

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

STAFF REPORT FOR REGULAR MEETING OF SEPTEMBER 6, 2012
Prepared August 10, 2012

ITEM NUMBER: 10

SUBJECT: Recommended Case Closures

Background:

This staff report provides summaries of recommended case closures of six Underground Storage Tank (UST) sites. For each of these sites, soil and/or groundwater beneath the sites has not attained water quality or soil cleanup goals for one or more constituents. Central Coast Water Board 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 Closures

Felton Exxon, 6225 Graham Hill Road, Felton, Santa Cruz County [Tom Sayles 805-542-4640]

Central Coast Water Board staff recommends closure of this UST case where a groundwater sample showed methyl *tertiary*-butyl ether (MTBE) at 12 micrograms per liter ($\mu\text{g/L}$) in one monitoring well. The Central Coast Water Board's cleanup goal for MTBE is 5 $\mu\text{g/L}$. All other constituents of concern were below the Central Coast Water Board's cleanup goals. Remaining residual groundwater contaminants are well characterized and contracting or declining in size and concentration. The contaminant mass has been removed from the site to the extent practical, and historical monitoring data indicate the hydrocarbon constituent concentrations are expected to continue to decrease with time.

The site is located at 6225 Graham Hill Road in Felton and operates as a fueling facility. In December 1998, two 8,000 gasoline USTs and one 13,500 gasoline UST were removed from the site. Elevated concentrations of petroleum hydrocarbons in soil prompted additional soil excavation in three phases in December 1998. The service station was remodeled following excavation activities.

Soil investigations in 2000 showed concentrations up to 420 milligrams per kilogram (mg/kg) total petroleum hydrocarbons as gasoline (TPH-G), 0.510 mg/kg benzene, and 0.120 mg/kg MTBE. Historically, groundwater monitoring has shown up to 8,700 $\mu\text{g/L}$ total petroleum TPH-G; 340 $\mu\text{g/L}$ benzene; 5,600 $\mu\text{g/L}$ MTBE; and 3,200 $\mu\text{g/L}$ tertiary butyl alcohol (TBA).

The most recent groundwater monitoring event on April 13, 2012 showed groundwater flowing to the south. Groundwater depths range from 13.17 feet to 18.11 feet beneath ground surface (bgs). All contaminants of concern were below this Water Board's cleanup goals for petroleum hydrocarbon constituents except for one detection of MTBE at 12 micrograms per liter ($\mu\text{g/L}$).

During July 2003, consultants conducted a sensitive receptor survey, which showed five domestic/private wells within a 1,000-foot radius of the site. These wells, however, are either up- or side-gradient of the site and are unlikely to be impacted by residual contamination. The nearest surface water is Zayante Creek.

The site lies within the Santa Cruz – San Lorenzo Hydrologic Unit (304.12). The *Water Quality Control Plan for the Central Coastal Basin* (Basin Plan) designates groundwater in this hydrologic unit as having beneficial uses for domestic and municipal supply, agricultural supply, and industrial supply.

Our recommendation for closure is based on the following:

1. The extent of the release has been adequately characterized,
2. The soil contaminants were removed from the site to the extent practical, and any remaining soil contaminants above the cleanup goal are limited in extent and are located near active USTs, product lines and dispensers and do not pose any risk to groundwater or human health,
3. Recent groundwater sampling showed one detection of MTBE in monitoring well MW-9 at 12 $\mu\text{g/L}$, which is only slightly above the Central Coast Water Board's cleanup goal of 5 $\mu\text{g/L}$. All other gasoline constituents in groundwater are below the Central Coast Water Board's cleanup goals
4. Five drinking water supply wells are located within a 1,000-foot radius of the site, but they are either up- or side-gradient of the site and the remaining contamination is unlikely to reach the wells or surface water due to its limited extend,
5. 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 contamination still exists on the site that could pose an unacceptable risk under certain site development activities such as site grading, excavation, or tank removals. 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 tank removals. The levels of residual contamination and any associated risks are expected to reduce with time. Additionally, SCCEHS may require a Health Risk Assessment be conducted should this site be redeveloped.

Based on the soil and groundwater data, further investigation or cleanup is not necessary. We have notified all known interested parties of our plan to close this case. We have not received any comments or objections to the planned closure of this case. 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.

Former Jackpot Food Mart No. 04164; 504 Grand Avenue, Arroyo Grande, San Luis Obispo County [Corey Walsh (805) 542-4781]

Central Coast Water Board staff recommends closure of this underground storage tank (UST) case where groundwater sample results indicate TPH-g, benzene, and ethylbenzene remain at concentrations greater than Central Coast Water Board cleanup goals. Analytical results in one off-site monitoring well indicate contaminant levels of TPH-g, benzene, and ethylbenzene are 6,200 µg/L, 4.4 µg/L and 437 µg/L, respectively. In addition, one on-site monitoring well contains benzene at 1.2 µg/L. The Central Coast Water Board cleanup goals for TPH-g, benzene, and ethylbenzene are 1,000 µg/L, 1.0 µg/L and 300 µg/L, respectively. Other common groundwater contaminants associated with gasoline and fuel oxygenates are below cleanup goals. Remaining residual groundwater contaminants are well characterized and contracting or declining in size and concentration. The contaminant mass has been removed from the site to the extent practical, and historical monitoring data indicate the hydrocarbon constituent concentrations are expected to continue to decrease with time.

The subject cleanup site is no longer used as a gasoline service station, and contains a retail mattress and furniture store. The property is located at 504 East Grand Avenue between Bell and Oak Streets in the city of Arroyo Grande. The property is surrounded by commercial and residential properties. The site was developed as a gasoline service station in 1965 and Time Oil Company took over operation in 1969. Evidence of a petroleum hydrocarbon impact was first discovered in August 1990 during replacement of the UST system. Subsequent remedial investigations indicated petroleum hydrocarbon impacts to both soil and groundwater. The station was closed in April 2000 with removal of three gasoline tanks.

The responsible party (Time Oil Company) commissioned several phases of soil and groundwater investigation and cleanup. Remedial efforts began with operation of a soil vapor extraction (SVE) system in May 1996 and later expanded to include an air sparging (AS) system in October 1997. It is estimated that over 947 pounds of gasoline were removed from the site during the period of SVE system operations between May 1996 and July 2004. The SVE/AS remedial system was further expanded in August 2007 to include five SVE and seven AS wells. The total estimated contaminant mass removed is approximately 1,263 pounds of petroleum hydrocarbons.

The depth to groundwater currently ranges from approximately 14 to 19 feet below ground surface (bgs) measured across the shallow groundwater zone associated with the site. The horizontal groundwater flow gradient is toward the south at approximately 0.02 feet per foot.

Five municipal supply wells are located within one mile of the site and are operated by the City of Arroyo Grande. The closest well, reported near the intersection of Maple Street and Elm Street, is located approximately 3,900 feet southwest and has been abandoned. Four other municipal supply wells are located approximately 4,900 feet southwest of the site. In addition, an irrigation well is located approximately 1,600 feet southeast of the site. The nearest body of surface water is Arroyo Grande Creek, located approximately 1,400 feet south, downgradient of the site. The residual petroleum hydrocarbons remaining are unlikely to affect any of these water wells or surface water considering groundwater flow direction, area geology, well distances, screen depth, and low remaining contaminant concentrations. Central Coast Water Board staff expects these residual levels of contamination to degrade naturally over time.

Our recommendation for case closure is based on the following:

1. The extent of the release has been adequately characterized,
2. The contaminant source was removed from the site, to the extent practical,
3. The remaining pollution above the cleanup goal is limited to TPH-g, benzene, and ethylbenzene,
4. The groundwater plume is declining in size and concentration,
5. TPH-g concentrations have been reduced from a maximum of 98,000 to 6,200 $\mu\text{g/L}$,
6. Benzene concentrations have been reduced from a maximum of 10,000 to 4.4 $\mu\text{g/L}$,
7. Ethylbenzene concentrations have been reduced from a maximum of 3,100 to 437 $\mu\text{g/L}$,
8. Monitoring data indicate favorable conditions for natural attenuation of petroleum hydrocarbons and concentrations are expected to continue to decrease with time,
9. The nearest active municipal well water is located approximately 4,900 feet southwest of the site. It is extremely unlikely that remaining contamination will reach this well,
10. 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
11. 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 underlies the site that could pose an unacceptable risk under certain site redevelopment 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, and site redevelopment. Future site disturbance could require worker health and safety protection, and restrictions on the disposal of soil and groundwater. The levels of residual contamination and any associated risks are expected to diminish with time. San Luis Obispo County EHS may also require additional site assessment and remediation if the property is proposed to be redeveloped. Additional actions required by EHS may include, but not limited to, a case review, further remedial action, soil gas analysis, and a human health risk assessment.

Central Coast Water Board staff notified the site property owner (Ms. Jennifer Chao), neighboring property owners, and other interested parties that we intend to recommend this UST case for closure. We have not received any comments or objections to the planned closure of this case. The San Luis Obispo County EHS agrees with our proposed closure of the case. 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.

**Former Beach City Gas and Minimart - 1104 Ocean Street, Santa Cruz, Santa Cruz County
[Tom Sayles 805-542-4640]**

Central Coast Water Board staff recommends closure of UST case where recent groundwater monitoring showed maximum concentrations of MTBE in one off-site well at 6.4 $\mu\text{g/L}$ and TBA in two off-site monitoring wells at 15 and 96 $\mu\text{g/L}$, respectively. The Central Coast Water Board's cleanup goals for MTBE and TBA are 5 $\mu\text{g/L}$ and 12 $\mu\text{g/L}$, respectively. The residual contamination is located either beneath the public right away on Hubbard Road or beneath an asphalt driveway near the public sidewalk. All other constituents of concern were below the

Central Coast Water Board's cleanup goals. Remaining residual groundwater contaminants are well characterized and contracting or declining in size and concentration. The contaminant mass has been removed from the site to the extent practical, and historical monitoring data indicate the hydrocarbon constituent concentrations are expected to continue to decrease with time.

The site is located at the northeast corner of Ocean Street and Hubbard Road at 1104 Ocean Street in Santa Cruz. The site has been redeveloped to a coffee shop. There are no active USTs present at the subject site.

The fuel leak at the Site was stopped when the three former UST systems and associated piping and fuel dispensers were removed on September 26, 1988. Additionally, approximately 250 cubic yards of soil was removed during the excavation of these UST systems. Other contamination was removed by additional excavations north of the former USTs under the former dispenser islands extending to a total depth of approximately 10 feet bgs (approximately 622 cubic yards of soil was removed). A groundwater extraction treatment system ran intermittently between March of 2005 and January of 2009 and again between September of 2009 and November 2010 near offsite wells MW-5 and MW-7. A total of 311,149 gallons were removed, treated and discharge to the sanitary sewer. No free product was observed in any of the wells or excavations at the site.

Branciforte Creek (a tributary to The San Lorenzo River) is located approximately 1,000 feet east of the Site. The San Lorenzo River is located approximately 1,100 feet southwest of the Site. The direction of groundwater flow beneath the site has ranged from southwest to southeast since January 2006. Recent groundwater gradients have ranged from 0.005 to 0.011 foot/foot. Groundwater levels range from 2.0 feet to 10.5 feet beneath ground surface. There are no water production wells within 1,500 feet of the site.

The site lies within the Santa Cruz – San Lorenzo Hydrologic Unit (304.12). The Basin Plan designates groundwater in this hydrologic unit as having beneficial uses for domestic and municipal supply, agricultural supply, and industrial supply.

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 and groundwater contaminants above the cleanup goal are minimal and confined to the vadose zone beneath the sidewalk and street.
3. The detections of MTBE and TBA in groundwater continue to decrease with time indicating biodegradation and natural attenuation is occurring. All other gasoline constituents in groundwater are below the Central Coast Water Board's cleanup goal.
4. There are no active USTs located at the site and the site is paved with asphalt.
5. No drinking water supply wells are within 1,500 feet of the site.
6. 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 contamination still exists that could pose an unacceptable risk under certain excavation activities such as excavation near the public utilities. 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 reduce with time.

We have notified all interested parties of our plan to close this case. We have not received any objections to the planned closure of this case. 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.

J.B. Dewar Cardlock; 75 Prado Road, San Luis Obispo, San Luis Obispo County [Corey Walsh (805) 542-4781]

Central Coast Water Board staff recommends closure of this UST case where groundwater sample results indicate TPH-g and diesel (TPH-d) remain at concentrations greater than Central Coast Water Board cleanup goals. Analytical results from one on-site monitoring well (MW-3) indicate contaminant levels of TPH-g are 1,900 and TPH-d are 4,200 µg/L. The Central Coast Water Board cleanup goal for total petroleum hydrocarbons is 1,000 µg/L. Other common groundwater contaminants associated with gasoline, diesel, and fuel oxygenates are below cleanup goals. Remaining residual groundwater contaminants are well characterized and contracting or declining in size and concentration. The contaminant mass has been removed from the site to the extent practical, and historical monitoring data indicate the hydrocarbon constituent concentrations are expected to continue to decrease with time.

The subject site, located in the southern portion of San Luis Obispo near the intersection of Higuera Street and Prado Road, has 6 USTs that contain unleaded gasoline, diesel, kerosene, and Stoddard solvent. This site consists of an office, warehouse, refueling facility, and bulk liquids terminal containing 12 aboveground storage tanks, and 6 USTs. During an upgrade of the UST piping system in February 2003, a soil investigation identified diesel and gasoline contaminated soils. Accessible soil was removed up to 13 feet below the ground's surface, the depth where wet sediments were encountered, but contaminated soil identified beneath UST equipment was not removed.

The responsible party and site property owner (J.K. Dewar Properties, LP) commissioned several phases of soil and groundwater investigation and cleanup. In March 2003, an estimated 72 cubic yards of contaminated soil were excavated at the top of the UST and disposed of offsite. During October 2005, December 2005 and June 2006, a microbial solution was injected into 56 Hydropunch borings in an effort to biodegrade the diesel and gasoline contamination. Installation of biosparging equipment to remediate the gasoline and diesel groundwater plume at the subject site began in March 2008. Startup of the biosparging system began on April 23, 2008, with air being introduced into the groundwater zone through the 11 air injection points. Air injection rates ranged from 2 to 4 cubic feet per minute in an effort to increase the groundwater's dissolved oxygen level and promote biosparging. Semi-annual monitoring events show that the site contaminants have declined to concentrations near or below action levels. The system was shut down in July 2010. Following biosparging, confirmation testing was started on a quarterly schedule for one year.

The depth to groundwater currently ranges from approximately 16 to 25 feet below ground surface (bgs). The horizontal groundwater flow gradient is toward the south-southwest at approximately 0.005 feet per foot.

Two active California Department of Public Health (CDPH) -regulated municipal supply wells are located within a one-half mile radius of the site. The wells include the Sunset Drive-in well and the San Luis Sourdough well, which are located approximately 1,600 feet northwest and 1,750 feet southeast, respectively. The property lies within the drainage basin of the San Luis Obispo Creek, which is approximately 200 feet east of the site. The residual petroleum hydrocarbons remaining are unlikely to affect any of these water wells or surface water considering groundwater flow direction, area geology, well distances, screen depth, and low remaining contaminant concentrations. Central Coast Water Board staff expects these residual levels of contamination to degrade naturally over time.

Our recommendation for case closure is based on the following:

1. The extent of the release has been adequately characterized.
2. The contaminant source was removed from the site, to the extent practical.
3. The remaining pollution above the cleanup goal is limited to total petroleum hydrocarbons.
4. The groundwater plume is declining in size and concentration.
5. TPH-g concentrations have been reduced from a maximum of 13,000 to 1,900 µg/L.
6. TPH-d concentrations have been reduced from a maximum of 420,000 to 4,200 µg/L.
7. Monitoring data indicate favorable conditions for natural attenuation of petroleum hydrocarbons and concentrations are expected to continue to decrease with time.
8. The nearest active municipal well water is located approximately 1,600 feet northwest of the site. It is extremely unlikely that remaining contamination will reach this well.
9. 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.
10. The UST Cleanup Fund has completed a 5-Year Review (10/12/10) of the subject site and has recommended that the case be considered for closure.
11. 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 redevelopment activities, such as site grading, excavation, de-watering, and etc. The Central Coast Water Board, San Luis Obispo City Fire Department, and the appropriate local planning and building departments must be notified prior to site redevelopment. This notification must include a statement that residual soil and groundwater contamination underlie the property and 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. Future site disturbance could require worker health and safety protection, and restrictions on the disposal of soil and groundwater. City Fire may require additional site assessment if the property is proposed to be redeveloped. Additional actions required by City Fire may include, but are not limited to, a case review, further remedial action, soil gas analysis, and a human health risk assessment.

Central Coast Water Board staff notified the site property owner (J.K. Dewar Properties, L.P.), neighboring property owners, and other interested parties that we intend to recommend this UST case for closure. We have not received any comments or objections to the planned

closure of this case. The San Luis Obispo City Fire Department agrees with our proposed closure of the case. 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.

Former Exxon 7-0114- 1024 Water Street, Santa Cruz, Santa Cruz County [Tom Sayles 805-542-4640]

Central Coast Water Board staff recommends closure of this UST case where groundwater monitoring showed a maximum concentration of MTBE in one on-site well of 17 µg/L and concentrations of TBA the same on-site well of 170 µg/L and in a second well at 33 µg/L. The Central Coast Water Board's cleanup goals for MTBE and TBA are 5 µg/L and 12 µg/L, respectively. All other constituents of concern were below the Central Coast Water Board's cleanup goals. Remaining residual groundwater contaminants are well characterized and contracting or declining in size and concentration. The contaminant mass has been removed from the site to the extent practical, and historical monitoring data indicate the hydrocarbon constituent concentrations are expected to continue to decrease with time.

The site is located at 1024 Water Street in Santa Cruz, California, at the intersection of Seabright Avenue. The site currently operates as a gasoline service station. A 12,000-gallon UST, a split 15,000-gallon UST, and three product islands are currently in use.

The fuel leak at the site was stopped when the former fueling facilities were replaced in September of 1996. The former fueling system consisted of three double-walled, fiberglass, underground storage tanks (UST's) and three product islands. The current fueling system was placed in the same location as the former fueling system. Additionally, approximately 90 cubic yards of soil were removed from the area in October 1996. Consultants conducted a 17-hour Soil Vacuum Extraction test over 3 days in November 1997 during which approximately 6.7 pounds of hydrocarbons were reportedly removed.

Branciforte Creek (a tributary to The San Lorenzo River) is located approximately 1,500 feet west of the Site. The San Lorenzo River Basin is located approximately 3,500 feet west of the Site. The direction of groundwater flow beneath the site is toward the southeast. The average groundwater gradient is 0.007 foot/foot. Groundwater levels have ranged from 6.68 feet to 8.65 feet below the top of well casings (TOC). There are no water production wells within half mile of the site.

The site lies within the Santa Cruz – San Lorenzo Hydrologic Unit (304.12). The Basin Plan designates groundwater in this hydrologic unit as having beneficial uses for domestic and municipal supply, agricultural supply, and industrial supply.

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 and groundwater contaminants above the cleanup goal are minimal and are confined to the seasonally fluctuating vadose zone directly beneath the source area.
3. The detections of MTBE and TBA in groundwater continue to decrease with time indicating biodegradation and natural attenuation is occurring. All other gasoline constituents in groundwater are below the Central Coast Water Board's cleanup goal.

4. No drinking water supply wells are within half mile of the site.
5. 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 contamination still exists that could pose an unacceptable risk under certain excavation activities such as excavation near the public utilities. 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 reduce with time.

We have notified all interested parties of our plan to close this case. We have not received any objections to the planned closure of this case. 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.

Former ExxonMobil Service Station #18-322; 1481 Price Street, Pismo Beach, San Luis Obispo County [Corey Walsh (805) 542-4781]

Central Coast Water Board staff recommends closure of this UST case where groundwater sample results indicate benzene and 1,2-dichloroethane (1,2-DCA) remain at concentrations greater than Central Coast Water Board cleanup goals. Groundwater samples collected from on-site monitoring well MW-3 showed 1,2-DCA at 0.51 µg/L and groundwater samples collected from off-site monitoring well MW-5 showed benzene at 6.2 µg/L. The cleanup goals for benzene and 1,2-DCA are 1 µg/L and 0.5 µg/L, respectively. Other common contaminants associated with gasoline and fuel oxygenates are below cleanup goals, or are below laboratory detection limits. Remaining residual groundwater contaminants are well characterized and contracting or declining in size and concentration. The contaminant mass has been removed from the site to the extent practical, and historical monitoring data indicate the hydrocarbon constituent concentrations are expected to continue to decrease with time.

The subject site is currently an inactive gasoline service station located on the southern corner of the intersection of Price and Dolliver streets in Pismo Beach. A service station building and canopy are located at the site and currently operates as a retail store. The site was decommissioned by the removal of the underground fueling system in February 2006. Three gasoline USTs, one diesel UST, and all product piping were removed from the site. Redevelopment of the property is anticipated; therefore, the responsible party completed an indoor air exposure and soil vapor assessment. Based on the results of the soil vapor assessment, it does not appear that there is a risk to human health from the migration of hydrocarbons from beneath the site.

The responsible party (ExxonMobil Environmental Services Co.) commissioned several phases of soil and groundwater investigation and cleanup. A remedial excavation was performed in February 2006 after the USTs were removed. Approximately 80 tons of petroleum hydrocarbon-containing soil was transported off-site for recycling. In addition, an air-sparge/vapor extraction remediation system was operated at this site from August 2007 to June

2009. The treatment system utilized two air-sparging wells and two vapor extraction wells. A total of 2,558 pounds of TPH-g were removed before being shut down of the treatment system.

The depth to groundwater has historically ranged from approximately 47 to 57 feet below ground surface (bgs) measured across the shallow groundwater zone associated with the site. The horizontal groundwater flow gradient is toward the southwest at approximately 0.02 feet per foot. No active State of California Department of Public Health regulated municipal water supply wells are located within a one-half mile radius of the site. There are two production wells located 0.72 miles southeast and 0.77 miles east of the site. Surface waters in the vicinity drain to the Pacific Ocean, which is located 650 feet southwest of the site. The nearest surface water body (fresh water) is an unnamed intermittent stream located 100 feet to the southwest. In addition, Pismo Creek is located 0.6 miles to the southeast 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, screen depth, and low remaining contaminant concentrations. Central Coast Water Board staff expects these residual levels of contamination to degrade naturally over time.

Our recommendation for case closure is based on the following:

1. The extent of the release has been adequately characterized.
2. The contaminant source was removed from the site to the extent practical.
3. The remaining soil pollutants above the cleanup goals are TPH-g, benzene, MTBE and TBA, and are found between 25 and 65 feet bgs.
4. The remaining groundwater pollution above the cleanup goal is limited to benzene and 1,2-DCA.
5. The groundwater plume is declining in size and concentration.
6. Benzene concentrations have been reduced from a maximum of 262 to 6.2 $\mu\text{g/L}$.
7. 1,2-DCA concentrations have been reduced from a maximum of 17.2 to 0.51 $\mu\text{g/L}$.
8. Based on the results of the indoor air exposure and soil vapor assessment report, redevelopment of the site to either residential and/or commercial use does not appear to be a risk to human health from the migration of hydrocarbons from beneath the site.
9. Monitoring data indicate favorable conditions for natural attenuation of petroleum hydrocarbons and concentrations are expected to continue to decrease with time.
10. There are no municipal water supply wells located nearby, although two production wells are located 0.72 and 0.77 miles from the site. It is extremely unlikely that remaining contamination will reach these wells.
11. 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.
12. 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 contamination still exists on and near the site that could pose an unacceptable risk under certain site redevelopment 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, soil excavation, or groundwater dewatering. This notification must include a statement that residual soil and groundwater contamination underlie the property and 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. Future site disturbance could require worker health and safety protection, and restrictions on the disposal of soil and groundwater. San Luis Obispo County EHS may require additional site assessment if the property is redeveloped. Additional actions required by the EHS may include, but are not limited to, a case review, further remedial action, and additional soil gas analysis and human health risk assessment.

Central Coast Water Board staff notified the site property owner (Mr. Mehran Eslambolipoor), neighboring property owners, and other interested parties that we intend to recommend this UST case for closure. We received one comment from a nearby property owner who was concerned whether this case would affect bank funding for redevelopment of his property. Staff determined that subject site is located downgradient from the nearby property, and therefore the upgradient site is not likely to be impacted by the petroleum hydrocarbon release. No other comments or objections to the planned closure of this case were received. The San Luis Obispo County EHS agrees with our proposed closure of the case. 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.