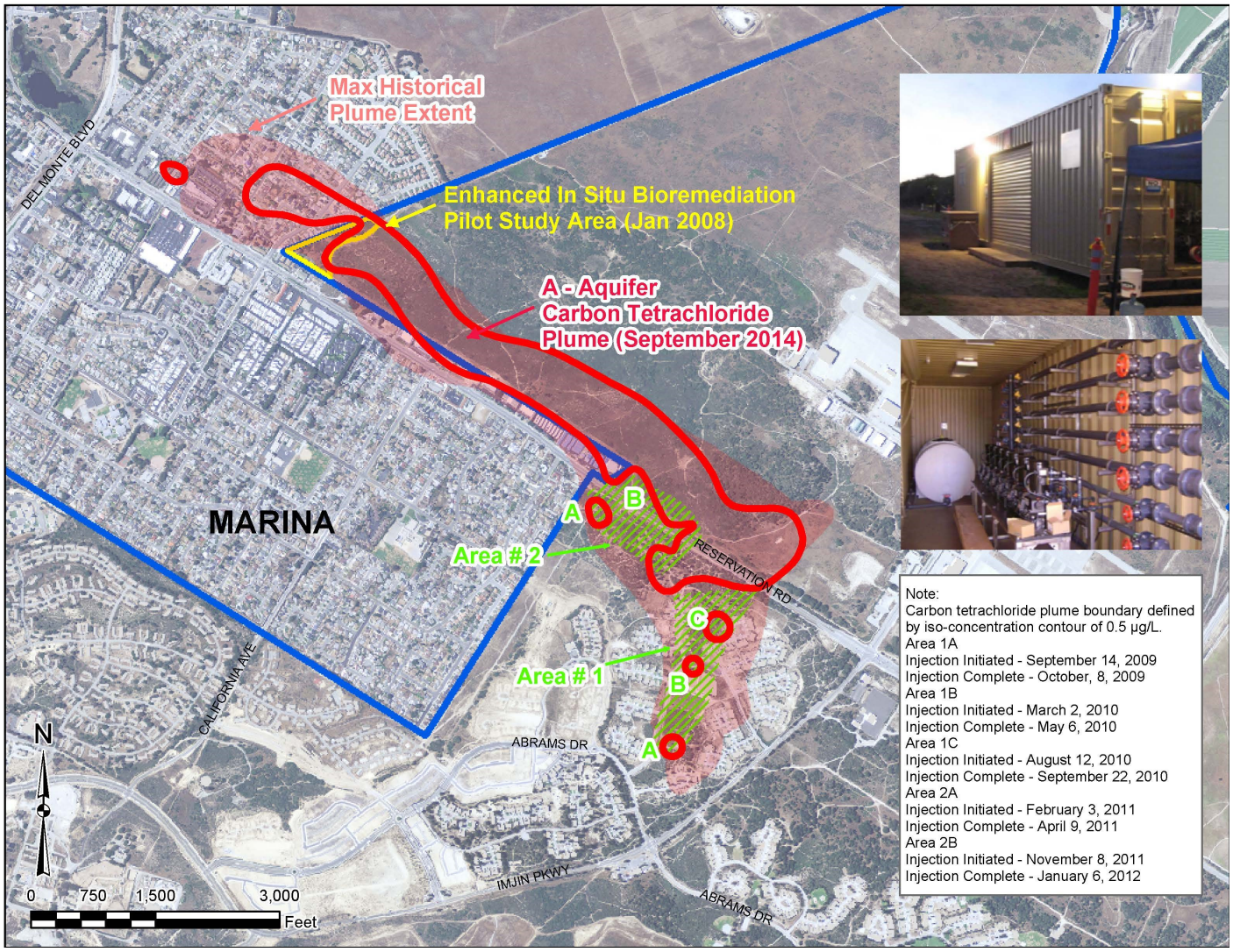
Fort Ord Cleanup Fact Sheet: Operable Unit Carbon Tetrachloride Plume

History:

Between 1940 and 1950, the Army used carbon tetrachloride to clean communication equipment such as radios in a location off the Preston Park, Lexington Court area. Some carbon tetrachloride was spilled on the ground (source area), moved down through soil, and contaminated groundwater. The groundwater contamination affects three aquifers: the A-Aquifer, the Upper 180-Foot Aquifer, and the Lower 180-Foot Aquifer. The map below shows the initial area of groundwater contamination (shaded in pink) and current (as of September 2014) extent of groundwater contamination (outlined in red).



What chemicals have been found in the groundwater related to Operable Unit Carbon Tetrachloride Plume (OUCTP)?

In the A-Aquifer (the uppermost 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. The aquifer cleanup goal (also known as an Aquifer Cleanup Level or ACL) for carbon tetrachloride is .5 micrograms per liter (0.5 µg/L).

What has the Army been doing to clean the water?

As part of the Fort Ord Superfund cleanup, the Army, with oversight by regulatory agencies (listed at the end of this fact sheet), has been implementing a program to clean up the contaminated groundwater and contaminated soil gas in the source area. Soil cleanup included treatment of contaminated soil gas near the source area and groundwater treatment and/or monitoring for each aquifer. In 2009, cleanup of the soil vapor contamination associated with the OUCTP source area was completed. Each of the three affected aquifers has a specific cleanup regime as noted below.

Treatment in the A-Aquifer consists of enhanced *in situ* bioremediation. This bioremediation "feeds" microbes that naturally live in groundwater and stimulates growth of certain microbes that use COCs as an additional source of food and energy. The microbes break down COCs into less toxic or non-toxic substances. The groundwater of the A-Aquifer is being monitored to ensure continued success of this *in situ* bioremediation.

Treatment in the Upper 180-Foot Aquifer is on-going. Groundwater is extracted and sent to the Operable Unit 2 (OU2) groundwater treatment system. The treated groundwater is returned to the A-aquifer using injection wells and infiltration galleries.

Natural Attenuation in the Lower 180-Foot Aquifer is being monitored. Natural attenuation will reduce and breakdown COCs over time through natural processes without additional treatment.

Your drinking water is safe.

Data indicate very low concentrations of TCE have been found in three drinking water supply wells on former Fort Ord. Concentrations of TCE in the drinking water supply wells are significantly below Federal and State Safe Drinking Water Act maximum contaminant levels. Water pumped from Marina Coast Water District supply wells on former Fort Ord consistently meet drinking water safety standards established by the U.S. Environmental Protection Agency and the California State Water Resources Control Board, Division of Drinking Water. For more information see the groundwater cleanup overview fact sheet.

What happens next?

Currently, an evaluation is underway to determine if additional *in situ* treatment for the A-Aquifer is necessary. Additional monitoring wells will also be installed in 2015. The Army will continue to monitor the three aquifers related to OUCTP groundwater contamination each quarter and will also continue to operate the OU2 groundwater treatment system until the aquifer cleanup goals for OUCTP and OU2 are met. The groundwater contamination overlaps in these two areas. See the groundwater overview fact sheet for a current extent of all the groundwater plumes.

The pumping of additional wells could produce unacceptable levels of untreated groundwater contamination and have an effect on the efficiency of the on-going groundwater treatment. For further assurance that the groundwater cleanup remains successful, Monterey County has adopted an ordinance prohibiting new drinking water supply wells in this area until cleanup is complete.

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. Additional documents related to this site cleanup are available at www.FortOrdCleanup.com.

California Environmental Protection Agency, Department of Toxic Substances Control: Min Wu, (916) 255-3621, Min.Wu@dtsc.ca.gov

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

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