

**STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION**

STAFF REPORT FOR REGULAR MEETING OF OCTOBER 23, 2009
Prepared September 28, 2009

ITEM NUMBER: 9

SUBJECT: Recommended Case Closures

Background:

This staff report provides summaries for a cleanup site that Central Coast Water Board staff has recommended for closure, although the groundwater beneath this site has not attained water quality goals for one or more constituents. Staff's closure recommendations are premised on the knowledge that: 1) the remaining constituent concentrations are sufficiently low so as to not pose a threat to surrounding existing beneficial uses of the water (e.g., supply wells, surface waters, etc.); 2) the constituent sources have been removed; 3) monitoring has indicated that the groundwater plumes are contracting in size and concentration; and 4) continued monitoring at these sites would not provide additional benefit for the staff resources invested. This site is appropriate for closure, based on site-specific information provided below.

Grefco, Inc., Highway 1 & Highway 246, Lompoc, Santa Barbara County [John Mijares, (805) 549-3696]

Central Coast Water Board staff and the Santa Barbara County Fire Prevention Division (FPD) staff recommend closure of this underground storage tank (UST) case where sample results indicate groundwater concentrations remain greater than Central Coast Regional Water Quality Control Board (Central Coast Water Board) cleanup goals. First Quarter 2009 groundwater data indicate benzene at 3 µg/L, ethylene dichloride (EDC) at 2.6 µg/L, and methyl tertiary-butyl ether (MTBE) at 25 µg/L in one monitoring well (MW-11). These compounds were either not detected above laboratory reporting limits or were below cleanup goals in the other 10 monitoring wells at the site. Central Coast Water Board cleanup goals for benzene, EDC and MTBE are 1 microgram per liter (µg/L), 0.5 µg/L and 5 µg/L, respectively.

In 1988, a 550-gallon single wall steel tank located by the main building and a 1,000-gallon single wall steel tank located by the former maintenance shop were removed from the site. Inspectors observed corrosion in both tanks.

In July and October 1989, the responsible party removed approximately 700 cubic yards of gasoline-contaminated soil from areas in the vicinity of the former USTs. In July and August 2005, an additional 700 cubic yards of soil were excavated from the area around the former maintenance shop tank. The excavation extended to a depth of 42 feet below grade. Contractors placed an oxygen-releasing compound in the excavation to help promote further biodegradation of the contaminants. The contaminated soil was stockpiled on site and allowed to bioremediate after each excavation event. Four groundwater monitoring wells were installed in December 2005 to assess the effect of the remedial excavation on groundwater.

Groundwater contamination persisted at the site after the excavation and remedial efforts. In February 2007, the responsible party installed three groundwater extraction wells. A groundwater pump and treat system was operated at the site from February to August 2007. The system extracted approximately 35,800 gallons of groundwater from the site. The system was shut down when the extraction rate dropped appreciably.

Groundwater contamination, notably MTBE, benzene, and EDC persisted in well MW-11 (shown on the attached site map, Attachment 1) above drinking water standards. In June 2008, the responsible party installed five additional groundwater wells to fully delineate the groundwater plume. In July 2008, approximately 14,400 gallons of hydrogen peroxide solution were injected into the former extraction wells to oxidize the residual groundwater contamination.

The site lies within the Lompoc Groundwater Basin. The "Water Quality Control Plan, Central Coast Region" (Basin Plan) designates groundwater beneficial uses in this Basin to be domestic and municipal supply, agricultural supply, and industrial supply. Groundwater at the site is at approximately 36 to 42 feet bgs and generally flows to the north-northwest. The Santa Ynez River is located approximately 750 feet east of the site. The City of Lompoc proposes to install a municipal supply well approximately 400 feet east of the former UST location. The City's consultant performed a computer groundwater flow model to assess what effects, if any, the current residual contamination would have on the proposed municipal supply well. Based upon a worst-case scenario, assuming a constant loading from the site with no degradation or mass reduction, MTBE would eventually enter the well at 0.016 micrograms per liter ($\mu\text{g/L}$), two orders of magnitude below secondary drinking water standard of 5 $\mu\text{g/L}$. Thus, the City of Lompoc has decided to continue with the installation of the well, as City staff do not consider residual hydrocarbons from this well a threat to the proposed supply well. Based on the limited extent and low concentrations of hydrocarbons, we also do not consider either the creek or the proposed supply well at risk from this source.

Central Coast Water Board staff and Santa Barbara County FPD staff recommends closure of this case based on the following:

1. The contaminated soil was excavated and contaminated groundwater was remediated by groundwater extraction and in-situ chemical oxidation using hydrogen peroxide;
2. The extent of the residual contaminant plume is limited and is not expected to impact surface water or the proposed municipal water supply well;
3. Natural attenuation processes are expected to eventually reduce concentrations of benzene, MTBE, and EDC to below the groundwater cleanup goals in a reasonable time; and
4. Case closure is consistent with State Board Resolution No. 92-49, Section III.G., which allows consideration of cost effective abatement measures where attainment of reasonable objectives, less stringent than background water quality, does not unreasonably affect present or anticipated beneficial uses of groundwater, and will not result in water quality less than that prescribed by the Basin Plan.

The recommended case closure is consistent with closure of similar low-risk petroleum hydrocarbon cases by the Central Coast Water Board in the past. Unless the Water Board directs staff otherwise, the Executive Officer will issue a case closure letter pursuant to California Underground Storage Tank Regulations. On July 24, 2009, the Santa Barbara County FPD notified the current fee titleholders and other interested parties on the proposed case closure pursuant to Water Code Section 13307.1 and the California Health and Safety Code, Section 25296.20. The Central Coast Water Board and the FPD have not received any objections or comments regarding the proposed case closure.

Attachment 1 – Dissolved Analyte Map, March 2009