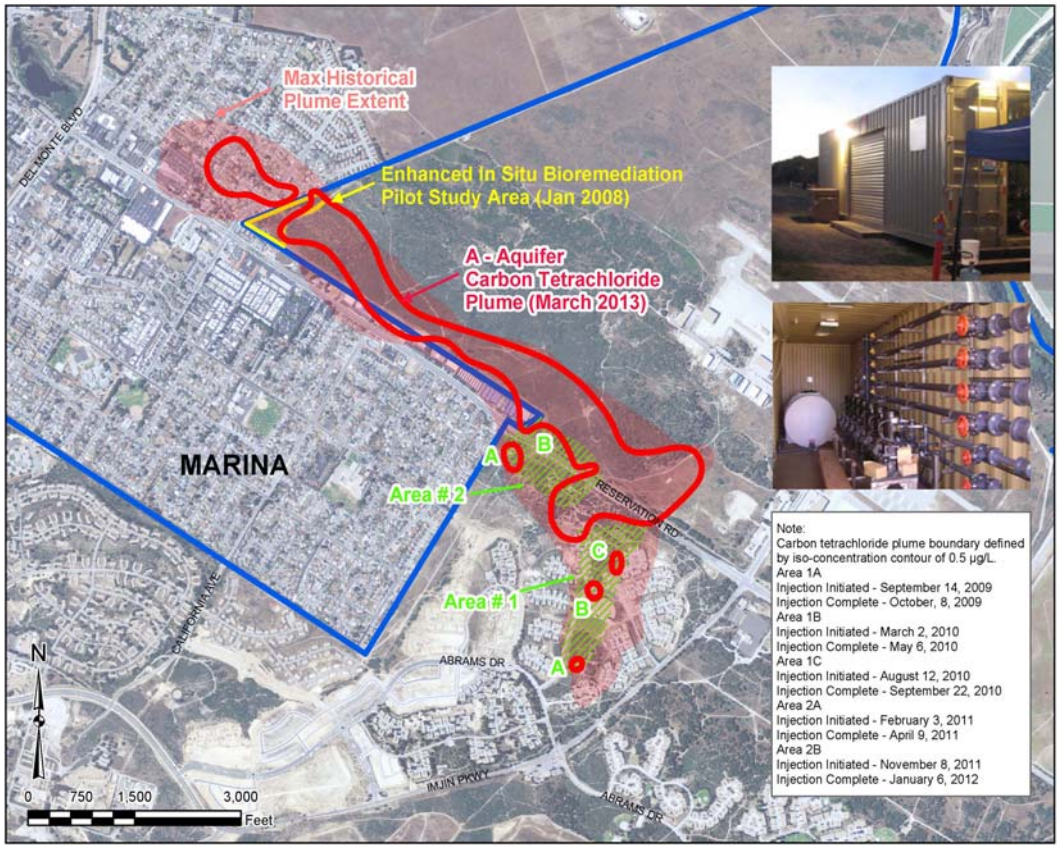
Fort Ord Cleanup Fact Sheet: Operable Unit Carbon Tetrachloride (OUCTP): Groundwater Cleanup

History:

Between 1940 and 1950, the Army used carbon tetrachloride to clean communication equipment such as radios. Some carbon tetrachloride was spilled on the ground (source area) and leached down through the soil and contaminated the groundwater. The groundwater contamination affects three aquifers: the A-Aquifer, the Upper 180-Foot Aquifer, and the Lower 180-Foot Aquifer.



As part of the Superfund cleanup of Fort Ord, the Army, with regulatory oversight by federal and state regulatory agencies (listed at the end of this fact sheet), implemented a program to clean up the contaminated groundwater and contaminated soil gas in the source area. The cleanup included treatment of the contaminated soil gas near the source area and groundwater treatment and/or monitoring for each aquifer. In 2009, the Army completed cleanup of the soil vapor contamination associated with the Operable Unit Carbon Tetrachloride source area.

What is the Army doing to clean the water?

Each of the 3 aquifers has a unique treatment as noted below.

- Treatment in the A-Aquifer consisted of enhanced in situ bioremediation. This is a type of treatment that uses naturally occurring organisms to break down hazardous substances into less toxic or non toxic substances. Photos of the interior and exterior of the bioremediation treatment container are inset into the map above. This treatment is complete and the A-Aquifer is being monitored to ensure continued success of the treatment.
- Treatment in the Upper 180-Foot Aquifer is on-going. To clean the groundwater in this area, the Army installed a well and associated pipeline to extract water and send the water to Operable Unit 2 groundwater treatment system. The treatment system extracts contaminated groundwater using extraction wells to remove the contaminants through a treatment process using activated carbon, and returns the clean water back into the A-aquifer using injection wells and infiltration galleries.
- Natural attenuation is the remedial alternative selected for the Lower 180-Foot aquifer. Natural attenuation is the reduction and breakdown of contaminants over time through natural processes without additional treatment.

What chemicals have been found in the groundwater related to OUCTP?

In the A-Aquifer, the chemicals of concern (COCs) were carbon tetrachloride, perchloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (DCE), chloroform, 1,2-dichloroethylene (1,2-DCE), dichloromethane, and vinyl chloride. In the Upper 180-Foot Aquifer, the COC was carbon tetrachloride. Finally, in the Lower 180-Foot Aquifer, the COCs were carbon tetrachloride and 1,2-dichloroethane. Carbon tetrachloride is the primary COC for all three aquifers because it was detected at the highest concentrations across the greatest extent of the impacted groundwater.

What Happens Next:

The Army will continue to monitor the three aquifers related to the Operable Unit Carbon Tetrachloride groundwater contamination each quarter and will also continue to operate the link to the Operable Unit 2 groundwater treatment system until the aquifer cleanup goals for both sites are met. The groundwater contamination overlaps in these areas. See Groundwater Fact Sheet for a current extent of both plumes.

For further assurance that the groundwater cleanup remains successful, Monterey County has adopted an ordinance prohibiting new water supply wells in the Operable Unit 2 area until cleanup is completed. The pumping of additional wells could have an effect on the efficiency of the on-going groundwater treatment, so new wells are prohibited.

Data indicate that very low concentrations of TCE have been found in three drinking water supply wells on the former Fort Ord. Concentrations of TCE in the supply wells are significantly below the Federal and State Safe Drinking Water Act maximum contaminant levels. 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. For more information see the fact sheet Groundwater Cleanup.

To Learn More About the Fort Ord Groundwater Cleanup:

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