

STATE OF CALIFORNIA  
REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING OF DECEMBER 9, 2010  
Prepared November 9, 2010

ITEM NUMBER: 8

SUBJECT: Recommended Case Closures

**Background:**

This staff report provides summaries of recommended case closures for two Underground Storage Tank (UST) sites. For these sites, soil and/or groundwater beneath these site has not attained water quality or soil cleanup goals for one or more constituents. Staff's closure recommendation is 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. These sites are appropriate for closure, based on the site-specific information provided below for each of these cases.

**UNDERGROUND STORAGE TANK CASE CLOSURE**

**Devco Oil, 139 Encinal street, Santa Cruz, Santa Cruz County**  
**[Tom Sayles 805-542-4640]**

Central Coast Water Board staff recommends closure of this underground storage tank (UST) case where groundwater monitoring sample results indicate maximum concentrations of benzene at 4.0 micrograms per liter ( $\mu\text{g/L}$ ) and MTBE at 14.4  $\mu\text{g/L}$  in one monitoring well. The Central Coast Water Board's cleanup goals for benzene and MTBE are 1  $\mu\text{g/L}$ , and 5  $\mu\text{g/L}$ , respectively. All other constituents of concern are below the Central Coast Water Board's cleanup goals.

The site is located at 139 Encinal Street in Santa Cruz and is currently an active commercial fueling facility. The station has been in operation since 1965. On June 6, 1996 consultants advanced six hand auger soil borings near the USTs to evaluate subsurface conditions prior to UST upgrade. Sample results indicated maximum concentrations of total petroleum hydrocarbons as gasoline (TPH-G) at 2,600 milligrams per kilograms (mg/kg), total petroleum hydrocarbons as diesel (TPH-D) at 4,800 mg/kg, and benzene at 19 mg/kg in the soil. Groundwater samples showed concentrations up to 180,000  $\mu\text{g/L}$  TPH-G, 3,600  $\mu\text{g/L}$  TPH-D, 7,300  $\mu\text{g/L}$  benzene and 17,000  $\mu\text{g/L}$  MTBE.

In January 1997, consultants removed seven 10,000-gallon USTs from the site. Consultants removed approximately 28,810 gallons of groundwater and 659 cubic yards ( $\text{yds}^3$ ) of contaminated soil from the site. In 1998, six monitoring wells were installed on-and-off site. From October 2001 to December 2003, consultants operated a soil vapor extraction/air sparge system to remediate contamination at the site. The system removed approximately 3,198 pounds of TPH G and 20 pounds of benzene. Currently, one 20,000-gallon gasoline UST, one 15,000-gallon split UST that contains diesel and gasoline, and one 15,000-gallon gasoline UST are in use at the subject site.

The groundwater gradient beneath the site is towards the south. Shallow groundwater is at a depth of between 11 to 14 feet below ground surface. The San Lorenzo River is 1,300 feet east of the site and the Monterey Bay is about one mile to the south. Drinking water in this area is supplied by the city and there are no drinking water wells within a half mile of the subject site.

The site lies within the San Lorenzo River Hydrologic Unit (304.12). The "Water Quality Control Plan, Central Coast Region" (Basin Plan) designates groundwater in the San Lorenzo River Hydrologic Unit as having beneficial uses for domestic and municipal supply, agricultural supply, and industrial supply. The most recent groundwater monitoring results indicate that the remaining contamination is attenuating naturally.

Our recommendation for closure is based on the following:

1. The extent of the release has been adequately characterized,
2. The soil contaminant source was removed from the site, to the extent practical and the remaining soil contaminants above the cleanup goal are limited in extent,
3. The remaining groundwater constituents of concern are limited to benzene and MTBE and the plume is declining in size and concentration,
4. Benzene concentrations in groundwater have been reduced from a maximum of 11,000 µg/L to 4.0 µg/L,
5. MTBE concentrations in groundwater have been reduced from a maximum of 70,000 µg/L to 14.4 µg/L,
6. Treatment systems have removed approximately 3,200 pounds of TPHg.
7. Monitoring data indicate favorable conditions for natural attenuation of petroleum hydrocarbons and concentrations are expected to continue to decrease with time,
8. No drinking water supply wells are within one mile of the site, and remaining contamination is unlikely to reach water supply wells,
9. Closure is consistent with Section III.G. State Board Resolution No. 92-49, allowing consideration of cost-effective abatement measures for a site where attainment of reasonable objectives less stringent than background water quality does not unreasonably affect present or anticipated beneficial uses of groundwater.

Residual soil and groundwater contamination still exists on-site that could pose an unacceptable risk under certain site development activities such as site grading, excavation, or de-watering. The Central Coast Water Board, Santa Cruz County Environmental Health Services (SCCEHS), and the appropriate local planning and building departments must be notified prior to any changes in land use, grading activities, excavation, or dewatering. This notification must include a statement that residual soil and groundwater contamination underlie the property and nearby properties. The levels of residual contamination and any associated risks are expected to decrease with time. Additionally, SCCEHS may require a Health Risk Assessment be conducted should this site be redeveloped. SCCEHS concurs with our recommendation provided the Responsible Party adheres to this notification.

We have notified all interested parties of our intent to recommend closure for this case, and have not received any objections to the planned closure. 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 and pending proper monitoring well destruction, the Executive Officer will issue a case closure letter pursuant to California Underground Storage Tank Regulations.

**ExxonMobil Former Service Station #18-L6B, 6990 El Camino Real, Atascadero, San Luis Obispo County; (RB #3674) [Corey Walsh 805/542-4781]**

Central Coast Water Board staff recommends closure of this UST case where recent groundwater sample results indicate MTBE, benzene, and tert-Butyl alcohol (TBA) remain at concentrations slightly greater than Central Coast Water Board cleanup goals. Groundwater samples collected from two on-site monitoring wells continue to exceed the cleanup goals of 5 micrograms per liter ( $\mu\text{g/L}$ ), 1  $\mu\text{g/L}$ , and 12  $\mu\text{g/L}$  for MTBE, benzene, and TBA, respectively. During the most recent groundwater sampling event, a sample showed MTBE in monitoring well MW-1 at a concentration of 22  $\mu\text{g/L}$ , benzene in MW-4 at a concentration of 2.6  $\mu\text{g/L}$ , and TBA in MW-1 at a concentration of 14  $\mu\text{g/L}$ . Other common contaminants associated with gasoline and fuel oxygenates have been analyzed for, and are below cleanup goals, or are below laboratory detection limits. Historic groundwater analytical results show the primary constituents of concern were total petroleum hydrocarbons as diesel (TPH-d), MTBE, and benzene. Figure 1, *Groundwater Elevation Contour Map*, presents groundwater flow direction and monitoring well locations. The Basin Plan designates groundwater beneficial uses beneath this site as municipal, domestic, and agricultural uses.

The subject site is a vacant lot and is not scheduled to be redeveloped. The property is located on the southwestern corner of the intersection of El Camino Real and State Highway 41, in Atascadero. Contractors discovered the release of petroleum hydrocarbons in March 2007 during the UST system abandonment, at which time four USTs, fuel piping, and dispensers were removed. The UST area was excavated to a total depth of approximately 13 feet below ground surface. Approximately 512 tons of contaminated soil and pea gravel fill material were disposed of off-site. Soil samples were collected during the excavation, and laboratory results showed TPH-d slightly above the San Luis Obispo Fire Department, and Central Coast Water Board cleanup goal of 100 mg/kg. In addition, two grab groundwater samples were collected from the UST excavation and laboratory results indicated contaminant levels of TPH-d at 48,000  $\mu\text{g/L}$ , and benzene at 6.3  $\mu\text{g/L}$ .

Consultants completed additional soil and groundwater assessment during January 2009 with installation of groundwater monitoring wells MW-1 through MW-4. Quarterly groundwater monitoring was conducted between February 2009 and May 2010. Analytical results show only low levels of MTBE, TBA, and benzene. Central Coast Water Board staff expects the residual soil and groundwater contaminant levels to degrade naturally over time and any associated risk to diminish.

Central Coast Water Board staff notified the site property owner (Ms. Ida Ricci), neighboring property owners, and other interested parties that we intended to recommend this UST case for closure. We have not received any comments to date. The San Luis Obispo County Environmental Health Services (EHS) agrees with our recommendation to close this case.

Groundwater currently ranges in depth from approximately 9 to 18 feet below ground surface and generally flows to the southwest. Four on-site groundwater monitoring wells are located in the shallow, water-bearing zone below the site and are screened from approximately 5 to 35 feet below ground surface. A private irrigation well is located approximately 2,000 feet northwest of the site. Atascadero Unified School District operates this well. Atascadero Creek is located approximately 750 feet northwest of the site. The residual petroleum hydrocarbons remaining are unlikely to affect these wells or surface waters considering groundwater flow direction, area geology, well distances, and low remaining contaminant concentrations.

Our recommendation for closure is based on the following:

1. The extent of the release has been adequately characterized,
2. The soil contaminant source was removed from the site, to the extent practical,
3. The remaining soil pollution is below cleanup goals or non-detect, and is limited in extent,
4. The remaining groundwater constituents of concern are limited to benzene, MTBE, and TBA at low concentrations over a very small area,
5. TPH-d concentrations in groundwater have been reduced from a maximum of 48,000 µg/L to non-detect,
6. The remaining MTBE and TBA contamination is limited to two on-site monitoring wells located down-gradient of the former dispensers and the remaining benzene plume is located below the former dispensers,
7. The nearest water supply well is an irrigation well located approximately 2,000 ft northwest of the site, and remaining contamination is unlikely to reach any water supply wells,
8. The current fee titleholders of the subject property and adjacent properties have been notified of the proposed case closure and have no objections to case closure, and
9. Closure is consistent with Section III.G. State Board Resolution No. 92-49, allowing consideration of cost effective abatement measures for a site where attainment of reasonable objectives less stringent than background water quality does not unreasonably affect present or anticipated beneficial uses of groundwater.

Very localized residual soil and groundwater contamination still underlies the site that could pose an unacceptable risk under certain site development activities such as site grading, excavation, or de-watering. The Central Coast Water Board, San Luis Obispo County Environmental Health Services (EHS), and the appropriate local planning and building departments must be notified prior to any changes in land use, grading activities, excavation, or dewatering. This notification must include a statement that residual soil and groundwater contamination underlie the property and may underlie nearby properties, and a description of the mitigation actions necessary (if any) to ensure that any possibly contaminated soils or groundwater brought to the surface by these activities are managed appropriately. The levels of residual contamination and any associated risks are expected to reduce with time.

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 and pending proper monitoring well destruction, the Executive Officer will issue a case closure letter pursuant to California Underground Storage Tank Regulations.

Attachment 1: Groundwater Elevation Contour Map