

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

STAFF REPORT FOR REGULAR MEETING OF SEPTEMBER 2, 2010
Prepared August 6, 2010

ITEM NUMBER: 8
SUBJECT: Staff Closures
THIS ACTION: Information/Discussion

This staff report summarizes information for Central Coast Water Board staff-closed groundwater cleanup cases, including seven Department of Defense Program sites, three Underground Storage Tank (UST) cases, and two Site Cleanup Program (SCP) cleanup sites. Central Coast Water Board staff closed these sites because the wastes in soil do not pose a threat to human health and the environment and, if applicable, the groundwater beneath each site has reached water quality goals that are protective of beneficial uses. No Central Coast Water Board action is necessary for this item.

For each of the sites listed in this report, closure reflects a tangible water quality outcome, meaning groundwater has been restored such that it meets water quality goals sufficient for the assigned beneficial uses. Table 1 below provides case closure targets for the current fiscal year (July 1, 2010 – June 30, 2011) and progress to date in achieving those tangible water quality outcomes.

**Table 1
Case Closure Performance Scoreboard**

Program	2010-2011 Fiscal Year¹ Case Closure Target	Case Closures To Date^{2,3} (Including this report)
Department of Defense	15	7
Underground Storage Tanks	17	3
Site Cleanup	12	2

Notes:

- ¹ Fiscal Year 2010-2011 runs July 1, 2010 to June 30, 2011.
- ² Final closure letters are not issued for sites until documentation of proper well abandonment has been provided.
- ³ This total does not include Recommended Closures on current agenda.

DEPARTMENT OF DEFENSE CLOSURES

UST and Transformer Cases, US Air Force, Santa Rosa Island, Santa Barbara County
[D. Grant Himebaugh 805-542-4636]

Central Coast Water Board staff plans to close five UST sites and two electrical transformer sites on Santa Rosa Island, Channel Island National Park, which is located in Santa Barbara County. These seven closures complement three additional Recommended Closures documented in a separate agenda item for this Water Board meeting. Completion of these ten total site closures would complete the comprehensive, facility-wide closure of fifteen UST and eight transformer sites that began in 1989. Upon completion, no site characterization or closure work would remain at this former US Air Force installation on Santa Rosa Island.

The site was constructed for the US Air Force near the harbor of Johnson's Lee on the southern tip of Santa Rosa Island in 1951. The USTs provided diesel fuel for generators that powered an early warning radar installation and a water desalination plant. The transformers were part of the installation's power infrastructure, which was operational until 1963, when the US Air Force abandoned the site and returned the property to private ownership. The National Park Service acquired the island in the 1980s, and the US Army Corps of Engineers (Army Corps) removed most of the buildings and infrastructure in 1989.

Santa Barbara County Fire Department (County Fire) staff oversaw the original site closure work (1989), after which it was determined that additional site assessment work (2003-2007) was needed for ten sites. Following completion of this additional assessment work, Central Coast Water Board staff determined that seven of the ten sites met water quality and cleanup goals, and were appropriate for staff closures. The remaining three sites are appropriate for closure above cleanup goals. Water Board staff provides details for these three sites in the Recommended Closure agenda item. The following information pertains to the five USTs and two transformers meeting water quality and cleanup goals.

All USTs and transformers were removed in 1989, after which additional soil testing was performed under the direction of County Fire. Army Corps tested the UST sites for: total petroleum hydrocarbons (TPH) as diesel, TPH as gasoline, TPH as oil, volatile organic compounds (e.g. including benzene), and polycyclic aromatic hydrocarbons (PAHs). The transformer sites were tested for polychlorinated biphenyls (PCBs). Central Coast Water Board staff is not regularly involved in UST cleanup sites in Santa Barbara County, as the County typically has the lead role. However, because Santa Rosa Island is a formerly used Department of Defense site, Department of Defense reimbursement constraints prevent County Fire staff from being the lead oversight agency.

After reviewing the case file, Central Coast Water Board staff recommended the Army Corps perform additional work: a) assessing soils at UST-1, UST-12a, and UST-12b, b) confirming the removal of UST-9a and UST-9b, and c) performing soil testing at the transformer locations R-2 and R-3, regardless of whether or not soil staining was observed. The Army Corps conducted the additional work and described the results in a September 2007 report, and documented that the USTs were removed and all wastes were either at non-detectable levels or present at levels below County Fire and Central Coast Water Board cleanup goals for these constituents. In addition, there are no water supply wells within at least one mile of the site and the anticipated depth to groundwater is 50 feet below ground surface.

Based on findings and data for the subject sites, County Fire, National Park Service, and Central Coast Water Board staff agree that no further investigation or cleanup is necessary. As of this writing, County Fire staff is finalizing a formal case closure letter for the subject USTs and transformers.

UNDERGROUND STORAGE TANK CASE CLOSURES:**Unocal Service Station #3660 Site, 1600 Fremont Boulevard, Seaside, Monterey County**
[Wei Liu 805-542-4648]

The site is an active retail gasoline station located at the corner of Broadway Avenue and Fremont Boulevard in Seaside. In June 1999, the station owner removed one waste-oil UST from the site. Soil concentrations of petroleum hydrocarbons and metals were either below laboratory detection limits or the action levels. The responsible party removed approximately 46 tons of waste soils, and excavated another 200 cubic yards, which were then reused after profile sampling, from the area around the product lines. During a due diligence site assessment in December 2007, the responsible party advanced five soil borings in the vicinity of the existing fuel USTs and dispensers. Consultants collected and analyzed soil and grab groundwater samples for petroleum hydrocarbons, fuel oxygenates, and halogenated volatile organic compounds (HVOCs). Sample analysis showed total petroleum hydrocarbon as diesel (TPH-d) in four of the five borings at concentrations ranging from 2,500 micrograms per liter ($\mu\text{g/L}$) to 32,000 $\mu\text{g/L}$. All other petroleum hydrocarbons, fuel oxygenates, and HVOCs were below the laboratory detection limits in the grab groundwater samples, and were either not detected or below the Central Coast Water Board's cleanup goals in the soil samples.

In November 2008, the responsible party installed five groundwater monitoring wells (MW-1 through 5) at the site. No chemicals of concern were present in the groundwater samples or in the soil samples. The responsible party subsequently monitored the groundwater quality for another three quarters from the second quarter of 2009 to the fourth quarter of 2009. Groundwater analytical results from the subsequent quarter's events confirmed that concentrations of all petroleum hydrocarbon constituents, including fuel oxygenates, are below their respective laboratory detection limits or groundwater quality objectives.

The depth to groundwater at the site has ranged from approximately seventeen feet to nineteen feet below ground surface. Groundwater flow direction beneath the site is consistently to the northwest with a gradient of 0.003 feet per foot. The closest water supply well is located approximately 0.2 mile southwest of the site. The nearest surface water is Monterey Bay, located approximately 0.7 mile northwest of the site.

Based on cleanup actions, soil sampling results and groundwater monitoring data, no further investigation or cleanup is necessary at this site. We have notified the Monterey County Health Department, the property owner and other interested parties of our plan to close this case. We have not received comments or objections to the planned closure of this case. The responsible party has been directed to destroy all monitoring wells. Staff will close this case, and the Executive Officer will issue a final case closure letter, upon receipt of a well destruction report documenting the proper destruction of all monitoring wells.

Unocal Service Station #3582 Site, 2045 Fremont Street, Monterey, Monterey County
[Wei Liu 805-542-4648]

The site is an active retail gasoline station located at the corner of Broadway Avenue and Fremont Boulevard in Seaside. In February 1997, the station owner removed and replaced two gasoline and one waste-oil USTs from the site. Approximately 560 cubic yards of waste soil were removed from the UST excavation and the area around the product lines at that time. Analytical results indicate concentrations of petroleum hydrocarbons and metals from soil within the tank excavations were either below laboratory detection limits or soil cleanup action levels. During a due diligence site assessment in December 2007, the responsible party advanced four soil borings in the vicinity of the

existing fuel USTs and dispensers. Consultants collected and analyzed soil and grab groundwater samples for petroleum hydrocarbons, fuel oxygenates, and halogenated volatile organic compounds (HVOCs). Sample analysis showed total petroleum hydrocarbons as gasoline (TPH-g) in one boring at concentration of 54 micrograms per liter ($\mu\text{g/L}$); and total petroleum hydrocarbons as diesel (TPH-d) in two of the four borings at concentrations of 3,000 and 12,000 $\mu\text{g/L}$, respectively. Analysis also showed methyl tertiary butyl ether (MTBE) at 18 and 32 $\mu\text{g/L}$ in two of the four borings. All other petroleum hydrocarbons, fuel oxygenates, and HVOCs were below the laboratory detection limits in the grab groundwater samples, and were either not detected or below the Central Coast Water Board's cleanup goals in the soil samples.

In December 2008, the responsible party installed and sampled four groundwater monitoring wells (MW-1 through 4) at the site. No chemicals of concern were present in the groundwater samples, and were either not detected or below the Central Coast Water Board's cleanup goals or action levels in the soil samples. The responsible party subsequently monitored the groundwater quality for another three quarters from the second quarter of 2009 to the fourth quarter of 2009. Groundwater analytical results from the subsequent quarters events confirmed that concentrations of all petroleum hydrocarbon constituents, including fuel oxygenates, are below their respective laboratory detection limits or groundwater quality objectives.

The depth to groundwater at the site has ranged from approximately 21 feet to 35 feet below ground surface. Groundwater flow direction beneath the site varies with a flat gradient. The closest water supply well is located approximately 0.6 mile southeast of the site. The nearest surface water is Lake Del Monte, located approximately 1,600 feet northwest of the site.

Based on cleanup actions, soil sampling results and groundwater monitoring results, no further investigation or cleanup is necessary at this site. We have notified the Monterey County Health Department, the property owner and other interested parties of our plan to close this case. We have not received comments or objections to the planned closure of this case. The responsible party has been directed to destroy all monitoring wells. Staff will close this case, and the Executive Officer will issue a final case closure letter, upon receipt of a well destruction report documenting the proper destruction of all monitoring wells.

7-Eleven Store No. 25473, 8000 El Camino Real, Atascadero, San Luis Obispo County (Corey Walsh 805-542-4781)

The subject site is an active retail gasoline station located on the southwest corner of El Camino Real and Curbaril Avenue in the City of Atascadero. The property is surrounded by mixed commercial and residential properties. 7-Eleven Incorporated (formerly The Southland Corporation) is the party responsible for cleanup of the site and is the property owner.

In December 2002, contractors discovered a release of petroleum hydrocarbons associated with the excavation and removal of fuel dispensers and product piping at this site. The responsible party directed the excavation of contaminated soil and the collection of verification soil samples to approximately eight and one-half feet below ground surface (bgs) under observation by San Luis Obispo County Environmental Health Services (EHS). Contractors transported approximately 59.5 tons of soil off-site for treatment and disposal. During that operation, approximately 7,600 gallons of shallow groundwater were pumped from the excavations and transported off-site for treatment and disposal. In addition, consultants drilled and completed four soil borings as groundwater monitoring wells. San Luis Obispo County EHS referred the case to Central Coast Water Board staff in July 2004 based on groundwater sampling results that indicated tributyl alcohol (TBA) and MTBE were present in groundwater above cleanup goals.

Historic groundwater analytical results show the primary constituents of concern were TBA and MTBE. The maximum concentrations for TBA and MTBE were 8,000 micrograms per liter ($\mu\text{g/L}$) and 2,100 $\mu\text{g/L}$, respectively. Groundwater cleanup goals are 12 $\mu\text{g/L}$ for TBA and 5 $\mu\text{g/L}$ for MTBE. 7-Eleven Inc. used soil excavation and groundwater monitored natural attenuation to clean up the site. Samples collected on March 1, 2010 during the most recent groundwater monitoring showed all constituents of concern are below cleanup goals.

The site lies within a groundwater basin designated as having beneficial uses that include domestic and municipal supply, agricultural supply, and industrial supply. The depth to groundwater at the site has ranged from approximately 4 to 8 feet bgs. Groundwater flows toward the northwest at an average gradient of 0.04 feet per foot. The nearest water supply well is located approximately 5,500 feet southwest of the site and is operated by Atascadero Mutual Water Company. The nearest irrigation well is located approximately 3,400 feet northwest of the site and is operated by Mr. Don Geissinger. Three small private domestic/irrigation water wells are located greater than 3,400 feet northeast, southeast, and south of the site. All of these wells are unlikely to be impacted by any residual contamination considering the groundwater flow direction, well distances, well construction, and low contaminant concentration remaining. The nearest surface water is an un-named ephemeral stream located approximately 1,600 feet northeast of the site.

Residual soil impacts may exist beneath the subject property near the dispenser islands. Soil sample analysis during remedial soil excavation in December 2002 indicated residual soil contamination at concentrations greater than the typical Central Coast Water Board and San Luis Obispo County EHS cleanup goals of 0.12 milligrams per kilogram (mg/kg) for TBA and 0.05 mg/kg for MTBE. Sample analysis results indicated TBA in nine of the ten soil samples at concentrations ranging from 0.33 mg/kg to 13 mg/kg. All ten soil samples also contained MTBE at concentrations ranging from 0.13 to 0.95 mg/kg. In addition, soil samples from monitoring well installation in June 2004 showed TBA in MW 1 and MW-3 at concentrations of 2.7 mg/kg and 2.3 mg/kg, respectively.

Based on site investigation and groundwater monitoring results, there is no longer a threat to groundwater or surface water quality from the release of petroleum hydrocarbons at this site. Central Coast Water Board staff has no further requirements for soil or groundwater investigation, monitoring, or cleanup at the site. The San Luis Obispo County EHS agrees with this determination. Central Coast Water Board staff also notified the property owner, adjacent owners and other interested parties of the proposed case closure. We have not received any comments or objections to the planned closure of this case. The Central Coast Water Board staff will close this case, and the Executive Officer will issue a final case closure letter, upon receipt of a well destruction report documenting the proper destruction of monitoring wells.

SITE CLEANUP PROGRAM CASE CLOSURES:

Mobil Pacific Pipeline Company, Pipeline Removal Project, Estero Bay, San Luis Obispo County [Alison Jones 805-542-4646]

Central Coast Water Board staff closed the Mobil Pacific Pipeline Company (MPPCo) case in August 2010. Soil sample results indicate all wastes are either at non-detectable concentrations or below San Luis Obispo County Environmental Health Division (County Environmental Health) and Central Coast Water Board cleanup goals for all wastes in soil.

The site is located north of the city of Morro Bay in San Luis Obispo County, to the east of Highway 1, in the vicinity of the ChevronTexaco Estero Bay Marine Terminal (Shore Plant) and associated hill top tank farm (Hill Plant).

The project consisted of decommissioning and removing two pipelines that had been used by MPPCo to transfer crude oil and cutter stock between aboveground tanks on the hill above the terminal and the shore terminal area. Decommissioning included cleaning the pipelines to remove residual liquids and gasses, cutting and capping portions to be abandoned in place (to avoid disturbance to wetlands and steep hillsides), excavating and removing the segments in the shore and hill top areas, backfilling and restoring disturbed areas, and installing erosion control measures.

MPPCo's consultant, Padre Associates, removed approximately 2,850 linear feet of subsurface pipelines from the Hill Plant and Shore Plant areas and abandoned in place approximately 2,730 linear feet that occurred on steep slopes. Padre conducted soil testing to assess possible soil contamination.

Padre did not observe any contaminated soil below the pipelines during pipeline removal and all photo-ionization readings were below detection levels. Padre collected twenty-six soil samples from the floor of the excavations, in accordance with the approved sampling plan, all of which were non-detect for benzene, toluene, ethylbenzene and xylenes. Nine of the soil samples had total petroleum hydrocarbons (TPH) greater than 100 mg/kg; of those nine, four were collected from within the Shore Plant area and five were collected from within the Hill Plant area. Additional sampling determined that the elevated TPH most likely came from other contamination at the Shore Plant and Hill Plant areas, rather than pipeline leaks. The pipeline route is located within the larger, Chevron-owned Estero Marine Terminal site. Chevron is currently conducting remediation in the area pursuant to a State Water Resources Control Board Order, under Central Coast Water Board staff's review, and has completed cleanup of the Hill Plant area as part of a separate site cleanup.

Padre completed site restoration in 2004. Site restoration activities consisted of willow stake planting and fencing to stabilize the areas that had exposed sections of the pipeline abandoned in place.

Padre encountered no groundwater during the pipeline removal. Depth to groundwater in the area is not known; however, several fresh water seeps are located at the base of the hills, approximately 400 feet above mean sea level, and approximately 180 to 230 feet below the Hill Plant area. The nearest water supply well is located at a ranch compound along Toro Creek Road, about 2000 feet north of the site, and the nearest surface water is Toro Creek, an intermittent stream located about a mile to the north of the site.

Based on site evaluation and soil sampling results, no further investigation or cleanup is necessary at this site. Central Coast Water Board staff has notified County Environmental Health, the responsible party, and other interested parties of our plan to close this case. Central Coast Water Board staff has not received comments or objections to the planned closure of this case. The Executive Officer issued a final case closure letter in August 2010.

Former Texaco Hill Top Tank Farm Removal Project, Estero Bay, San Luis Obispo County
[Alison Jones, (805) 542-4646]

Central Coast Water Board staff closed the former Texaco, Inc. (Texaco), Hill Top Tank Farm Removal SCP case in August 2010. Soil sample results indicate all wastes are either at non-detectable concentrations or below County Environmental Health and Central Coast Water Board cleanup goals for all wastes in soil.

The site is located on the hill tops above the Chevron's Estero Bay Marine Terminal, approximately one mile northwest of the city of Morro Bay. Historically, Texaco used the hill top site to store crude oil in aboveground tanks (AGTs); oil was transferred from the tanks to offshore tankers via a pipeline and marine terminal at the shore, just west of Highway 1. In October 2001, Chevron merged with Texaco.

The former Texaco property includes approximately 514 acres of land, which has been used for agriculture and grazing in addition to oil storage. The elevation on the property ranges from 200 to 800 feet above mean sea level. Two intermittent streams, Toro Creek and Alva Paul Creek, cross the property. The former tank site drains into the Alva Paul Creek watershed, which discharges to Morro Strand State Beach.

The site does not overlie a designated groundwater basin. Depth to groundwater is not known, but soil borings to 25 feet in depth did not encounter groundwater. Groundwater surfaces at a spring located approximately one-quarter mile northeast of the tank area, at approximately 620 feet above mean sea level, which is 65 feet below the elevation of the nearest tank.

In 1997 and 1998, Texaco demolished five AGTs at the site. Between 2001 and 2006, Chevron/Texaco conducted a number of cleanup activities at the site, including soil sampling and removal of about 14,500 cubic yards of contaminated material. In 2006, Chevron conducted additional soil assessment at the site. Chevron analyzed 34 additional soil samples for total petroleum hydrocarbon (TPH), benzene, toluene, ethylbenzene or xylene (BTEX), polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs) in areas of potential concern. Chevron also analyzed soil near a former weed oil tank for chlorinated and organophosphate pesticides, and analyzed three soil samples, one from each of the geologic materials predominant at the site, to determine background metals concentrations.

None of the samples contained detectable levels of BTEX, PAHs, PCBs or pesticides. Twenty-seven of the 34 soil samples had no detectable levels of TPH. Of the seven samples with detectable TPH, the maximum level was 16 mg/kg, significantly below the soil cleanup goal of 100 mg/kg for TPH. Metals levels were generally at or near levels found in background samples or within ranges of California soils, with the exception of two samples. One sample at 25 feet below ground surface had cadmium at 28 mg/kg, significantly above local background samples, and outside the range considered typical of California soils. The other sample, at 15 feet below ground surface, had nickel at 840 mg/kg, over the local background of 540 mg/kg. However, neither sample had TPH greater than 3.2 mg/kg and both were well below ground surface. Chevron compared metals levels to USEPA Region IX Regional Screening Levels (RSLs) for residential and industrial soils; none exceeded RSLs for any metals except arsenic and chromium. Arsenic and chromium in samples were below the levels found in the background samples, and are therefore similar to naturally occurring levels in these formations¹.

Staff does not consider the residual hydrocarbon or metals in soil at the site to be a threat to groundwater, surface water, or to human health. These concentrations left in place are consistent with concentrations for other closed sites throughout the region.

Chevron backfilled all borings with bentonite. The site has no groundwater monitoring wells to be abandoned. The site has been revegetated and is currently used for grazing.

Based on the results, no further investigation or cleanup is necessary at this site. Central Coast Water Board staff notified County Environmental Health, the property owner, and other interested parties of our plan to close this case. Central Coast Water Board staff has not received comments or objections to the planned closure of this case. The Executive Officer issued a final case closure letter in August 2010.

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¹ As part of cleanup investigations, various companies have collected and analyzed soil samples for metals in the Estero Bay area in an effort to differentiate between naturally occurring metals in soils in this area and wastes in soil introduced by petroleum transportation activities.