

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

**STAFF REPORT FOR REGULAR MEETING OF DECEMBER 10, 2009**

Prepared November 9, 2009

**ITEM NUMBER:** 9  
**SUBJECT:** Staff Closures  
**THIS ACTION:** Status Update – Information item only

**Background:**

This staff report summarizes information for staff-closed groundwater cleanup cases, including one underground storage tank (UST) cleanup site, one site cleanup program (SCP) site, and two Department of Defense (DoD) program sites. Central Coast Water Board staff closed these sites because 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 these items. This fiscal year (starting July 1, 2009), the UST program has closed six Water Board–lead cases and have four more pending closure, the SCP program has closed two sites, and the DoD program has closed two sites.

**Chevron (formerly Unocal) Pier Terminal - West of Creek, Avila Beach Drive, Avila Beach, San Luis Obispo County [Dan Niles (805) 549-3355]**

Central Coast Water Board staff will close this cleanup case because groundwater sample results indicate total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene, xylenes, methyl tertiary-butyl ether (MTBE), polycyclic aromatic hydrocarbons (PAHs), and heavy metals are below the Central Coast Water Board’s cleanup goals.

The subject site is a former Unocal bulk petroleum transfer terminal used during distribution operations from 1906 through 1997. Unocal transferred various petroleum hydrocarbon products including gasoline, diesel fuel, crude oil, and fuel oil to and from the former Unocal Wharf/Pier (west of Avila Beach) and the Avila Tank Farm (east of Avila Beach). Unocal pumped petroleum products through a series of underground pipelines that connected the Wharf/Pier and the Avila Tank Farm. Chevron is the party responsible for investigation work at the site. The subject site is currently part of the Avila Beach Drive public right of way.

During investigation activities related to the “Unocal Avila Beach Cleanup Project” in the mid to late 1990’s, Unocal (the responsible party at the time prior to Chevron’s acquisition) identified “outlier” areas of pollution. The “Area West of San Luis Obispo Creek” was one such “outlier” area. In 1997, Unocal collected soil and bedrock samples and Unocal detected total petroleum hydrocarbons (TPH) in the gasoline to oil range, benzene, toluene, and ethylbenzene (BTEX). However, Unocal did not investigate groundwater at that time.

In April 2007, Chevron performed a follow up soil, bedrock, and groundwater investigation in the same area. The objectives of the 2007 investigation were to check the status of constituents in soil and bedrock and assess groundwater for potential impacts.

Soil and bedrock analytical results from the first investigation in 1997 show the primary constituents of concern were TPH in the gasoline to oil range and BTEX at maximum concentrations ranging from 1,200 milligrams per kilogram (mg/kg) gasoline, 4,900 mg/kg diesel, 2,700 mg/kg oil, 0.7 mg/kg benzene, 0.6 mg/kg toluene, 16 mg/kg ethylbenzene, and 71 mg/kg xylenes. Unocal did not detect MTBE in the samples. Soil and bedrock analytical results from the 2007 investigation show that the primary constituents of concern have decreased in maximum concentrations, with the exception of TPH oil in one sample, to the following: 463 mg/kg gasoline, 3,230 mg/kg diesel, 3,950 mg/kg oil, 0.048 mg/kg benzene, 0.052 mg/kg toluene, 6.75 mg/kg ethylbenzene, 19.9 mg/kg xylenes; and one detection of 0.005 mg/kg MTBE in shallow soil. Polynuclear aromatic hydrocarbons sampling analyses results for soil and bedrock collected during 2007 investigation indicated trace to non-detectable concentrations. Metals and minerals sampling analyses results indicated no elevated constituents of concern for heavy metals, with a mineral composition consistent with native basaltic bedrock of the area, and relative uniformity of mineral composition within the non-native road base fill overlying the bedrock and immediately underlying Avila Beach Drive.

Groundwater analytical results indicate the following: non-detect for TPH gasoline, 75.9 micrograms per liter ( $\mu\text{g/L}$ ) TPH diesel, and 95.9  $\mu\text{g/L}$  TPH oil; non-detect for BTEX constituents and MTBE; non-detect to trace concentrations of three PAHs; non-detect for heavy metals; and general minerals concentrations indicative of a fresh water/salt water interface. Unocal collected groundwater samples from a temporary monitoring well, and immediately beneath the area with constituents of concern. The groundwater cleanup goals for common gasoline constituents are as follows: 1,000  $\mu\text{g/L}$  total petroleum hydrocarbons, 1  $\mu\text{g/L}$  benzene, and 5  $\mu\text{g/L}$  MTBE. Cleanup goals for TPH and MTBE are based on taste and odor thresholds.

The site lies adjacent to the Pacific Ocean and is not within a specific groundwater basin, but is designated as having beneficial uses for domestic and municipal supply and agricultural supply. Depth to groundwater at the site is 35 feet with minimal fluctuation. Groundwater is presumed to flow toward the ocean; however, the groundwater elevation was observed at or below the mean sea level, and this observation correlates with previous observations during the 1997 investigation (although no groundwater samples were collected in 1997, several soil borings were advanced below ground surface to first encountered groundwater). There are no supply wells or private water wells within 500 feet of the site. Natural attenuation and passive biodegradation of petroleum constituents observed in soil and bedrock in the ten years between investigations is expected to continue. Residual concentrations of petroleum constituents in soil and bedrock have not unreasonably affected groundwater quality. Based on site investigation data, remaining constituents are unlikely to pose a threat to groundwater or surface water in the future.

Central Coast Water Board staff has no further requirements for soil or groundwater investigation, monitoring, or cleanup at the site. Central Coast Water Board staff also notified the property owner, adjacent property 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 responsible party destroyed the temporary monitoring well and properly sealed all boreholes. The Central Coast Water Board staff will close this case, and the Executive Officer will issue a final case closure letter.

Attachment 1 - Site location map showing the investigation area and adjacent parcel owners notified of pending case closure.

**Morro Bay Fuel Dock, 201 Main Street, Morro Bay, San Luis Obispo County**  
**[Wei Liu 805-542-4648]**

This site was used as a boat fueling facility prior to 2005. The site is located in an area of light commercial and recreational use on South Main Street in Morro Bay. Three USTs used at the site prior to 1987 were abandoned in-place in 1988. The property owner discovered soil and groundwater impacts in 2001 during a routine maintenance inspection. Three groundwater monitoring wells were installed at the site in 2002. The property owner has monitored the groundwater quarterly since the second quarter 2002. In 2005, the property owner discontinued fueling operations and removed the fueling facilities and two additional USTs from the site. In November 2006, the property owner commissioned the excavation and removal of approximately 140 cubic yards of contaminated soil. Prior to remediation at the site (before 2006), historic soil and groundwater sample results showed a maximum concentration of 21,000 microgram per kilogram of total petroleum hydrocarbon as diesel (TPH-d) in soil and 1,400 micrograms per liter ( $\mu\text{g/L}$ ) of TPH-d in groundwater. All other petroleum hydrocarbons in soil and groundwater samples were either not detected above the laboratory detection limits or were below the Central Coast Water Board's cleanup goals.

Both soil and groundwater analytical data from post-remediation monitoring events confirmed that contaminant concentrations had decreased to below groundwater quality objectives. The most recent groundwater sample results indicate that TPH-d was detected at a maximum concentration of 400  $\mu\text{g/L}$ . The groundwater quality objective for TPH-d in the Central Coast Region is 1,000  $\mu\text{g/L}$ . All other petroleum hydrocarbon constituents, including fuel oxygenates, were below their respective laboratory detection limits or groundwater quality objectives. Soil samples collected during soil excavation activities in November 2006 did not contain TPH-d or other petroleum hydrocarbons, including fuel oxygenates at either detectable concentrations or concentrations above respective cleanup levels.

The depth to groundwater at the site has ranged from approximately 37 feet to 44 feet below ground surface. Groundwater flow direction beneath the site is consistently to the southwest with a gradient of approximately 0.003 feet per foot. There are no known private or municipal water supply wells located within a 1,000-foot radius of the site. The nearest surface water is Morro Bay, located approximately 2,600 feet west of the site.

Based on site cleanup actions, soil sampling results, and groundwater monitoring results, the groundwater is not impacted above cleanup goals and no further investigation or cleanup is necessary at this site. We have notified the San Luis Obispo County, Division of Environmental Health Services Agency, 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 was directed to destroy all monitoring wells and a well destruction report documenting the proper destruction of all monitoring wells was received on August 11, 2009. Staff has closed this case and the Executive Officer issued a final case closure letter on August 25, 2009.

**Former Hutment Area P, Camp San Luis Obispo, Highway One, San Luis Obispo County**  
**[David Schwartzbart 805.542.4643]**

At Camp San Luis Obispo (Camp), California Army National Guard (National Guard) personnel were housed in small two-person barracks or "hutments" which were heated by fuel oil in the

winter. The fuel oil pipelines and associated fuel storage tanks inadvertently leaked, discharging fuel oil/hydrocarbon wastes to underlying soil and groundwater at the Camp. As part of National Guard's efforts to evaluate and remediate waste discharges, the National Guard retained TN & Associates to install groundwater monitoring wells, excavate hydrocarbon wastes and conduct other investigation and remediation at the former hutment areas at the Camp.

Former Hutment Area P is in the vicinity of current field training areas. Depth to groundwater at former Hutment Area P was roughly 10 to 20 feet and groundwater there likely flows roughly southwest. The nearest surface water to former Hutment Area P is Chorro Creek, roughly 0.07 miles away, and there are approximately three supply wells within roughly one mile of former Hutment Area P.

In 2006, TN & Associates excavated approximately 95 cubic yards of former Hutment Area P soils containing waste hydrocarbons, treated them in an onsite landfarm and backfilled the excavations with acceptably clean soils. Eleven consecutive groundwater monitoring events conducted prior to excavation of contaminated soils revealed no groundwater impact above 800 µg/L total petroleum hydrocarbons in samples from the sole Area P groundwater monitoring well (MW-12). Those concentrations are less than the informal Central Coast Region groundwater quality objective for total petroleum hydrocarbons of 1,000 µg/L. MW-12 was subsequently removed.

Based on site remedial actions and resulting soil and groundwater sample results, soil and groundwater are no longer impacted above cleanup goals and no significant environmental threat or impact remains. Therefore the Executive Officer stated no further remedial action was required and granted closure for Former Hutment Area P in a letter dated June 19, 2009.

Other former hutment areas continue to be investigated, remediated and/or closed, as appropriate. For example, a high vacuum dual phase extraction system is being permitted and implemented to remove hydrocarbon wastes from saturated and unsaturated zones at former Hutment Areas M and N.

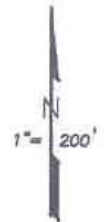
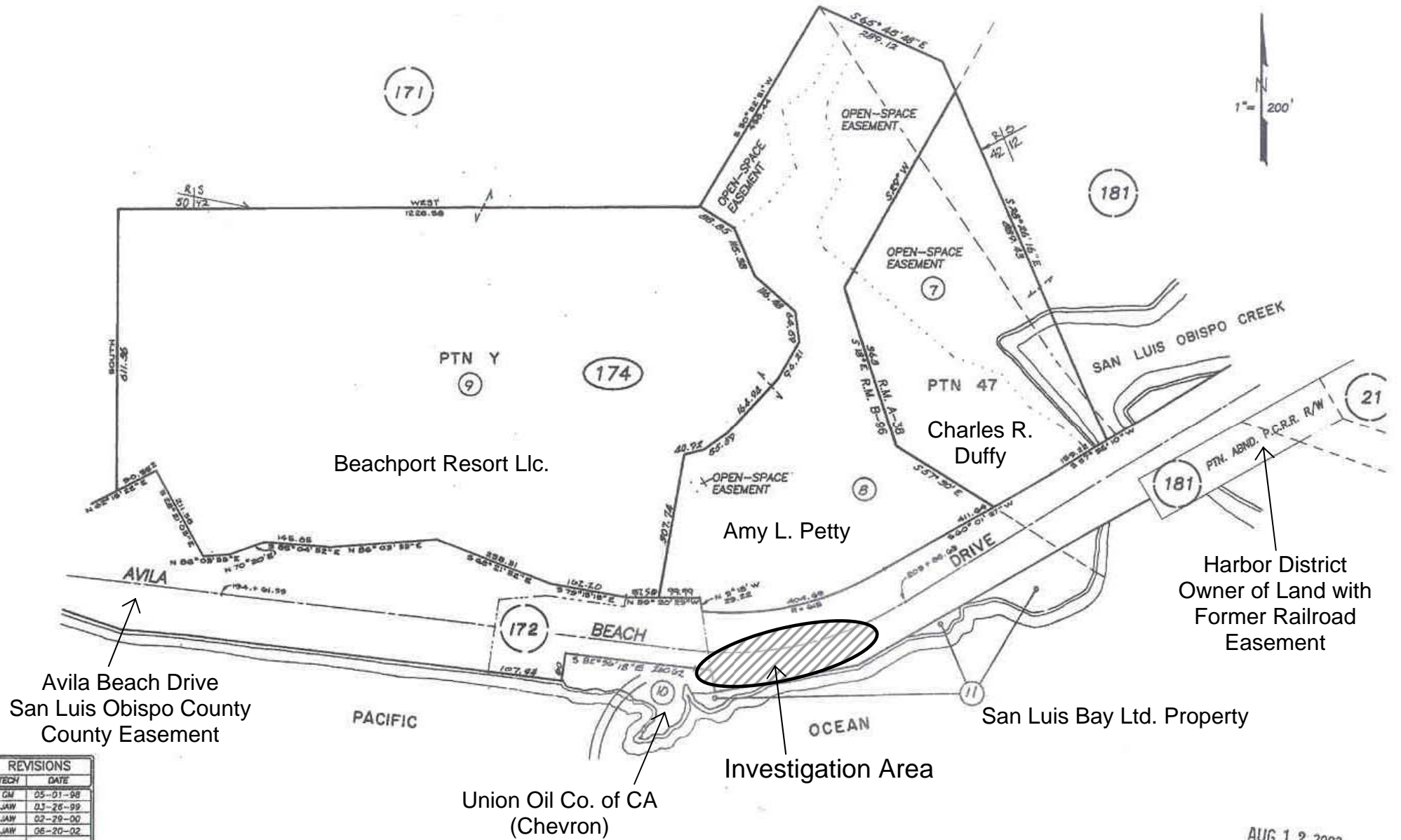
**Dairy and Chorro Creek Bridges Paint Removal Project, Camp San Luis Obispo, Highway One, San Luis Obispo County [David Schwartzbart 805.542.4643]**

During an August 2008 visit, Water Board staff observed old white paint on several bridges crossing Dairy and Chorro Creeks. The paint was curling and flaking off the bridges and falling directly to the riparian corridors below. Subsequent discussion between Water Board and National Guard staff revealed the paint definitely or almost definitely contained lead, thus National Guard's bridges were inadvertently discharging lead (and other paint components) directly to surface waters.

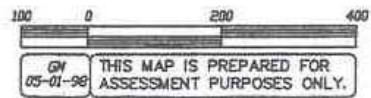
Pursuant to a Water Board staff directive dated September 5, 2008, National Guard staff stopped or abated the discharge by: a) removing all such painted bridge surfaces (wooden posts and railings on Bridges 103, 104 and 105 and two wooden walkways on Bridge 103); b) disposing all such generated wood debris and paint chips offsite at the appropriately licensed disposal facility; and c) replacing the removed components with new wood members painted with lead-free paint, which National Guard staff will maintain, as necessary. California Army National Guard completed the work on April 21, 2009, and submitted a letter report on June 25, 2009. The Executive Officer agreed that there were no further specific requirements on the Paint Removal project and approved case closure in a letter dated July 21, 2009.

**Avila Beach West of San Luis Obispo Creek  
No Further Action**

076-174



REVISIONS	
TECH	DATE
GM	05-01-98
JAW	03-26-99
JAW	02-29-00
JAW	06-20-02



GM  
05-01-98 THIS MAP IS PREPARED FOR ASSESSMENT PURPOSES ONLY.

A MAP OF A PART OF RANCHO SAN MIGUELITO, R.M. Bk. B , Pg. 96  
SUBDIVISIONS OF THE RANCHO SAN MIGUELITO, R.M. Bk. A , Pg. 38

AUG 12 2002  
AVILA VICINITY  
ASSESSOR'S MAP, COUNTY OF  
SAN LUIS OBISPO, CA.  
BOOK 076 PAGE 174

**San Luis Obispo County Assessor's Parcel Map**

(Provided by Chevron on April 23, 2009)

**Attachment 1**