Declaration.....	1-1
1.1 Site Name and Location.....	1-1
1.2 Statement of Basis and Purpose.....	1-1
1.3 Description of the Selected Remedy.....	1-1
1.4 Statutory Determination.....	1-1
2 Decision Summary.....	2-1
2.1 Site Name, Location, and Description.....	2-1
2.2 Site History and Enforcement Activities.....	2-1
2.2.1 History of Site Activities at SWMU 15.....	2-1
2.2.2 Previous Investigations at SWMU 15.....	2-2
2.2.3 Enforcement Actions.....	2-3
2.3 Community Participation.....	2-3
2.4 Scope and Role of Response Actions.....	2-4
2.5 Site Characteristics.....	2-4
2.5.1 Overview.....	2-4
2.5.2 Nature and Extent of Contamination at SWMU 15.....	2-5
2.6 Current and Potential Future Site and Resource Uses.....	2-6
2.7 Summary of Site Risks.....	2-6
2.7.1 Human Health Risk Assessment.....	2-6
2.7.2 SWMU 15 Ecological Risk Assessment.....	2-8
2.7.3 Conclusions and Recommendations.....	2-8
2.8 Selected Remedy.....	2-8
2.9 Documentation of Significant Changes.....	2-8
3 Responsiveness Summary.....	3-1

Figures

- 1 Location Map for NAS Oceana
- 2 SWMU Location Map
- 3 SWMU 15 Site Map

Appendix A Transcript of Public

Acronyms

BTEX	benzene, toluene, ethylbenzene, and xylene
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CMS	Corrective Measures Study
CT	Central Tendency
DD	decision document
DoN	Department of the Navy
DPT	direct-push technology
ERA	Ecological Risk Assessment
HHRA	Human Health Risk Assessment
HI	Hazard Index
IAS	Initial Assessment Study
IRP	Installation Restoration Program
MIP	membrane interface probe
MNA	monitored natural attenuation
msl	mean sea level
NAPL	non-aqueous phase liquid
NAS	Naval Air Station
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
PAHs	polycyclic aromatic hydrocarbons
POL	petroleum, oil, and lubrication
PRAP	Proposed Remedial Action Plan
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RME	Reasonable Maximum Exposure
SARA	Superfund Amendments and Reauthorization Act of 1986
SMP	Site Management Plan
SWMU	Solid Waste Management Unit
TPH	total petroleum hydrocarbons
TRC	Technical Review Committee
USEPA	U.S. Environmental Protection Agency
UST	Underground Storage Tank
VDEQ	Virginia Department of Environmental Quality

The Declaration

1.1 Site Name and Location

Solid Waste Management Unit (SWMU) 15 is located on Naval Air Station (NAS) Oceana, Virginia Beach, Virginia.

1.2 Statement of Basis and Purpose

This decision document (DD) presents the determination that no further action (NFA) is necessary to protect human health and the environment resulting from a release pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) at SWMU 15, located at NAS Oceana, Virginia Beach, Virginia. This determination was made in accordance with CERCLA, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision is based on the Administrative Record file for this site.

The U.S. Environmental Protection Agency (EPA) and the Virginia Department of Environmental Quality (VDEQ) concur with the selected remedy.

1.3 Description of the Selected Remedy

Previous investigations of SWMU 15 determined that the constituents driving the limited CERCLA risk to human health from exposure to groundwater are related to former fuel handling and operations at the site. No ecological risks were identified at the site. In accordance with the CERCLA exclusion of petroleum, oil, and lubrication (POL) constituents, the regulatory oversight of the SWMU will be transferred to the VDEQ Underground Storage Tank (UST)/POL program. Therefore, no further CERCLA remedial action is necessary to protect public health or the environment.

1.4 Statutory Determination

The no further CERCLA remedial action decision for NAS Oceana SWMU 15 is protective of human health and the environment. While Department of the Navy (Navy) identified limited risks associated with future groundwater use at the site, the constituents present are associated with former fuel handling operations at the site and will be addressed as part of the VDEQ's UST/POL program. Any future remedial measures at the SWMU will be conducted in accordance with the UST/POL program; therefore, a 5-year review will not be required. If contamination posing an unacceptable risk to human health or the environment is discovered after execution of this DD, the Navy will undertake additional investigation or study to characterize the contamination and associated risk and will take appropriate action under CERCLA, if deemed necessary.

F. F. Aucremanne

F. F. AUCREMANNE, CAPT, CEC, U. S. NAVY, REGIONAL ENGINEER
By Direction of the Commander, Navy Region, Mid-Atlantic

10/14/03
Date

Decision Summary

This DD describes the Navy's selected remedial action for SWMU 15 at NAS Oceana, Virginia Beach, Virginia (Figure 1). The EPA and VDEQ concur with the selected remedy. The Navy is the lead agency and provides funding for site cleanups. SWMU 15 (Figure 2) is among several Installation Restoration Program (IRP) sites located at the NAS Oceana facility.

2.1 Site Name, Location, and Description

NAS Oceana, located in Virginia Beach, Virginia, was established in 1940 as a small, auxiliary airfield and has grown more than 16 times its original size to a 6,000-acre master jet base supporting a community of more than 9,100 Navy personnel and 11,000 dependents. NAS Oceana's primary mission is to provide the personnel, operations, maintenance, and training facilities to ensure the deployment readiness of fighter and attack squadrons on aircraft carriers of the U.S. Atlantic Fleet.

2.2 Site History and Enforcement Activities

2.2.1 History of Site Activities at SWMU 15

SWMU 15 is located in the former North Station area, about 800 feet northwest of Runway 23R and 1,000 feet northeast of the area used to store recreation vehicles (Figure 3). The SWMU 15 area includes an abandoned tank farm that served as the primary source of aircraft fuel for the North Station area when it was active from the mid-1950s to the mid-1970s. The tank farm consisted of six tanks: a 414,000-gallon tank used to store JP-3, two 50,000-gallon concrete tanks used for aviation gas, and three adjacent 12,000- to 18,000-gallon tanks believed to be used for automotive fuel, kerosene, or lube oil (RGH 1984). Petroleum releases from the tank farm operations are known to be the source of total petroleum hydrocarbons (TPH), polynuclear aromatic hydrocarbons (PAHs), and benzene, toluene, ethylbenzene, and xylene (BTEX) contamination at the site. These Petroleum, Oil, and Lubricant (POL) constituents were the primary focus of the investigations conducted under the NAS Oceana RCRA Consent Order.

According to a report by R.E. Wright Associates (1983), the tanks were emptied of fuel and filled with water after they were abandoned. Tank G-5 was later used to store waste oil, containing chlorinated compounds, from aircraft and vehicle maintenance operations; these constituents were also released into the environment from leaks in the tank and associated piping. The release of the chlorinated compounds is considered a CERCLA release; therefore, when it was agreed in 1998 to conduct future site remediation activities at NAS Oceana following CERCLA the subsequent investigations of SWMU 15 were conducted following the CERCLA process even though the primary site contaminants are POL related, which are exempted from CERCLA.

The tanks and their associated piping were dismantled and removed in the mid-1980s. With the exception of some mounded earth near the former location of tank G-9, no signs of the locations of the tanks or their associated piping were observed during the RFI (CH2M HILL 1993). Their locations were inferred from historical maps of the North Station area.

Results of the investigations conducted at SWMU 15 indicated that surface soils contained elevated levels of TPH and PAHs, and subsurface soils contain elevated concentrations BTEX, TPH, and PAHs. Groundwater was found to contain free-phase petroleum and elevated concentrations of BTEX, TPH, and PAHs. Chlorinated compounds (the CERCLA release), vinyl chloride and isomers of 1,2-dichloroethylene, were also detected at low concentrations in a few monitoring wells. A soil removal action was conducted at SWMU 15 in 1997 to remediate the BTEX contamination in the soil. This soil removal action was initiated under the RCRA Consent Order and completed following the CERCLA process. An area measuring about 150 feet by 125 feet was excavated to the water table, creating a small pond. The man-made pond is located southwest of the drainage ditch. Roughly 18,000 cubic yards of soil were treated onsite by bioremediation and aeration.

2.2.2 Previous Investigations at SWMU 15

Multiple studies within the RCRA corrective action process and studies under the IRP prior to the RCRA corrective action have been conducted at NAS Oceana. The studies that have been completed at SWMU 15 are summarized below.

- ***Environmental Investigation, NAS Oceana, Virginia Beach, Virginia, 1982.*** During the 1982 investigation (R.E. Wright Associates, Inc.), four shallow monitoring wells were installed and several test pits were excavated at the tank farm. Free-phase product was discovered in test pits and well borings.
- ***Initial Assessment Study (IAS), NAS Oceana, Virginia Beach, Virginia, 1984.*** The IAS identified the tank farm as a potential hazard.
- ***RCRA Facility Assessment (RFA), NAS Oceana, Virginia Beach, Virginia, 1988.*** The RFA identified the tank farm as SWMU 15 as an area of petroleum contamination and documented recommendations for additional investigations.
- ***RCRA Facility Investigation—Phase I (1993) and Phase II (1995), NAS Oceana, Virginia Beach, Virginia.*** SWMU 15 was investigated during two phases of the RFI. Phase I was completed in 1993 and Phase II was completed in 1995. The purpose of the RFIs was to characterize the extent of soil and groundwater contamination. Site investigation activities included the collection and analysis of soil and groundwater samples, installation of monitoring wells and piezometers, and test pit excavations.
- ***Corrective Measures Study (CMS), NAS Oceana, Virginia Beach, Virginia, Draft Final Document, 1996.*** The CMS was initiated in 1995 to define the extent of the groundwater contaminant plume, characterize surface soil contamination, and obtain treatability data on contaminated soil and groundwater at SWMU 15. The CMS recommended treatment for soil contamination and monitored natural attenuation of groundwater. This soil removal action was initiated under the RCRA Consent Order and completed following the CERCLA process.

- *Study of Monitored Natural Attenuation at SWMU 15, NAS Oceana, Virginia Beach, Virginia, Final Document, 2001.* In 1999/2000, an MNA study was performed primarily to determine the overall distribution of BTEX contamination (and its degradation products) (CERCLA-excluded contaminants) in the site groundwater, and assess the potential for BTEX to naturally attenuate within the aquifer. The presence of chlorinated compounds was also evaluated during this investigation. The study determined that the chlorinated compounds, vinyl chloride and isomers of 1,2-dichloroethylene, detected at low concentrations during the CMS had degraded to non-detectable levels.

2.2.3 Enforcement Actions

The investigation/remediation is a joint effort of the Navy, the USEPA, the VDEQ, and the NAS Oceana. Previous SWMU investigations were conducted under the provisions of the RCRA corrective action program. As of July 1998, cleanup activities have been conducted under the provisions of CERCLA, within the framework of new administrative procedures. Under these procedures, the Navy and the USEPA will reach concurrence on the classification of each SWMU in lieu of scoring each for the National Priorities List.

A total of 60 SWMUs were recommended for study in the draft RCRA Consent Order issued by the USEPA. After reviewing the Interim RFI results, the Navy and the USEPA determined that only 19 SWMUs required investigation under the RCRA Consent Order; the remaining SWMUs are regulated under other federal and/or state programs. Following the issuance of the RCRA Consent Order, the Navy combined four of the identified SWMUs into two, due to their relative proximity and similar site operations. Therefore, the final count of sites previously investigated by the Navy is 17 SWMUs.

2.3 Community Participation

In accordance with Sections 113 and 117 of CERCLA, the Navy provided a public comment period from August 24, 2003 through September 22, 2003 for the proposed remedial action.

The Proposed Remedial Action Plan (PRAP) was available to the public in the Administrative Record and in an information repository maintained at the Virginia Beach Public Library, 4100 Virginia Beach Boulevard, Virginia Beach, Virginia. Public notice was provided in *The Virginian-Pilot* on August 24, 2003 and a Public Meeting was held in the NAS Oceana Officers Club, NAS Oceana, Virginia Beach, Virginia on September 10, 2003.

The Navy and NAS Oceana have had a comprehensive public involvement program for several years. Starting in January 1989, a Technical Review Committee (TRC) met on average twice yearly to discuss issues related to investigative activities at NAS Oceana. Government personnel and a few private citizens attended these meetings.

In November 1994, the Navy converted the TRC into a Restoration Advisory Board (RAB), which is co-chaired by a community member and holds meetings on an as needed, or as requested, basis. Previous investigations of SWMU 15 were discussed at the RAB meetings.

Community participation activities for the final selected remedy include:

- The documents concerning the investigation and analysis at SWMU 15 are located in the Administrative Record at the Virginia Beach Public Library, 4100 Virginia Beach Boulevard, Virginia Beach, Virginia.
- A newspaper announcement on the availability of the documents and the public comment period/meeting date was placed in *The Virginian-Pilot* on August 24, 2003.
- A 30-day public comment period established by the Navy to review the PRAP began August 24, 2003 and concluded September 22, 2003.
- A public meeting was held September 10, 2003 to answer any questions concerning the PRAP. The public meeting transcript is included in the responsiveness summary, which is part of this DD.

2.4 Scope and Role of Response Actions

The Navy acts in partnership with the USEPA and the Commonwealth of Virginia to conduct environmental investigations at NAS Oceana through the facility's IRP. A list of all IRP sites can be found in the current Site Management Plan (SMP), which is located in the Administrative Record. The SMP contains the location, description, contaminants of concern, and cleanup status of each site. Subsequent to the SMP, additional information pertaining to site status may be found in the two NAS Oceana Decision Documents issued in 2001; these documents are also located in the Administrative Record.

2.5 Site Characteristics

2.5.1 Overview

2.5.1.1 Site Topography

The elevation of NAS Oceana ranges from about 5 feet above mean sea level (msl) in the drainage ditches to about 25 feet above msl in the open fields. Elevations in the developed area of the station range from 10 to 25 feet above msl. The topography is generally flat with a gradual easterly slope.

2.5.1.2 Surface Water Hydrology

Surface runoff from the station is facilitated by a system of drainage ditches and surface canals that flow southwest to West Neck Creek, north to London Bridge and Great Neck Creek, and east to Owls Creek and Lake Rudee. Early field investigations noted the presence of iron precipitate, organic odors, high turbidity, and thick brown-algae mats in many ditches.

2.5.1.3 Geology/Hydrogeology

NAS Oceana is on the outer edge of the Atlantic Coastal Plain physiographic province. The geologic units of concern in the environmental investigations at NAS Oceana are in the Chesapeake Group (only the youngest unit, the Yorktown Formation) and the Columbia Group.

Groundwater at NAS Oceana is generally within 4 to 10 feet of the ground surface. Aquifer conditions are unconfined in the Columbia Group and unconfined to semi-confined within the upper Yorktown Formation. When the clay-confining unit overlying the Yorktown is absent, the upper Yorktown is generally unconfined. Natural groundwater flow directions are generally south to southeast, but flow direction is controlled locally in the Columbia Group by drainage ditches. The flow direction in the Virginia Beach area is, therefore, highly variable because of the complexity of the drainage patterns.

2.5.2 Nature and Extent of Contamination at SWMU 15

The previous investigations performed at SWMU 15, discussed in Section 2.2.2, sought to define the extent of the groundwater contaminant plume, characterize surface soil contamination, and obtain treatability data on petroleum contaminated soil and groundwater.

Results of the investigations conducted at SWMU 15 indicated that surface soils contained elevated levels of TPH and PAHs, and subsurface soils contain elevated concentrations BTEX, TPH, and PAHs. Groundwater was found to contain free-phase petroleum and elevated concentrations of BTEX, TPH, and PAHs. Chlorinated compounds (the CERCLA release), vinyl chloride and isomers of 1,2-dichloroethylene, were also detected at low concentrations in a few monitoring wells. A soil removal action was conducted at SWMU 15 in 1997 to remediate the BTEX contamination in the soil. This soil removal action was initiated under the RCRA Consent Order and completed following the CERCLA process. An area measuring about 150 feet by 125 feet was excavated to the water table, creating a small pond. The man-made pond is located southwest of the drainage ditch. Roughly 18,000 cubic yards of soil were treated onsite by bioremediation and aeration.

Confirmatory soil samples were collected to ensure all soils above the target cleanup value were excavated for biological treatment, and also at the conclusion of the biological treatment process to ensure that the cleanup criteria had been achieved. Additional soil samples were collected from the biopile to perform a Human Health Risk Assessment (HHRA) and an ecological risk assessment (ERA) on the biopile soils to determine the potential reuse of the remediated soils. The HHRA determined that the biologically treated soils did not present an unacceptable risk to human health (residential and recreational exposure scenarios) and the ERA concluded that the soils did not pose unacceptable risk to ecological receptors or the environment. Therefore, the treated soils were distributed as topsoil for a runway restoration project.

In 1999/2000, an MNA study was performed primarily to determine the overall distribution of BTEX contamination (and its degradation products) (CERCLA-excluded contaminants) in the site groundwater, and assess the potential for BTEX to naturally attenuate within the aquifer. The presence of chlorinated compounds was also evaluated during this investigation. The study determined that the chlorinated compounds, vinyl chloride and isomers of 1,2-dichloroethylene, detected at low concentrations during the CMS had degraded to non-detectable levels.

2.6 Current and Potential Future Site and Resource Uses

NAS Oceana consists of about 6,000 acres within the City of Virginia Beach. NAS Oceana is located in the Tidewater region of Virginia and lies southeast of the City of Norfolk, immediately west of the Atlantic Ocean, and just south of the Chesapeake Bay.

More than 40 percent of the base is urbanized, including commercial, residential, and operations buildings as well as runways, hangars, and similar structures. The undeveloped areas consist of farmland, open land, forest, and wetlands. Farmland, which comprises about 925 acres, is farmed privately under the Navy's agricultural outlease program. Major crops grown within the boundaries of the base are corn, soybeans, and winter wheat. About 200 acres of open fields and meadows and 600 acres of forest exist on NAS Oceana. The forested areas are dominated by pine, mixed pine-hardwood, and hardwood stands.

Wetlands comprise approximately 660 acres of the undeveloped areas. The U.S. Fish and Wildlife Service's National Wetland Inventory maps classify wetlands as palustrine emergent, palustrine scrub/shrub, and palustrine forested. However, onsite observations by a CH2M HILL ecologist during a 1992 site visit suggest that the maps may underestimate the amount of forested wetlands.

SWMU 15 is located adjacent to a runway in the northern portion of NAS Oceana, and as a result future re-use or development of the site is very unlikely.

Neither the shallow or deep groundwater beneath SWMU 15 is currently used as a potable water supply. There are seven wells on the base that extract groundwater from the subsurface, two of which extract groundwater from the Columbia Aquifer. The others extract water from the underlying Yorktown Aquifer. Of the two wells in the Columbia Aquifer, one supplies water to a maintenance sink and the other supplies a guardhouse bathroom. Both are posted as "Not for drinking water."

2.7 Summary of Site Risks

Following the completion of the removal action and biological treatment of excavated soils, an evaluation of risk to human health was conducted as part of HHRA performed for the remainder of the SWMU 15 site (CH2M HILL, 2001). Potential risks were calculated for a current industrial worker, current adult trespasser/visitor, current adolescent trespasser/visitor, future adult resident, future child resident, future lifetime resident, future construction worker, future industrial worker, future adult trespasser/visitor, and adolescent trespasser/visitor.

The SWMU as a whole was also evaluated for ecological risk. The results of the ERA are documented below.

2.7.1 Human Health Risk Assessment

The potential risks to the evaluated human receptors exposed to the contamination resulting from the CERCLA release are summarized for each environmental media evaluated: surface soil, combined surface and subsurface soil, groundwater, surface water, and sediment.

Risks associated with potential current exposure to surface soil were evaluated for an industrial worker and an adult and adolescent trespasser/visitor. The Reasonable Maximum Exposure (RME) noncarcinogenic hazards to all potential current receptors exposed to contamination resulting from the CERCLA release in the surface soil are below the USEPA's target noncarcinogenic hazard level. The RME carcinogenic risks for all potential current receptors exposed to contamination resulting from the CERCLA release in the surface soil is within USEPA's target risk range.

Risks associated with potential future exposure to combined surface and subsurface soil were calculated for an industrial worker, a construction worker, an adult and adolescent trespasser/visitor, and an adult and child resident. The RME noncarcinogenic hazards (by target organ) to all potential current receptors exposed to contamination resulting from the CERCLA release in the combined surface and subsurface soil are below the USEPA's target noncarcinogenic hazard level. The RME carcinogenic risks for all potential current receptors exposed to contamination resulting from the CERCLA release in the combined surface and subsurface soil is within USEPA's target risk range.

The potential future exposure to groundwater was evaluated under a future residential and construction worker exposure scenario. The RME noncarcinogenic hazards for future residential use of the groundwater with contamination resulting from the CERCLA release is below the USEPA's target noncarcinogenic hazard level. The RME carcinogenic risks for future residential use of the groundwater with contamination resulting from the CERCLA release is within USEPA's target risk range. Exposure to the shallow groundwater by a construction worker during excavation was also evaluated as a potential future exposure scenario. The RME noncarcinogenic risk exceeds the USEPA's target HI. This hazard is primarily associated with inhalation of volatilized chloroform. However, as this compound was only detected in one monitoring well during the sampling event used for the risk determination and not detected in the same well less than 8 months later during the MNA investigation and that this compound is a common laboratory contaminant, this compound is not considered site-related. The RME carcinogenic risk is within the USEPA's target risk range.

There were no constituents of potential concern (COPCs) retained for the surface water in the pond. Therefore, risks were not quantified for this medium.

Exposure to pond sediment was evaluated for adult and adolescent trespassers/visitors. The RME noncarcinogenic are below the USEPA's target HI. The carcinogenic risks are below the USEPA's target risk range.

The Navy has identified risk from the POL related contaminants, which are exempted from CERCLA. Unacceptable risks were found to be present for an industrial worker from the surface soil under current scenarios, and to future residents and industrial workers for potential exposure to combined surface and subsurface soil. Groundwater was found to present unacceptable risks for both future residents from potable water use and a future construction worker from exposure to shallow groundwater during excavation. However, there are no industrial workers currently at the site and the site's future development by construction workers for residential development is unlikely. Regardless, the evaluation of the petroleum-related contamination at SWMU 15 and any future remedial measures at the SWMU will be conducted in accordance with the UST/POL program.

2.7.2 SWMU 15 Ecological Risk Assessment

An evaluation of risk to ecological receptors was conducted as part of the ERA performed for SWMU 15 (CH2M HILL, 2001a). The final ERA concluded that potential risks to aquatic organisms using SWMU 15 are expected to be low based on the magnitude of the sediment and food web exceedences. Potential risks to upper trophic level terrestrial organisms inhabiting SWMU 15 are low. Potential risks to lower trophic level terrestrial organisms (e.g., soil invertebrates) are relatively high based on the magnitude of the surface soil exceedences for PAHs; however, they occur in an isolated area (in surface soil adjacent to the former source area, the ponded excavation).

Based upon the results and the certainty associated with the results, the relative size of this SWMU, and the proximity of SWMU 15 to an active military runway/airfield, site-specific toxicity testing or additional sampling on which to base remedial action decisions is not warranted. Therefore, no further study in the risk assessment was recommended.

2.7.3 Conclusions and Recommendations

The assessment of risk information related to both human health and the environment is detailed in the preceding sections for SWMU 15. These sections provide the investigation summary information and rationale to determine that the environmental media (soils, groundwater, surface water, and sediment) contaminated from a CERCLA release at this SWMU pose no unacceptable risk to human health or the environment.

2.8 Selected Remedy

Previous investigations of SWMU 15 have determined that this site poses no unacceptable human health or ecological risk from a CERCLA release at this SWMU. Therefore, the Navy has determined that no further CERCLA remedial action is necessary to protect public health or the environment and has selected the no action remedial alternative for SWMU 15. The EPA and VDEQ concur with the selected remedy.

2.9 Documentation of Significant Changes

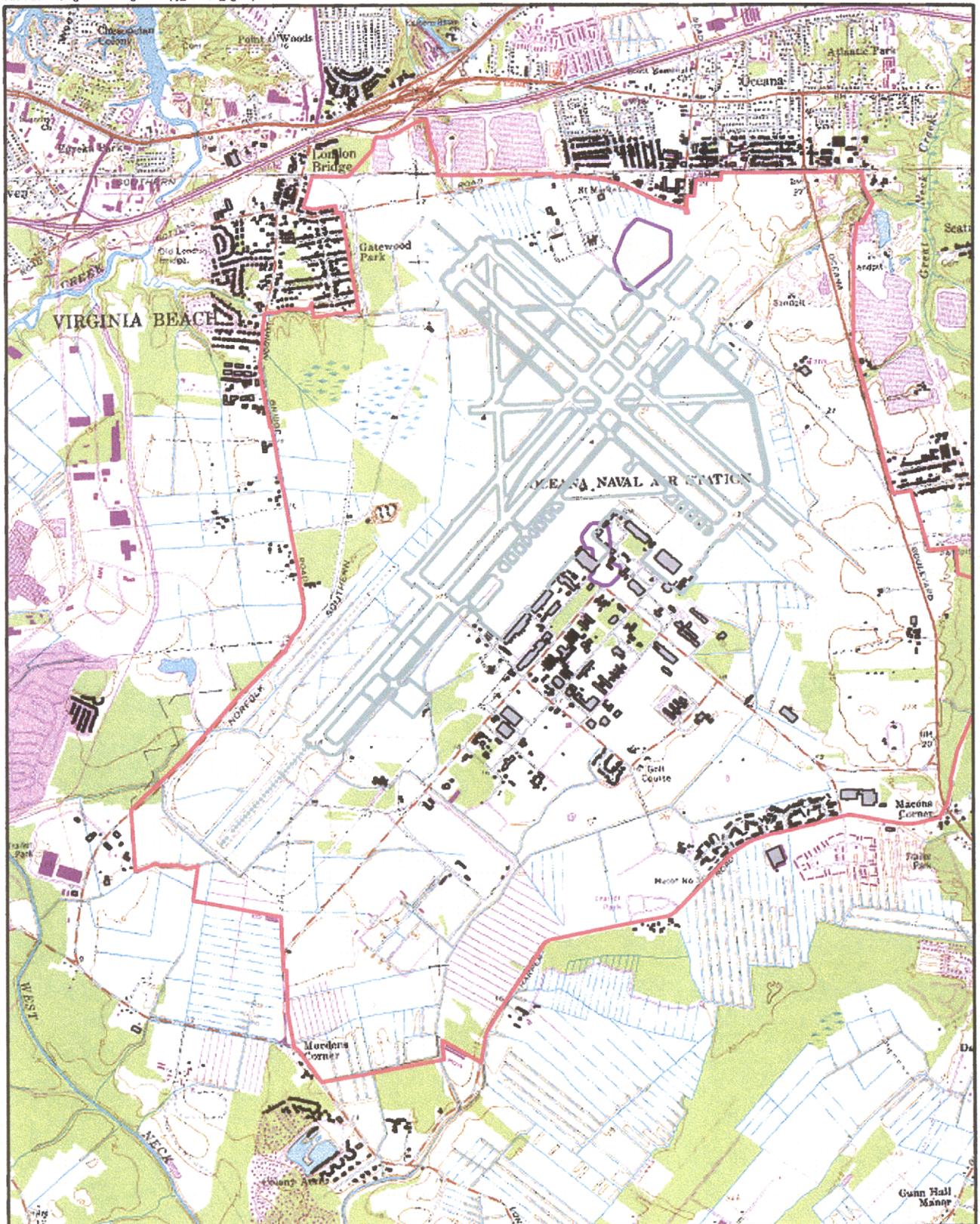
The PRAP for NAS Oceana SWMU 15 was released for public comment on August 24, 2004. The PRAP identified the No Further Action alternative as the Preferred Alternative. No comments were received from the public during the public comment period. It was determined that no significant changes were necessary or appropriate to the remedy originally identified in the Proposal Plan.

SECTION 3

Responsiveness Summary

As required by CERCLA §117 and NCP §§300.430(f)(3)(i)(F) and 300.430(f)(5)(iii)(B), a public comment period, from August 24, 2003 to September 22, 2003, was conducted and a public meeting was held on September 10, 2003 to present the PRAP and answer any questions on the PRAP or any of the other documents in the information repository. The only participants in the Public Meeting were representatives of the Navy, USEPA, and the Commonwealth of Virginia; no members of the general public attended this meeting. A copy of the meeting attendees and transcript is included in Appendix A.

Figures



LEGEND

-  NAS Oceana Boundary Line
-  Buildings



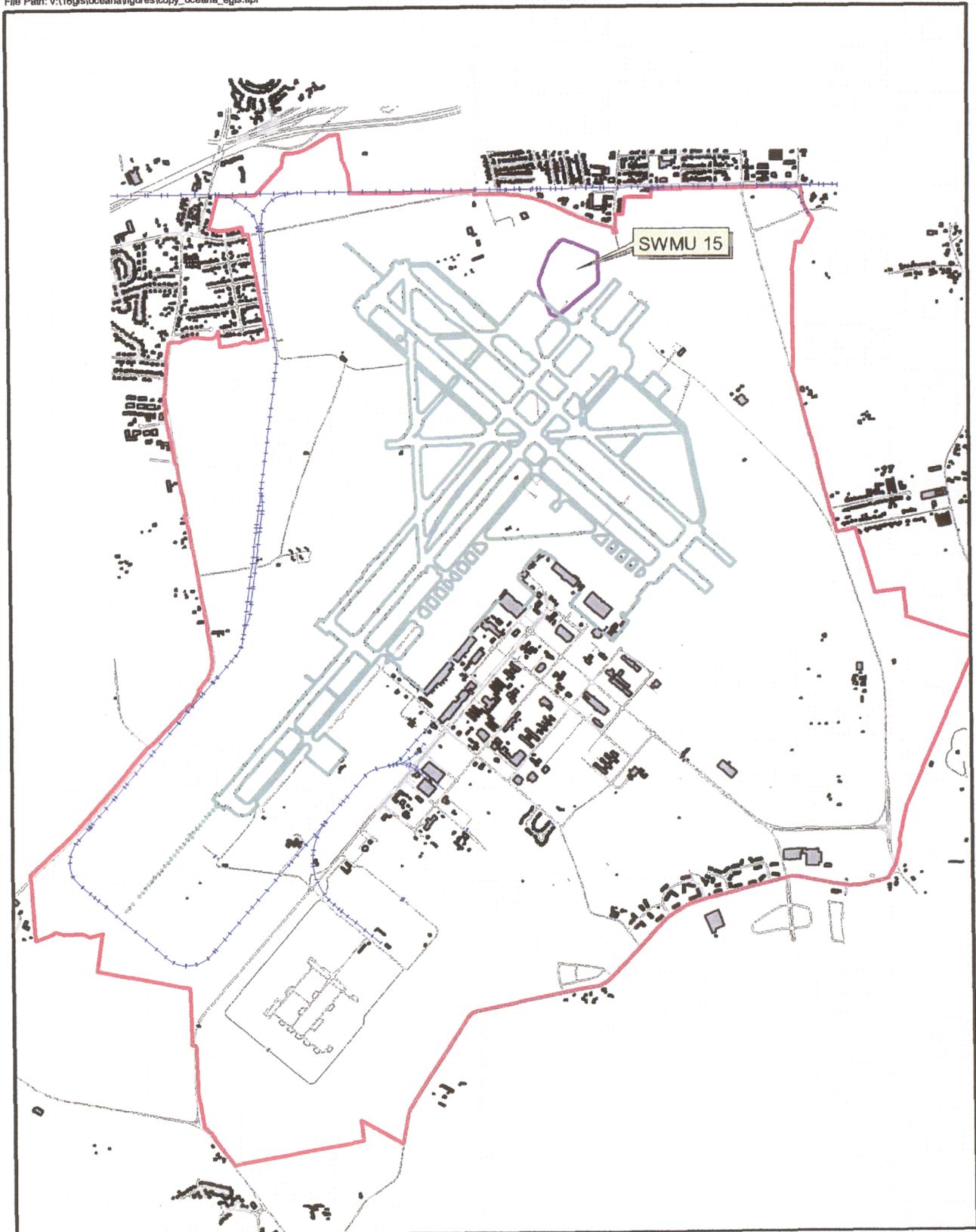
0 2000 4000 Feet



Figure 1
Base Map
NAS Oceana
Virginia Beach, Virginia

CH2MHILL

00626 A B14



LEGEND

-  SWMU Boundary
-  Buildings
-  NAS Oceana Boundary Line



0 2000 4000 Feet

Figure 2
SWMU 15 Location Map
NAS Oceana
Virginia Beach, Virginia



LEGEND

 SWMU Boundary



0 200 400 Feet



Figure 3
Site Location Map
SWMU 15
NAS Oceana
Virginia Beach, Virginia

Appendix A
Transcript of Public Meeting

**NAVAL AIR STATION OCEANA
PUBLIC MEETING
PROPOSED PLAN DOCUMENTS
SOLID WASTE MANAGEMENT UNITS (SWMUs) 15 and 25**

Meeting Date: 10 September 2003
Meeting Location: Officer's Club, NAS Oceana
Meeting Time: 19:00 – 20:00

Navy/Regulatory Agency Meeting Attendees:

<u>Name</u>	<u>Affiliation</u>
Tim Reisch	Naval Facilities Engineering Command (LANTDIV)
Valerie Walker	Commander Navy Region Mid-Atlantic (CNRMA)
Greyson Franklin	United States Environmental Protection Agency (USEPA) Region III
Steve Mihalko	Virginia Department of Environmental Quality (VDEQ)
Paul Landin	CH2M Hill (Navy environmental contractor)

Attendees from the public:

None

Meeting Proceedings:

Presentation (attached) was available for discussion.

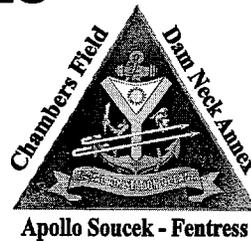


U.S. NAVY
Naval Air Station, Oceana

Proposed Remedial Action Plan (PRAP)

SWMUs 15 and 25

September 10, 2003



Site Description

- **SWMU 15**
 - Located in the former North Station area, about 800 feet northwest of Runway 23R and 1,000 feet northeast of the area used to store recreation vehicles near the old Civilian Personnel Office officers' club.
 - The SWMU 15 area includes an abandoned tank farm that served as the primary source of aircraft fuel for the North Station area when it was active from the mid-1950s to the mid-1970s.



Site Description

- **SWMU 25**
 - SWMU 25 is located in the Type II Clear Zone and approximately 2,400 ft north of NAS Oceana Airfield Runway 14/32. The SWMU consists of an area known as the "western pond," a former borrow pit subsequently used as a concrete disposal area.
 - During the construction of Highway 44 in the 1970s, the SWMU 25 area was used for sand borrow pits and as a disposal area. Over the years, the two borrow pits in this area filled with water, eventually forming ponds.
 - In 1979, the Navy purchased the land and began using the area near the western pond as a concrete disposal area (e.g., concrete from refurbishing NAS runways). The Navy ceased disposal activities before 1990 and has not used the area since.



History of Investigations at SMWU 15

- 1982 Sampling Investigation
- Initial Assessment Study (1984)
- RCRA Facility Assessment (1988)
- Phase I (1993) and II (1995) RCRA Facility Investigation
- Corrective Measures Study (1995)
- Monitored Natural Attenuation Study (1999/2000)
- Ecological Risk Assessment (2001)



History of Investigations at SMWU 25

- RCRA Facility Assessment (1983)
- Phase I RCRA Facility Investigation (1993)
- Phase II RCRA Facility Investigation (1995)
- Phase III RCRA Facility Investigation (1999)
- Ecological Risk Assessment (2003)



Summary of Findings SWMU 15

- Results of investigations conducted at SWMU 15 indicated the following:
 - Surface soils contained elevated levels of TPH and PAHs
 - Subsurface soils contained elevated concentrations BTEX, TPH, and PAHs.
 - Groundwater contained free-phase petroleum and elevated concentrations of BTEX, TPH, and PAHs. Chlorinated compounds (the CERCLA release), vinyl chloride and isomers of 1,2-dichloroethylene, were also detected at low concentrations in a few monitoring wells.



Soil Removal Action SWMU 15

- Based on recommendations from the CMS, a soil removal action was conducted at SWMU 15 in 1997 to remediate the BTEX contamination in the soil.
- An area measuring about 150 feet by 125 feet was excavated to the water table, creating a small pond. Approximately 18,000 cubic yards of soil were treated onsite by bioremediation and aeration.
- Confirmatory soil samples were collected to ensure cleanup criteria had been achieved.
- Additional soil samples were collected from the biopile to perform a Human Health Risk Assessment (HHRA) and Ecological Risk Assessment (ERA).



Soil Removal Action SWMU 15 (cont'd)

- Results of the HHRA were within the USEPA's target risk levels based on residential and recreational exposure scenarios.
- Results ERA concluded that slightly elevated levels of PAHs were not considered to be a concern in the biopile soils when compared to background sample concentrations.
- The treated soils were distributed as topsoil for a runway restoration project.



SWMU 15 Proposed Remedial Action Plan: Transfer of Regulatory Oversight

- The HHRA indicated that groundwater in SWMU 15 poses a risk due to the presence of inorganic and fuel related products, not chlorinated solvents (the CERCLA release).
- POL compounds and other constituents related to these exempted POL constituents are specifically excluded from CERCLA actions.
- Therefore, the risk posed from these compounds should not be included in assessing the risk under CERCLA.
- Remaining fuel related compounds in SMWU 15 groundwater will be addressed under the Virginia Underground Storage Tank/Petroleum, Oil, and Lubrication (UST/POL) Program.
- No further action necessary under CERCLA.



SWMU 25 Summary of Site Risks

- **Samples of surface water and sediment were collected during the Phase I, II, and II RFI investigations**
 - The Navy compared detected concentrations in sediments to EPA Region III RBCs for industrial and residential soil scenarios.
 - Therefore, exposure to the sediments at SWMU 25 poses no unacceptable risk to human health.



SWMU 25 Summary of Site Risks (cont'd)

- The concentrations detected in the Oceana SWMU 25 surface water data collected in February 1993 were compared to ten times the USEPA Region III RBCs for tap water.
 - Arsenic was the only constituent that was detected at a concentration that exceeded ten times the tap water RBC and is the only constituent of potential concern.
 - However, the detected concentrations of arsenic would not result in unacceptable carcinogenic risks or noncarcinogenic hazards to potential incidental receptors of the surface water.
 - Use of ten times the tap water RBC as a screening for the surface water is extremely conservative, and actual exposures would be much less than those used to compute the RBCs.



SWMU 25 Summary of Site Risks (cont'd)

- An ERA was conducted in order to evaluate risk to ecological receptors at SWMU 25
 - The ERA concluded that no analytes exceeded screening values based upon maximum concentrations in surface water.
 - Four metals and two pesticides exceeded BTAG screening values for flora and fauna based upon maximum concentrations in sediments; these exceedances were primarily in one sediment sample location.
 - Although this sediment sample location presents an isolated area in the pond adjacent to SWMU 25 where potential risk to ecological receptors may exist, the contamination is limited. The remaining pond data confirmed that the contamination is limited to this isolated area.



**SWMU 25 Proposed Remedial Action
Plan:
No Further Action**

- The assessment of risk information related to both human health and the environment for SWMU 25 provide the investigation summary information and rationale to determine that SWMU 25 poses no unacceptable risk to human health or the environment.
- Therefore, no action is necessary at SWMU 25.