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U.S. NAVY  
Naval Air Station, Oceana

## Proposed Remedial Action Plans (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 SWMU 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 III 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.