

Yuma Marine Corps Air Station

EPA National Priorities List (NPL) Site

Boundaries:

The [Yuma Marine Corps Air Station](#) (YMCAS) occupies 4,791 acres within the city and county of Yuma, Arizona. The City of Yuma is located approximately one mile northwest of the station.

The site boundaries are South Avenue 3E on the east, Interstate 8 on the north, East County 14th Street on the south, and the City of Yuma Main Canal on the west. The plume boundary varies and may extend beyond the Site boundary, but remains part of the Superfund site in its entirety.



Flight Line at Yuma Marine Corps Air Station

Site Status Update:

The [U.S. Environmental Protection Agency](#) (EPA), the Arizona Department of Environmental Quality (ADEQ) and the Navy have agreed to use an institutional control plan as the recommended platform for developing and implementing the alternative land use control mechanisms. Area 1 Hot Spot (Source) Plume Area is located at the aircraft flight apron in the vicinity of Building 230, and since November 1999 was being treated by [air sparging/soil vapor extraction](#) (AS/SVE) to remove contaminants from the groundwater. The system was placed in temporary shutdown status in May 2007, with semi-annual long term monitoring left in place and continues to date. Groundwater sampling was conducted in October 2010 at USEPA's request in order to evaluate [volatile organic compound](#) (VOC) trends. ADEQ and USEPA are currently looking at this data in order to ensure remediation objectives are being met and the remedy continues to protect human health and the environment.

Area 1 Leading Edge Plume Area (LEPA) is located at the northwest boundary of [YMCAS](#). Since June 2000 the LEPA was being treated by vertical circulation treatment (VCT) to provide containment and treatment of relatively low concentrations of VOCs; shutdown of the system occurred in December 2005. This system is being returned to operational status in order to address increased VOC levels in the LEPA area. Long term monitoring of groundwater is being conducted to address very low levels of contaminants at Areas 2, 3, and 6.

EPA and ADEQ continue to evaluate semi-annual groundwater monitoring reports. A contract will be awarded for Operable Units (OUs) 1 and 2 to evaluate monitored natural attenuation (MNA) progress and human health risks associated with the vapor intrusion pathway, to implement recommendations of the third Five-Year Review (FYR) conducted for OUs 1 and 2, and to update the Land Use Control Implementation Plan (LUCIP). Reevaluating dioxin risk will be done in OU 2 based upon USEPA dioxin reassessment. Current efforts are focusing on the cleanup of former munitions sites (e.g., firing ranges) on the base as part of the [Military Munitions Response Program](#).

Community Involvement Activities:

The third [FYR](#) report for Operable Units 1 and 2 was completed June 2010. Public Notice for this FYR was published in the Yuma Sun newspaper on May 10, 2009. For more information on community involvement at YMCAS you can review the [Community Relations Plan](#) (CRP) for YMCAS.

Site History:

1928-1959: [YMCAS](#) began as a county airfield in 1928, and was leased to the U.S. Army for pilot training and bomber crew training from 1941 to 1946. The U.S. Air Force reactivated the station as a Weapons Proficiency Center for fighter interceptor units in 1951, and it became an Air Force installation in 1954. YMCAS and associated range facilities were transferred to the U.S. Navy in 1959 to provide services and materials to support the operations of the Marine Aircraft Wing and its subordinate units. Today, YMCAS is the busiest air station in the Marine Corps and the third busiest in the Naval Service.

During its 70 years of operation, YMCAS generated industrial wastes such as used oil, [solvents](#), paint residues, battery acid, pesticides, herbicides, [polychlorinated biphenyls](#), [asbestos](#) in the form of non-friable asbestos containing material (ACM) and [petroleum hydrocarbons](#) from a jet fuel leak. The ACM was scattered on top of and buried in the surface soil, and remediated in 1999.

1985-1991: An initial environmental assessment of YMCAS was completed in 1985, and the site was placed on the [National Priorities List](#) (NPL) on [February 21, 1990](#). The Federal Facilities Agreement and Assessment Program, established in 1991, identified three operable units (OUs):

- OU1 contained contaminated groundwater and soil deeper than 10 feet below ground surface (bgs).
- OU2 contained contaminated soil from ground surface to 10 feet bgs.
- OU3 did not identify any specific [Comprehensive Environmental Response Compensation and Liability Act](#) (CERCLA) sites, and was intended to be used for future sites if required.

1993: The [remedial investigation](#) (RI)/[feasibility study](#) (FS) was completed. The RI identified 18 CERCLA areas of concern; 12 sites required no further action and six sites (1, 4, 7, 8A, 9 and 10) were recommended for [remedial action](#).

1996: A Source Treatment/Reduction Alternatives Plan was implemented.

1997: The final [Record of Decision](#) (ROD) for OU2 was signed and assessed the impact on human health and the environment of hazardous substances released to the soil. Institutional controls were selected as remedy for sites 1, 8A, and 10.

1999: The AS/SVE system became operational for Area 1 Hot Spot. Removal of ACM and ACM-contained surface soil was completed in 1999 for sites 4, 7, and 9.

2000: The final ROD for OU1 was signed in April and included areas of contaminated groundwater underlying the station and the associated soil at depths greater than ten feet bgs. Also, the Vertical Circulation Treatment system was operational for Area 1 LEPA.

2002: The [FYR](#) report was completed.

2007: ADEQ, EPA and the Navy continued to monitor the site semi-annually to ensure that concentration levels remained stable.

2008 - 2009: ADEQ, EPA and the Navy continued to monitor the site semi-annually to ensure that concentrations levels remained stable and no migration off-site occurred.

2010: In order to protect human health and the environment and to ensure continued progress in environmental remediation at YMCAS, ADEQ, EPA and the Navy continue to work together to implement recommendations of the third FYR, including vapor intrusion pathway, updating the LUCIP as needed, reconciling any discrepancies in LUCIP figures, reevaluating dioxin risk based upon USEPA dioxin reassessment, and resolving any other environmental issues as YMCAS continues to grow and change in their military service.

Contaminants:

The contaminants of concern in groundwater include [trichloroethene](#) (TCE), [dichloroethene](#) (DCE), [tetrachloroethene](#) (PCE) and [petroleum hydrocarbons](#). Contaminants of concern at the site may change as new data become available.

Public Health Impact:

There are no known public health risks at the site.

Site Hydrogeology:

YMCAS is located in the Basin and Range lowlands province that covers most of southern Arizona. This physiographic province is characterized by elongated northwest-southeast trending fault-block mountain ranges separated by broad, deep [alluvial](#) valleys.

Hydrogeologic units defined for the YMCAS Site are:

- Upper fine-grained unit
- Coarse gravel unit
- Wedge unit

The total thickness of the upper fine-grained unit is approximately 180 to 200 feet thick at the site. Many shallow wells on the Yuma Mesa are screened in this unit; water quality is variable due to the large volume of irrigation recharge. Groundwater in the upper fine-grained unit is generally characterized as slightly [saline](#) with total dissolved solids (TDS) of 1,000 to 3,000 milligrams per liter (mg/l). The primary regional [aquifer](#) is the coarse gravel unit that underlies

the upper fine-grained unit. This unit varies in thickness from 0 to 100 feet throughout the Yuma area. Groundwater in the coarse gravel unit is generally characterized as slightly saline with TDS of 1,000 to 3,000 mg/l.

The direction of groundwater flow beneath the YMCAS Site is from southeast to northwest. Water levels have remained relatively stable since the site investigation began in the 1980s.

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*In Arizona, but outside the Phoenix area, call toll-free at (800) 234-5677.

** Call EPA’s toll-free message line at (800) 231-3075.

Information Repository:

Marine Corps Air Station Yuma has established two information repositories: one at the [Yuma County Heritage Library](#) located at 350 S. Third Avenue in Yuma and one on-base at Yuma Marine Corps Air Station. The official administrative record is compiled and maintained by the Navy at the [Southwest Division Naval Facilities Engineering Command](#) in San Diego.

The complete official site file can be reviewed at the EPA Region IX, [Records Center](#), Mail Stop SFD-7C, 95 Hawthorne Street, Room 403, San Francisco, CA 94105, (415) 536-2000.