

Fort Ord Cleanup Fact Sheet: Operable Unit 1 Groundwater Cleanup

History:

Operable Unit 1 (also known as OU1) is the location of one of four groundwater contamination areas on the former Fort Ord. The groundwater contamination at Operable Unit 1 is associated with the improper disposal of solvents used during fire response training in this area. Fuels and solvents were discharged into an unlined pit, ignited, then extinguished. Some of the fuels and solvents that did not burn leached into the groundwater. The groundwater contamination is limited to the A-Aquifer and moves westward toward the ocean.



As part of the Superfund cleanup of former Fort Ord, the Army, with oversight by federal and state regulatory agencies listed at the end of this fact sheet, implemented a program to stop further contamination of the aquifer and clean up the contaminated groundwater. The cleanup included treatment of the contaminated soil from the Operable Unit 1 former training area and construction of three groundwater treatment systems, one of which is still in operation. The treatment system extracts contaminated groundwater using extraction wells to remove the contaminants through a treatment process using activated carbon, and return the clean water back into the A-aquifer using injection wells and infiltration galleries. Two treatment systems were removed after the groundwater in those areas reached the cleanup goals. The third treatment system (photo above) remains in operation. In 1988, the Army completed cleanup of all soil contamination associated with Operable Unit 1.

What Chemicals Have Been Found in the Groundwater Related to Operable Unit 1?

The initial environmental investigations began in 1984 and continued through 1987. These studies documented the nature and extent of the contamination in soil and groundwater and provided the basis for designing the first treatment system. The investigations indicated that some of the chemicals from the fuel and solvents used during the training leaked into the soil and groundwater causing contamination. Ten chemicals of concern (COCs) were identified in the groundwater at concentrations that could detrimentally affect human health or the environment. These 10 COCs are: benzene, methyl ethyl ketone, trichloroethene (TCE), 1,1-dichloroethane, 1,2-dichloroethane, 1,1-dichloroethene, Total 1,2-dichloroethene, 1,1,1-trichloroethane, chloroform, and tetrachloroethene.

TCE is the primary COC in groundwater at Operable Unit 1 because it is detected at the highest concentrations across the greatest extent of the impacted groundwater. Since 2008, only TCE has been detected at concentrations greater than the cleanup goals. The groundwater cleanup for TCE is on-going. Over 206 million gallons of groundwater have been pumped and treated and the clean water returned to the A-aquifer.

How Far Does the Groundwater Contamination Extend?

The map at the right shows the current groundwater plume footprint. Many wells and three Operable Unit 1 treatment systems have been installed over the years. TCE remains the only contaminant above the aquifer cleanup goal of 5 micrograms per liter (5 µg/L). Since the second Operable Unit 1 treatment system was constructed in 2006, TCE concentrations have been steadily decreasing and the footprint of the contaminated plume has been shrinking. The steady cleanup progress indicates that the treatment system will achieve a successful cleanup. Continued monitoring of selected wells will ensure that the cleanup is complete after the treatment system is eventually shut down. The map at the right is based on the March 2013 groundwater sampling results.



What is the Army Doing to Clean the Water?

A treatment system (see photo on page 1) removes contamination from the groundwater. Groundwater is pumped from extraction wells and chemicals are removed using carbon filtration. The blue containers (see photo on page 1) hold activated carbon used to filter and clean the water similar to carbon filtration systems found in many households and refrigerators.

The groundwater treatment system will continue to operate until the impacted groundwater meets cleanup standards—these standards require COC concentrations to be less than or equal to federal and state safe drinking water standards. Because of the continued progress in removing the COCs from groundwater, the quarterly performance monitoring efforts to test the groundwater and the treatment plant were adjusted to a semiannual frequency. The treatment system is tested each year in March and September to confirm that it is operating properly and all treated water returned to the underlying A-aquifer meets the cleanup standards. The treatment system is also periodically adjusted to maximize the efficiency of the groundwater cleanup. Groundwater monitoring wells are sampled every six months to assess the water quality in the aquifer. The resulting data is used to determine if further changes to the system operations are needed and to monitor cleanup progress.

Your Drinking Water is Safe.

Water pumped from the Marina Coast Water District supply wells on Fort Ord consistently meets the drinking water safety standards established by the U.S. Environmental Protection Agency and the California Department of Public Health. Data indicate that very low concentrations of TCE have been found in two drinking water supply wells on the former Fort Ord. The supply wells are located far from Operable Unit 1 and are associated with a different groundwater plume. Concentrations of TCE in the supply wells are significantly below the Federal and State Safe Drinking Water Act maximum contaminant levels—your water is safe. For details, see the Groundwater Cleanup Fact Sheet.

What Happens Next:

The Army will continue to treat the contaminated groundwater and monitor the Operable Unit 1 groundwater every six months until the aquifer cleanup goals are met. For further assurance the groundwater cleanup remains successful, Monterey County has adopted an ordinance prohibiting new water supply wells in the areas of groundwater contamination. The pumping of additional wells could have an effect on the efficiency of the on-going groundwater treatment, so new wells are prohibited.

To Learn More About the Fort Ord Groundwater Cleanup:

U.S. Army Fort Ord Base Realignment and Closure : William Collins, BRAC Environmental Coordinator
(831) 393-1284, Melissa.M.Broadston.ctr@mail.mil

U.S. Environmental Protection Agency, Region IX: Martin Hausladen,
(415) 972-3007, Hausladen.Martin@epa.gov

California Environmental Protection Agency, Department of Toxic Substances Control: Franklin Mark,
(916) 255-3584, Franklin.Mark@dtsc.ca.gov

California Environmental Protection Agency, Regional Water Quality Control Board: Grant Himebaugh,
(805) 542-4636, ghimebaugh@waterboards.ca.gov

Para obtener una copia en Espanol contacte 831-393-1284.