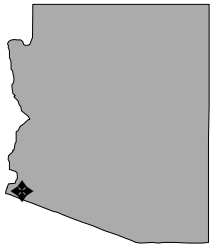
Yuma Marine Corps Air Station NPL

Size: 3,000 acres
Mission: Support tactical aircrew combat training for Pacific and Atlantic Fleet Marine Corps Forces
HRS Score: 32.24; placed on NPL in February 1990
IAG Status: Federal Facility Agreement signed in January 1992
Contaminants: JP-5, petroleum hydrocarbons, SVOCs, trihalomethanes, and VOCs
Media Affected: Groundwater and soil
Funding to Date: $35.9 million
Estimated Cost to Completion (Completion Year): $30.6 million (FY2016)
Final Remedy in Place or Response Complete Date for All Sites: FY2012



Yuma, Arizona

Restoration Background

Investigations conducted between FY85 and FY92 identified 20 CERCLA sites and 5 underground storage tank (UST) sites at Yuma Marine Corps Air Station (MCAS). Site types include landfills, sewage lagoons, liquid waste disposal areas, and ordnance and low-level radioactive material disposal sites.

Under the Federal Facility Agreement, the sites were divided into three operable units (OUs). OU1 addresses installationwide groundwater contamination, OU2 addresses surface and subsurface soil contamination at 18 sites, and OU3 was established for sites that may be identified in the future.

In FY80, the installation removed sealed pipes containing low-level radioactive dials, gauges, and tubes at one site. It completed Site Inspections at 2 sites in FY88 and at 10 sites in FY91. In FY93, the installation removed 92 waste drums from a drum storage site. Initial site characterizations (ISCs) were completed at two UST sites in FY93 and one UST site in FY94. During the FY94 ISC, a pilot Treatability Study was initiated to remove petroleum from the groundwater. The installation constructed three air-sparging and soil vapor extraction (AS/SVE) systems, including one at the fuel farm and one at the motor transportation pool area.

The installation established a technical review committee (TRC) and two information repositories in FY90. In FY95, the installation converted the TRC to a Restoration Advisory Board (RAB). The community relations plan was completed in FY93 and updated in FY94.

During FY95, the installation completed a corrective action plan (CAP) at one UST site and initiated a corrective action at another. The draft Remedial Investigation (RI) report for OU1 was submitted to regulatory agencies. The report identified several areas of contamination that required further investigation. The OU2 RI report was submitted to regulatory agencies, recommending no further action at 12 sites, institutional controls at 3 sites, and removal of asbestos-containing materials at 3 sites.

Field investigations at OU3 were completed in FY96. The installation completed RIs for OU1 and OU2, submitted a draft Feasibility Study (FS) report for OU2 to the regulatory agencies, submitted the draft Proposed Plan and Record of Decision (ROD) for OU2, and performed two pilot studies addressing in situ cleanup of groundwater at Site 19. Fifty UST site assessments were performed at UST Units 2, 3, and 4. Approximately 40 USTs are candidates for clean closure, pending approval by the State of Arizona.

The Yuma MCAS project team, established in FY94, was able to save 2 to 3 years and approximately $10 million on the RI phase of the cleanup. The innovative approach consisted of developing expedited, site-specific work plans; using on-site mobile laboratories and cone penetrometer testing and transmitting the resulting data to regulatory agencies; and obtaining concurrence on further sampling without delay.

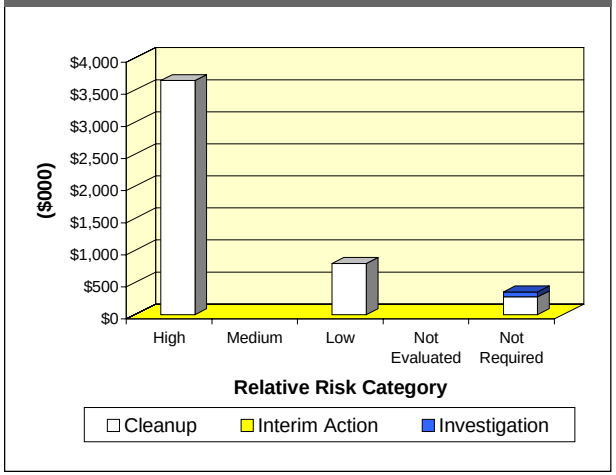
In FY97, the installation completed draft CAPs for four USTs and closed six others. A Removal Action and closeout report were completed for UST B1040. FSs were completed for OU1 and OU2, as was a draft Proposed Plan for OU1. Additionally, the installation implemented geosorbers, a geoprobe, in-well air stripping, and a prepilot ozone sparging study. To expedite document review, Implementation Memorandum Reports were prepared instead of full work plans. These reports were presented to the RAB.

FY98 Restoration Progress

Vertical recirculation technology was used in the Leading Edge Plume Area pilot study. Preliminary results showed the operation to be successful. Approximately 8 million gallons of groundwater has been treated. A preliminary design for the remediation of the hot spot of the Area 1 plume was developed and submitted to the project team. Two full-scale UST systems utilizing AS/SVE and free product removal were implemented. Team regulators accepted the OU1 FS. The CAP for the Motor Transportation Pool selected monitored natural attenuation as the remedial alternative, and the alternative was approved by the Arizona Department of Environmental Quality (ADEQ). Eight USTs were removed; the remediation of these sites is under way. The OU2 ROD was signed. The OU1 ROD and Remedial Action (RA) were delayed by the project team's decision to change remedies and plan for remedial contingencies. The CAPs are awaiting approval by ADEQ.

The RAB met twice to receive briefings by Navy contractors on AS/SVE and monitored natural attenuation.

Plan of Action

- Complete fieldwork and begin RA for OU2 in FY99
- Finalize ROD for OU1 in FY99
- Submit the CAPs for the Fuel Farm and the Gas Station to ADEQ for approval in FY99

FY99 Funding by Phase and Relative Risk