

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

STAFF REPORT FOR REGULAR MEETING OF MAY 3-4, 2012
Prepared April 5, 2012

ITEM NUMBER: 7

SUBJECT: Recommended Case Closures

Background:

This staff report provides summaries of recommended case closures for five 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

Boulder Creek Texaco, 13211 Highway 9, Boulder Creek, Santa Cruz County
[Tom Sayles 805/542-4640]

Central Coast Water Board staff recommends closure of this UST case where methyl *tertiary*-butyl ether (MTBE) has been recently detected in one on-site groundwater monitoring well at a maximum concentration of at 8.2 micrograms per liter ($\mu\text{g/L}$), which is slightly above the Central Coast Water Board's cleanup goal MTBE of 5 $\mu\text{g/L}$. All other constituents of concern are below the Central Coast Water Board's cleanup goals.

The site is located at the southwest corner of the intersection of Highway 9 and Highway 236 in Boulder Creek, California. Site facilities include a convenience store and an active gasoline service station. There are three USTs and three pump islands at the site.

In October 1997, soil impacted with petroleum hydrocarbon constituents was detected during removal and replacement of fuel lines. Two hydraulic lifts were removed from inside the repair garage area in December 1997. In January 1998, a 550-gallon waste oil tank was removed from the site. Five borings were advanced for soil sampling to investigate contamination discovered during fuel line upgrades. Soil sample results showed a maximum concentration of total petroleum hydrocarbons as diesel (TPH-D) at 910 milligrams per kilograms (mg/kg), total petroleum hydrocarbons as gasoline (TPH-G) at 3,200 mg/kg and benzene at 1.1 mg/kg.

Consultants installed groundwater monitoring wells MW-1 through MW-4 in 1998. Initial groundwater sample results showed maximum concentrations of TPH-D at 12,000 micrograms

per liter ($\mu\text{g/L}$), TPH-G at 6,100 $\mu\text{g/L}$, benzene at 140 $\mu\text{g/L}$ and methyl-tertiary-butyl-ether (MTBE) at 480 $\mu\text{g/L}$.

In May 2006, the responsible party's consultant installed an ozone injection system using 10 sparge wells as injection points. The ozone injection system greatly reduced contaminant concentrations during its May 2006 to September 2008 operation. Based on low contaminant concentrations in groundwater, confirmation soil sampling was conducted to verify adequacy of cleanup beneath the subject site. Several samples showed residual contamination in the soil and led Santa Cruz County Environmental Health Services (SCCEHS) to require additional cleanup before a low-risk closure would be considered appropriate. The responsible party's consultant proposed excavation of the remaining residual contamination in the shallow soils. Water Board staff approved the proposal for excavation; following further investigation, the responsible party's consultant determined that excavating near the active UST was unsafe.

The responsible party proposed another SVE test to determine if this would be a viable alternative to remove the residual contamination in the soil beneath the site. The SVE test results were inconclusive, and the consultant proposed horizontal installation of the extraction wells as an SVE system revision. Prior to installation of the proposed horizontal well, Water Board staff re-evaluated the most recent groundwater data and concluded that further active remediation was not warranted for the following reasons:

- 1) Remaining groundwater pollution is at a sufficiently low concentration as to not pose a threat to surrounding beneficial uses
- 2) The site is currently an active fuel station,
- 3) Residual contamination present in shallow soils is located near active UST's and product lines making it difficult and hazardous to remove, and
- 4) The site is covered with asphalt.

Groundwater flow is historically towards the east. The most recent groundwater monitoring event measured the groundwater gradient at 0.033 feet/foot towards the east-northeast. Groundwater depths range from 3.51 feet to 4.86 feet below ground surface (bgs). Boulder Creek is located approximately 500 feet north of the site and the San Lorenzo River is located approximately 900 feet east-northeast of the site. There are no municipal supply wells within a half mile of the subject site. Given the relatively low concentrations in groundwater, this site is not a threat to surface water.

The site lies within the San Lorenzo Hydrologic Unit (304.12). The "Water Quality Control Plan, Central Coast Region" (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 above information and the following:

1. The extent of the release has been adequately characterized,
2. The soil contaminant source was removed from the site to the extent practical, and the remaining soil contaminants above the cleanup goal are limited in extent and are located near active USTs, product lines and dispensers and do not presently pose any risk to surface water, groundwater, or human health,

3. The most recent groundwater samples showed one on-site monitoring well with an MTBE detection of 8.2 µg/L, which is slightly above the Central Coast Water Board's cleanup goal of 5 µg/L. All other gasoline constituents in groundwater are below the Central Coast Water Board's cleanup goals,
4. No drinking water supply wells exist within one half-mile of the site, and remaining contamination is unlikely to reach drinking water supply wells or surface water due to its limited extent,
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-site that could pose an unacceptable risk under certain site development activities such as site grading, excavation, or de-watering. The Central Coast Water Board, Santa Cruz County Environmental Health Services (SCCEHS), and the appropriate local planning and building departments must be notified prior to any changes in land use, grading activities, excavation, or dewatering. This notification must include a statement that residual soil and groundwater contamination underlie the property and nearby properties. The levels of residual contamination and any associated risks are expected to reduce with time. Additionally, SCCEHS may require a health risk assessment be conducted should this site be redeveloped. SCCEHS concurs with our recommendation for closure provided the responsible party adheres to this notification.

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.

1010-1018 Pacific Avenue, Santa Cruz – Pacific Union Apartments, Santa Cruz County
[Tom Sayles 805/542-4640]

Central Coast Water Board staff recommends closure of UST case where Total Petroleum Hydrocarbons as Gasoline (TPH-G) has most recently been detected in one on-site monitoring well at a maximum concentration of at 8,300 µg/L (attachment 1), which exceeds the Central Coast Water Board's cleanup goal of 1,000 µg/L. All other constituents of concern are below the Central Coast Water Board's cleanup goals.

The site is located at 1018 Pacific Avenue in Santa Cruz and is currently a multi-story commercial building with one level of underground parking. There are no active USTs present at the subject site.

Significant remedial work was completed between August 2002 and November 2003 in conjunction with ongoing site development work. Remedial activities included injection of an oxygen-enhancing compound, removal of abandoned USTs, the excavation of 3,940 cubic yards of contaminated soil, and the permitted extraction and disposal of more than 230 million gallons of groundwater. During development of the underground garage, an impermeable membrane was installed that extends down to 15 feet below grade. A groundwater monitoring program was initiated in June 2003 that included monitoring of groundwater conditions in four site monitoring wells.

Groundwater flows south to southeast towards the San Lorenzo River. The most recent groundwater monitoring event estimated the groundwater gradient at 0.003 foot/foot. Groundwater levels range from 7.84 feet to 8.75 feet beneath ground surface. The San Lorenzo River is located approximately 400 feet east of the site. There are no municipal supply wells within a half mile of the subject site. The residual petroleum hydrocarbons remaining are unlikely to affect the San Lorenzo River considering groundwater flow direction, area geology, low remaining contaminant concentrations, and the localized extent of the contamination.

The site lies within the Santa Cruz – San Lorenzo Hydrologic Unit (304.12). The “Water Quality Control Plan, Central Coast Region” (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 limited in extent and adjacent to the site in the vicinity of buried public utilities and beneath the sidewalk along Cathcart Street,
3. Recent groundwater sampling shows Total Petroleum Hydrocarbons as Gasoline (TPH-G) in one monitoring well at 8,300 micrograms per liter ($\mu\text{g/L}$), which exceeds the Central Coast Water Board’s cleanup goal of 1,000 $\mu\text{g/L}$. The reported value is due to presence of heavy-end hydrocarbons with range C5-C12 quantified as Gasoline (possibly weathered gasoline, missing the lighter end carbon range). All other gasoline constituents and additives in groundwater are below the Central Coast Water Board’s cleanup goal,
4. During construction of the underground garage, an impermeable membrane was installed that extends down to 15 feet below grade,
5. No drinking water supply wells exist within a half mile of the site,
6. Monitoring data indicate favorable conditions for natural attenuation of the remaining petroleum hydrocarbons and concentrations are expected to continue to decrease with time; and
7. 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 off-site that could pose an unacceptable risk under certain excavation activities such as excavation near the public utilities beneath the roadway. 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. This recommended case closure is consistent with closure of similar low-risk petroleum hydrocarbon cases by the Central Coast Water Board in the past. Unless the Water Board directs staff otherwise and pending proper monitoring well

destruction, the Executive Officer will issue a case closure letter pursuant to California Underground Storage Tank Regulations.

Attachment 1 Analytical Results

Appy's Liquor, 2816 Spring Street, Paso Robles, San Luis Obispo
[Corey Walsh 805/542-4781]

Central Coast Water Board staff recommends closure of this UST case where groundwater sample results indicate the petroleum hydrocarbon constituent methyl tertiary-butyl ether (MTBE) remains in groundwater at concentrations greater than the Central Coast Water Board's cleanup goal. The fourth quarter 2011 groundwater monitoring results show MTBE in two monitoring wells MW-5 located off-site and MW-2 located on-site at concentrations of 41 micrograms per liter ($\mu\text{g/L}$) and 7.8 $\mu\text{g/L}$, respectively (see Attachment 2). The Central Coast Water Board cleanup goal for MTBE is 5 $\mu\text{g/L}$. Other common groundwater contaminants associated with gasoline and fuel oxygenates were either not detected or were detected at concentrations below their respective cleanup goals.

The site is an active service station located on the northeast corner of the intersection of Spring Street and 28th Street in Paso Robles. The current property and station owner/operator is Mr. Chong Byon. Consultants for the responsible party (Jaco Oil Company) installed two soil vapor extraction wells and conducted both vapor extraction, and dual phase extraction pilot tests to evaluate effectiveness. In addition, Oxygen Releasing Compound TM (ORC) socks were installed in selected groundwater monitoring wells to enhance biodegradation of petroleum hydrocarbons in groundwater. The responsible party operated a soil vapor extraction system between February 2010 and August 2011, when it was shut down to evaluate the effectiveness of the site cleanup effort. During the course of cleanup and post-remediation confirmation monitoring, hydrocarbon concentrations have declined to below or near their respective cleanup goals and concentrations exceeding the cleanup goals are limited to MTBE in the two aforementioned wells.

One municipal water supply well and one domestic well are located within a one-half mile radius of the subject property. The municipal water supply well is operated by the City of Paso Robles Water Operations. Both of these wells are located upgradient 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 depths, low remaining contaminant concentrations, and the localized extent of the contamination. Depth to groundwater at the site was measured between approximately 17 and 20 feet below ground surface (bgs) and flows toward the east-southeast.

Central Coast Water Board staff recommends closure of this case 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 groundwater pollution above cleanup goals is limited to MTBE, and the plume is declining in size and decreasing in concentration;
4. The plume is located in the vicinity of on-site monitoring well MW-2 and extends off-site to the area of MW-5, which is located in the public right-of-way (28th Street);
5. The site is located within a service area of a public water system (City of Paso Robles), therefore it is not likely that a new water supply well will be installed in this area;

6. Groundwater monitoring data indicate that on-site remediation was effective and has significantly reduced concentrations of pollutants in groundwater;
7. Monitoring data indicate favorable conditions for natural attenuation of petroleum hydrocarbons and concentrations are expected to continue to decrease with time; and
8. 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.

Residual soil and groundwater contamination still exists on-site and off-site that could pose an unacceptable risk under certain redevelopment activities such as site grading, excavation, or dewatering. 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 at this site. 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 proposed to be redeveloped. Additional actions required by the EHS may include, but are not limited to, a case review, further remedial action, soil gas analysis, and a human health risk assessment.

Based on the above, there is no longer a threat to groundwater quality and no further groundwater investigation or cleanup is necessary. San Luis Obispo County Environmental Health Department staff agrees with this determination. Central Coast Water Board staff notified the responsible party, the property owner, City of Paso Robles Water Operations, and other interested parties of this proposed case closure. We have not received any comments on the proposed closure of this case. This recommended case closure is consistent with closure of similar low-risk petroleum hydrocarbon cases by the Central Coast Water Board in the past. Unless the Water Board directs staff otherwise and pending proper monitoring well destruction, the Executive Officer will issue a case closure letter pursuant to California Underground Storage Tank Regulations.

Attachment 2 – MTBE Concentration Map

Former El Paso de Robles School for Boys in Paso Robles, 4545 Airport Road, Paso Robles, 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 the petroleum hydrocarbon constituent methyl tertiary-butyl ether (MTBE) and tertiary-butyl alcohol (TBA) remains in groundwater at concentrations greater than the Central Coast Water Board's cleanup goals. March 2011 groundwater monitoring results show MTBE and TBA in one shallow monitoring well (MW-6). Analytical results show contaminant levels of MTBE and TBA of 110 micrograms per liter ($\mu\text{g/L}$) and 80 $\mu\text{g/L}$, respectively (Attachment 3). The Central Coast Water Board cleanup goals for MTBE and TBA are 5 $\mu\text{g/L}$ and 12 $\mu\text{g/L}$, respectively. Other common groundwater contaminants associated with gasoline and fuel oxygenates were either not detected or were detected at concentrations below their respective cleanup goals.

The site is located in the east-central portion of the facility, adjacent to Shop No. 46, and is no longer used for the storage or distribution of fuel. The State of California Department of Corrections and Rehabilitation is the party responsible (Responsible Party) for cleanup of the site, and is the property owner.

During May 1997, four USTs were removed from the subject site, and soil sample analytical results indicated one of the 1,000-gallon USTs had leaked. In June 1998, consultants for the Responsible Party installed eight soil borings and grab groundwater samples were collected from five of the eight borings. Laboratory results of soil and groundwater samples collected during the investigation indicated total petroleum hydrocarbons as gasoline (TPH-g), benzene, MTBE, and TBA were greater than the cleanup goals. Cleanup was performed with the excavation and removal of approximately 2,000 cubic yards of contaminated soil. Post-remediation confirmation monitoring indicates hydrocarbon concentrations have declined to below or near their respective cleanup goals. Contaminants with concentrations that exceed the cleanup goals are limited to MTBE and TBA.

Two shallow water-bearing zones underlie the site and have been monitored regularly, although groundwater monitoring indicates only the shallowest zone has been impacted. Currently, there are nine shallow zone monitoring wells and three deep zone monitoring wells. Deep groundwater monitoring well sample results continue to be non-detect for all constituents of concern. The shallow groundwater ranges from approximately 19 to 32 feet below ground surface (bgs), and generally flows to the west and southwest. The deep groundwater ranges from approximately 45 to 50 feet bgs, and generally flows to the northwest. The regional groundwater basin flow direction is north-northwest and found at approximately 200 feet bgs. The site facility operates three domestic use water supply wells screened between approximately 180 and 1,200 feet bgs, and the City of Paso Robles operates one municipal water supply well screened between approximately 500 and 1,100 feet bgs within one-half mile of the subject site. Site water supply wells: CYA well No. 3 is located approximately 1,400 feet north of site; CYA well No. 1 is located approximately 1,800 feet northwest of site; and CYA well No. 4 is located approximately 1,700 feet southwest of site. The City of Paso Robles Fox Well No. 21 is located approximately 1,200 feet southeast of site. The residual petroleum hydrocarbons remaining are unlikely to affect these wells or surface waters considering groundwater flow direction, area geology, well distances, screen depths, and low remaining contaminant concentrations.

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

1. The extent of the petroleum hydrocarbon release has been adequately characterized;
2. The contaminant source was removed from the site, to the extent practical;
3. The remaining groundwater pollution above cleanup goals is limited to MTBE and TBA, the plume is contained on-site, the plume is declining in size and is decreasing in concentration;
4. MTBE and TBA concentrations in groundwater have been reduced from a maximum of 240,000 µg/L and 30,000 µg/L to 110 µg/L and 80 µg/L, respectively, and are greater than cleanup goals in only one monitoring well (MW-6);
5. Monitoring data indicate favorable conditions for natural attenuation of petroleum hydrocarbons and concentrations are expected to continue to decrease with time;
6. Groundwater monitoring data indicate that remediation and natural attenuation has been effective in reducing concentrations of pollutants in groundwater;
7. The nearest downgradient water supply well (CYA well #4) is located approximately 1,700 feet of the site, and remaining contamination is unlikely to reach this well; and

8. 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.

Residual groundwater contamination still exists on-site that could pose an unacceptable risk under certain site redevelopment activities such as 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, or groundwater dewatering. The levels of residual contamination and any associated risks are expected to decrease with time. Additionally, San Luis Obispo County EHS may require additional site assessment if the property is proposed to be redeveloped.

Based on the above, there is no longer a threat to groundwater quality and no further groundwater investigation or cleanup is necessary. San Luis Obispo County Environmental Health Department staff agrees with this determination. Central Coast Water Board staff notified the responsible party, the property owner, and other interested parties of this proposed case closure. We have not received any comments on the proposed closure of this case. This recommended case closure is consistent with closure of similar low-risk petroleum hydrocarbon cases by the Central Coast Water Board in the past. Unless the Water Board directs staff otherwise and pending proper monitoring well destruction, the Executive Officer will issue a case closure letter pursuant to California Underground Storage Tank Regulations.

Attachment 3 – MTBE Concentration Map

Hampton Hotel/Former Union 76 Service Station, 2601 Main Street, Cambria,
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 total petroleum hydrocarbons reported (TPH), benzene, methyl tertiary-butyl ether (MTBE), and tributyl alcohol (TBA) remain at concentrations greater than Central Coast Water Board cleanup goals. The cleanup goals for TPH, benzene, MTBE, and TBA are 1,000 micrograms per liter ($\mu\text{g/L}$), 1 $\mu\text{g/L}$, 5 $\mu\text{g/L}$, and 12 $\mu\text{g/L}$, respectively. Groundwater samples collected from one on-site monitoring well (MW-1RB) showed TBA at 56 $\mu\text{g/L}$. Samples from three off-site wells showed TPH at 2,700 micrograms per liter ($\mu\text{g/L}$), benzene at 61 $\mu\text{g/L}$, and TBA at 88 $\mu\text{g/L}$ in MW-7; TBA at 320 $\mu\text{g/L}$ in MW-7B; and MTBE at 7.4 $\mu\text{g/L}$ and TBA at 370 $\mu\text{g/L}$ in MW-13. Other common contaminants associated with gasoline and fuel oxygenates are below cleanup goals, or are below laboratory detection limits. Historic groundwater analytical results show the primary constituents of concern (CoCs) for the site were total petroleum hydrocarbons reported as gasoline, benzene, toluene, ethylbenzene, and xylenes (collectively BTEX), MTBE, and TBA. The attached *Site Vicinity Sketch* (Attachment 4) shows groundwater monitoring well locations.

The subject site is a hotel and formerly a retail gasoline service station which operated from the 1930's through early 1994. The property is located on the north side of Main Street and east of the East Village in Cambria. Contractors first discovered the release of petroleum hydrocarbons in December 1990 during a preliminary site assessment investigation. The USTs, fuel piping and dispenser were later removed in January 1994, and the Central Coast Water Board became the lead regulatory agency for investigation and cleanup of the site.

The responsible party and site property owner (Mr. Doug Michie) commissioned several phases of soil and groundwater investigation and cleanup. Remedial efforts include a number of 15-day dual-phase extraction events between May 2001 and January 2003, and again between June 2004 and April 2006. These activities removed soil vapors, approximately 25,615 gallons of hydrocarbon-impacted groundwater, and an estimated contaminant mass of approximately 8,548 pounds of hydrocarbons. In addition, *in-situ* chemical oxidation was used to remediate groundwater with the injection of ozone through 18 ozone sparging well points during the period between January 2008 and February 2011. The ozone system was then turned off to assess contaminant pollutant concentration rebound in the underlying groundwater. Groundwater analyses indicated no significant rebound in concentrations. A total of approximately 1,873 pounds of ozone was injected across the groundwater plume.

The depth to groundwater currently ranges from approximately 2 to 19 feet below ground surface (bgs) measured across shallow, intermediate and deep groundwater zones associated with the site. The horizontal groundwater flow gradient is toward the south-southwest at approximately 0.09 feet per foot.

There are two California Department of Public Health (CDPH)-regulated water supply wells, one private domestic well, and one private irrigation well located within a one half-mile radius of the subject site. The nearest water supply wells are the domestic supply well (Junge-D) and irrigation well (Junge-I) which are located downgradient approximately 520 feet southeast, and 360 feet south, respectively, of the site. Both of these wells are located across and south of Santa Rosa Creek, making impacts from this discharge extremely unlikely. The closest active CDPH well is located approximately 2,348 feet east-northeast of the site and is owned/operated by the Cambria Community Service District. Santa Rosa Creek is located approximately 320 feet south of site. The Junge family wells have been sampled and analyzed numerous times for constituents of concern since 2000, and analytical results have been non-detect for all of these constituents for each sampling event. The Junge domestic well was last sampled in June 2008. Santa Rosa creek was sampled in two locations and analytical results have been non-detect for all fuel constituents. The residual petroleum hydrocarbons remaining are unlikely to affect any of these water 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 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, benzene, MTBE and TBA,
4. The groundwater plume is declining in size and concentration,
5. TPH concentrations have been reduced from a maximum of 170,000 to 2,700 µg/L,
6. Benzene concentrations have been reduced from a maximum of 27,000 to 61 µg/L,
7. MTBE concentrations have been reduced from a maximum of 7,700 to 7.4 µg/L,
8. TBA concentrations have been reduced from a maximum of 2,400 to 370 µg/L,
9. Monitoring data indicate favorable conditions for natural attenuation of petroleum hydrocarbons and concentrations are expected to continue to decrease with time,
10. The nearest water well (irrigation well) is located approximately 360 feet south of the site. It is extremely unlikely that remaining contamination will reach this well,
11. The current fee titleholders of the subject property adjacent property and water well owners have been notified of the proposed case closure and have no objections to case closure,

12. The UST Cleanup Fund has completed its Five-Year Review(s) of the subject site and has recommended case closure, and
13. 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-site and off-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 proposed to be redeveloped. Additional actions required by the EHS 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 (Mr. Doug Michie), neighboring property owners, Cambria Community Service District, 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 Environmental Health Services (EHS) agrees with our proposed closure of the case. As noted above, the State Board UST five-year review recommended this case for closure, indicating that State Board UST staff also believe case closure is appropriate. Unless the Water Board directs staff otherwise and pending proper monitoring well destruction, the Executive Officer will issue a case closure letter pursuant to California Underground Storage Tank Regulations.

Attachment 4: *Site Vicinity Sketch*