STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING OF JULY 14, 2011
Prepared June 15, 2011

ITEM NUMBER: 8

SUBJECT: Recommended Case Closures

Background:

This staff report provides summaries of recommended case closures for two Underground Storage Tank (UST) sites and two Site Cleanup Program 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 benefits relative to the additional cost to the responsible party and the additional expenditure of Water Board staff resources necessary to oversee this now low-priority site. These sites are appropriate for closure, based on the site-specific information provided below for each of these cases.

UNDERGROUND STORAGE TANK CASE CLOSURE

Former BP Service Station Site, 312 Del Monte Avenue, Monterey, Monterey County [Wei Liu 805-542-4648]

Staff recommends closure of this underground storage tank (UST) case where groundwater sample results indicate contamination remains in groundwater at a concentration slightly greater than the Central Coast Water Board's cleanup goal for methyl tertiary butyl ether (MTBE). Third quarter 2010 monitoring results show MTBE at 9.8 and 27 micrograms per liter (µg/L) respectively in two off-site monitoring wells (MW-6 and MW-11), with declining concentrations over time. All other petroleum hydrocarbon constituents, including benzene and other fuel oxygenates, were below detection limits or the Central Coast Water Board's cleanup goals.

The site was operated as a gasoline retail outlet until 1998. All on-site structures were demolished in 1998 and the site is currently a parking lot. Contractors excavated approximately 180 cubic yards of contaminated soil in 1990 and another 200 cubic yards in 1998. The responsible party submitted a Corrective Action Plan in 2003. Monitored natural attenuation was selected as the remedial alternative for this site.

The Central Coast Water Board required a quarterly groundwater monitoring program in 1991. Based on the groundwater monitoring results, there has been a significant reduction in the contaminant concentrations. Residual MTBE concentrations at downgradient off-site locations remain slightly above the cleanup goal. However, the off-site MTBE plume appears to be limited to a small area, and is stable. Residual concentrations continue to decline.

Monterey Bay is located approximately 900 feet north of the site. The groundwater flow direction around the site is primarily to the north-northeast. The closest water supply well is an

irrigation well located approximately 1,800 feet southwest of the site. The nearest drinking water well is located approximately two miles east of the site.

The MTBE plume is not expected to impact Monterey Bay or the irrigation well because of their respective distances from the site, low residual contaminant concentration, and the localized extent of the contamination.

Central Coast Water Board staff recommends closure of this case based on the following:

1. The contaminant mass was removed by soil excavations in 1990 and1998;
2. The extent of the residual MTBE plume has been fully delineated. The plume is localized in a small area in the vicinity of wells MW-6 and MW-11, and the detected maximum concentration of 27 µg/L does not pose a threat to beneficial uses under these site conditions (relative to our cleanup goal of 5 µg/L);
3. Groundwater data indicate that on-site remediation was effective and has significantly reduced concentrations of contaminants in groundwater. Water Board staff expect the remaining MTBE will continue to attenuate naturally; 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.

Based on the above, there is no longer a threat to groundwater quality and no further groundwater investigation or cleanup is necessary. Monterey County Health Department staff agrees with this determination. The responsible party and interested parties have been notified of this proposed case closure. We have not received any comments on the proposed closure of this case. Unless the Central Coast Water Board objects, and pending proper monitoring well destruction, the Executive Officer will issue a formal case closure letter.

ARCO Station No. 1980, 1116 Casitas Pass Road, Carpinteria, Santa Barbara County [John Mijares, (805) 549-3696]

Central Coast Regional Water Quality Control Board (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 groundwater sample results show groundwater contaminant concentrations remain above Central Coast Water Board cleanup goals. Results of groundwater samples collected in January 2011 showed methyl tertiary-butyl ether (MTBE) at a maximum concentration of 12 micrograms per liter (µg/L) and tertiary butyl alcohol (TBA) at 20 µg/L. Central Coast Water Board cleanup goals for MTBE and TBA are 5 µg/L and 12 µg/L, respectively. The isoconcentration maps for MTBE and TBA for the January 2011 sampling event are shown on Attachments 1 and 2, respectively.

ARCO Station No. 1980 is located at 1116 Casitas Pass Road in the City of Carpinteria. The subject property was originally owned and operated by Atlantic Richfield Company. In 2003, Atlantic Richfield Company merged with British Petroleum and the site was owned and operated by BP West Coast Products LLC. On February 8, 2008, the site was sold to Shoreline Oil Company and continues to operate as an AM/PM gasoline station and mini-mart. The surrounding area is predominantly commercial properties with some residential properties located to the west of the site. The site is bounded by US 101 to the north.

The local topography slopes gently toward the southwest. The nearest body of surface water is a Carpinteria Creek, which is approximately 1000 feet southeast of the site. The Pacific Ocean is approximately 4,000 feet southwest of the site. The site lies within the Carpinteria Groundwater Basin. The "Water Quality Control Plan, Central Coast Region" (Basin Plan) designates groundwater beneficial uses throughout the Central Coastal Basin, except for that found in Soda Lake Sub-basin, to be suitable for municipal and domestic water supply, agricultural water supply, and industrial use. The average depth to groundwater is approximately 20 feet below ground surface (bgs), and generally flows to the west-northwest.

Fourteen water supply wells are located within a one-mile radius of the site. Ten of these are irrigation wells, two are domestic wells, one is a well of unknown usage, and one is a municipal well. Based on the groundwater flow direction and the limited extent of dissolved petroleum hydrocarbons, we do not consider these wells at risk from this source. The nearest drinking water well (a municipal supply well) is located approximately 1,200 feet northeast of the site.

Contractors removed a 550 gallon waste oil tank on July 26, 1988 and two 6,000-gallon and two 8,000-gallon gasoline USTs on June 8, 1989. In 1989, contractors reinstalled three 10,000-gallon gasoline tanks at the site. Contractors upgraded the eight dispensers in 1999 and the product lines in 2003.

In July 1988, contractors encountered soil contamination during the waste oil tank removal. Contractors conducted a site assessment, including soil sampling and groundwater monitoring well installation in March 1989. During the tank replacement activities in June 1989, contractors collected soil samples from the tank pit walls, which revealed elevated TPHg and benzene. In June 1989, contractors conducted an additional site assessment to evaluate an alternative UST location and the current UST location. No elevated TPHg or BTEX were encountered at the potential future UST location. However, gasoline impacts were encountered in the five soil borings that were drilled around the perimeter of the existing UST site. These borings were converted to vapor extraction wells. In July 1992, contractors installed two monitoring wells upgradient and cross gradient of the southern portions of the plume. In March 2000, contractors drilled and sampled three groundwater monitoring wells and two bio-injection wells. The monitoring wells were drilled to evaluate the downgradient portion of the plume. The bio-injection wells were installed near the middle of the plume. In October 2000, contractors installed one monitoring well to delineate the northern cross-gradient portion of the plume. In June 2001, contractors installed two air sparge/vapor extraction wells in the middle of the plume, in anticipation of a pilot test. Based upon the results of the pilot test, contractors installed two additional air sparge/vapor extraction wells in May 2003.

On July 21, 1989, contractors over-excavated the former waste-oil UST area and removed 32 cubic yards of impacted soil. In September 1990, contractors conducted a six-hour vapor extraction test (VET) at the site. Elevated concentrations of TPHg and benzene were detected in vapor samples. In addition, elevated methane and carbon dioxide were detected, indicating aerobic biodegradation may have been occurring in the subsurface. In January 1999, contractors replaced eight dispensers and removed 640 cubic yards of impacted soil from the site. In May and June 2003, contractors performed a product line upgrades and removed and disposed approximately 135 tons of soil. Between July 2003 to December 2004, 3,265 gallons of water and 325 pounds of vapor-phase hydrocarbons were removed by a mobile high vacuum dual phase extraction system. A considerable mass and volume of TPHg and BTEX remain in the soils beneath the site. Due to the large mass and volume of residual TPHg and BTEX in soil, the responsible parties have agreed to place a deed notification on the property.

Groundwater monitoring wells at the site were last sampled in January 2011. MTBE was detected in one well at 12 µg/L, which is above the Water Board's groundwater quality goal of 5 µg/L. TBA was detected in one well at 20 µg/L, which is above the Water Board's groundwater quality goal of 12 µg/L. These contaminants are limited in extent in groundwater and continue to exhibit overall downward trends. The historical trends suggest that the contaminants in groundwater will continue to degrade over time and eventually reach their respective water quality goals. TPHg and BTEX were not detected in groundwater, suggesting that they are no longer leaching into groundwater.

On February 24, 2011, FPD notified the property owner and the responsible parties regarding the proposed case closure pursuant to Section 13307.1 of the California Water Code. To provide added transparency, on February 24, 2011, FPD issued a public notice on the proposed closure to interested parties within 200 feet of the site. The public notice provided the interested parties a 30-day period to provide comments and/or objections to the proposed closure. As of April 15, 2011, FPD received no public comments.

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

1. Soil contamination has been removed to the extent practicable. The site is capped with asphalt and cement, limiting infiltration through the remaining soil contamination;
2. Due to the volume and mass of residual soil contamination, the Responsible Parties have agreed to place a Deed Notification on the parcel. This will inform future buyers or subsurface workers of the residual contamination;
3. The extent of dissolved MTBE and TBA groundwater contamination is limited and is not expected to impact any known production wells or surface water bodies in the site vicinity;
4. The concentrations of MTBE and TBA exhibit declining trends indicating natural attenuation processes are ongoing and expected to eventually reduce these compounds to below cleanup goals. TPHg and BTEX no longer impact groundwater at concentrations above their respective MCLs and or Notification Levels; and
5. 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 concurrence letter to the FPD.

Attachment 1 Isoconcentration map for MTBE
Attachment 2 Isoconcentration map for TBA

SITE CLEANUP PROGRAM CASE CLOSURES

Ashworth Brothers Inc Site, 22250 Somavia Road, Salinas, Monterey County [Wei Liu 805-542-4648]

Staff recommends closure of this Site Cleanup Program case where groundwater sample results indicate contamination remains in groundwater at a concentration slightly greater than the Central Coast Water Board's cleanup goals for 1,1-dichloroethene (1,1-DCE) and 1,4-dioxane. Recent groundwater investigation and monitoring confirms the current groundwater quality conditions and the effectiveness of previous corrective actions. During the most recent monitoring event, 1,1-DCE was detected in one well (AB-6) at 31 microgram per liter (µg/L), slightly above California Department of Public Health Maximum Contaminant Level (MCL) of 6 µg/L. 1,4-dioxane was detected at a maximum concentration of 36 µg/L, which slightly exceeds CDPH's Response Level of 35 µg/L. Other chlorinated solvent compounds and petroleum hydrocarbons were below the MCLs or the Water Board's action levels.

The site was used for manufacturing steel industrial belts starting in 1968, and is currently vacant. In March 1986, Water Board staff inspected the site and discovered the discharges from an indoor sump to the seepage pits, degrading soil and groundwater. In June 1986, Monterey County Health Department ordered the responsible party to cease the discharge to the seepage pits. The responsible party performed initial soil and groundwater investigations in 1986. Consultants collected soil and groundwater samples from temporary soil borings at the site. Laboratory analysis showed contamination of soil and groundwater.

The Water Board issued Cleanup or Abatement Order (CAO) No. 86-259 in 1986, ordering the responsible party to clean up the site. The responsible party installed a groundwater extraction and treatment system in December 1986, which operated until November 1991. More than 900 million gallons of contaminated groundwater was extracted and treated. Treated groundwater discharge was regulated under Waste Discharge Requirements (WDR) Order No. 89-13. Because site cleanup as required by CAO No. 86-259 was completed in 1991 and the treated groundwater discharge regulated under Waste Discharge Requirement Order No. 89-13 ceased in the same year, staff has recommended rescission of CAO No. 86-259 and WDR No. 89-13 on the consent calendar of this Board meeting.

Since 1986, the responsible party has installed a total of fifteen groundwater monitoring wells. The Water Board required a quarterly groundwater monitoring program in 1986. Based on the groundwater monitoring results, concentrations of most contaminants of concern declined to below their respective MCLs or action levels after the remediation. Only 1,1 DCE and 1,4-dioxane have been fluctuating at levels slightly above their MCL or notification level in a few wells. However, the residual 1,1-DCE and 1,4-dioxane concentrations have been declining or have remained low and are stable. The concentrations of other volatile organic compounds have been below the laboratory detection limits or below cleanup goals since 1997.

This site lies within the Salinas Hydrologic Unit, Chular Hydrologic Area. There are no nearby surface waters. There is one private water supply well on-site, which is screened from 145 to 162 feet below ground surface (bgs) and has not been impacted by the site contamination. The polluted groundwater is approximately 47 feet bgs. The on-site private water supply well has been sampled four times over the past two years and analytical results show no impacts. Based on the current extent and concentration of VOCs in groundwater associated with this case, Water Board staff does not consider the supply well at risk.

Water Board staff recommends closure of this case based on the following:

1. The source of contamination was removed by groundwater extraction and treatment between 1986 and 1991;
2. The extent of the residual VOC plume has been fully delineated. The 1,1-DCE is localized in a small area on-site in the vicinity of wells AB-3 and AB-6, and 1,4-dioxane plume is limited to within the property lines. The detected maximum concentrations of 31 µg/L 1,1-DCE and 36 µg/L 1,4-dioxane are slightly above the cleanup goal of 6 µg/L and the action level of 35 µg/L, respectively;
3. The on-site water supply well has not been impacted by the site contamination;
4. Groundwater data indicate that on-site remediation was effective and has significantly reduced concentrations of contaminants in groundwater. Water Board staff expect the remaining residual contamination will continue to attenuate naturally;
5. Because we are recommending closure of this case where the concentrations of the contaminants of concern in groundwater are above their respective water quality goals or response levels, a deed restriction for certain activities (e.g., well installations) and uses of impacted groundwater at the site is required as a condition of this case closure; and
6. 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.

Based on the above, there is no longer a threat to groundwater quality and no further groundwater investigation or cleanup is necessary. Monterey County Health Department staff agrees with this determination. The responsible party has and interested parties have been notified of this proposed case closure, and no comment was received by the end of the public notification period. Therefore, unless the Central Coast Water Board objects, and pending proper monitoring well destruction, the Executive Officer will issue a formal case closure letter.

Mission Linen Supply Facility, 435 West Market Street, Salinas, Monterey County [Wei Liu 805-542-4648]

Staff recommends closure of this Site Cleanup Program case where groundwater sample results indicate contamination remains in groundwater at a concentration slightly greater than the Central Coast Water Board's cleanup goals for cis-1,2-dichloroethene (cis-1,2-DCE) and 1,2-dichloropropane (1,2-DCP). Recent groundwater investigation and monitoring confirm the current groundwater quality conditions and the effectiveness of previous corrective actions. During the most recent monitoring event, cis-1,2-DCE, a breakdown product of other chlorinated volatile organic compounds, and 1,2-DCP were detected at concentrations slightly above California Department of Public Health Maximum Contaminant Levels (MCLs). Other chlorinated solvent compounds and petroleum hydrocarbons were below MCLs or the Water Board's action levels.

The site is currently used as an industrial laundry facility and is operated by Mission Linen. In 2007, technicians discovered a leaking concrete underground storage tank and disposal vault located at the site. The leaking tank was excavated and disposed of off-site as part of soil remediation activities in December 2007. Mission Linen performed soil and groundwater investigations in April and May 2007. Consultants collected soil and groundwater samples from

17 temporary soil borings at the site. Soil sample analysis showed total petroleum hydrocarbons as gasoline (TPH-g), as diesel (TPH-d), and as motor oil (TPH-m), 1,2-DCP, and 1,2,3-TCP at concentrations up to 1,000 milligram per kilogram (mg/kg), 15,000 mg/kg, 9,700 mg/kg, 510 mg/kg, and 200 mg/kg, respectively. Groundwater sample analysis showed 1,2-DCP, 1,2,3-TCP, and cis-1,2-DCE at concentrations as high as 39 µg/L, 130 µg/L, and 21 µg/L, respectively. Other petroleum hydrocarbon compounds and volatile organic compounds in soil and groundwater samples were either not detected above the laboratory detection limits or their concentrations were below the respective cleanup goals or action levels.

The responsible party implemented a corrective action plan in 2007. Approximately 900 cubic yards of contaminated soil from 7.5 to 15 feet below ground surface (bgs) were removed and Textrol emulsified soy bean oil was injected to the subsurface to enhance bioremediation of contaminated groundwater. A previously undocumented 1,000-gallon, fluid-filled concrete tank was also appropriately removed. Following the remediation, the responsible party installed three groundwater monitoring wells. The Water Board required a quarterly groundwater monitoring program in 2008. Based on the groundwater monitoring results, 1,2-DCP and cis-1,2-DCE concentrations have been declining or have remained low and are stable. The concentration of other petroleum hydrocarbon constituents and volatile organic compounds (VOCs) have been below the laboratory detection limits or below cleanup goals since March 2008.

This site lies within the Salinas Hydrologic Unit, Chular Hydrologic Area (309.20). The nearest surface waters are Alisal Slough approximately 400 feet south of the site, and a county-maintained drainage ditch approximately 350 feet north of the site. The nearest water supply well is approximately 600 feet to the northwest and upgradient of the site. The depths to the polluted groundwater is approximately 30 feet bgs. The depth to drinking water is more than 180 feet bgs. Based on the extent and concentrations of VOCs in groundwater associated with this case, Water Board staff does not consider the surface water or supply well at risk.

Water Board staff recommends closure of this case based on the following:

1. The source of contamination was removed by excavation and enhanced bioremediation between 2007 and 2009;
2. The extent of the residual VOC plume has been fully delineated. The plume is localized in a small area in the vicinity of two on-site wells. The detected maximum concentrations of 5.1 µg/L 1,2-DCP and 20 µg/L cis-1,2-DCE are slightly above the cleanup goals of 5 µg/L and 6 µg/L, respectively;
3. Groundwater data indicate that on-site remediation was effective and has significantly reduced concentrations of contaminants in groundwater. Natural attenuation is expected to continue;
4. Because we are recommending closure of this case where the concentrations of the contaminants of concern are above their respective water quality goals, we will require a deed restriction for certain activities at the site; and
5. 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.

Based on the above, there is no longer a threat to groundwater quality and no further groundwater investigation or cleanup is necessary. Monterey County Health Department staff agrees with this determination. The responsible party and interested parties have been notified of this proposed case closure. We have not received any comments regarding the proposed closure of this case. Unless the Central Coast Water Board objects, and pending proper monitoring well destruction, the Executive Officer will issue a formal case closure letter.