STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING OF MAY 4-5, 2011
Prepared April 5, 2011

ITEM NUMBER: 11

SUBJECT: Recommended Case Closures

Background:

This staff report provides summaries of recommended case closures for five Underground Storage Tank (UST) sites and 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 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

Former UNOCAL SS# 5209, 881 Embarcadero Del Mar, Isla Vista, 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 concentrations remain greater than Central Coast Water Board cleanup goals. Results of groundwater samples collected in November 2010 showed methyl tertiary-butyl ether (MTBE) at a maximum concentration of 82 micrograms per liter (µg/L), tertiary butyl alcohol (TBA) at 190 µg/L, and ethylene dichloride (EDC) at an estimated value of 2 µg/L (detected above the method detection limit of 0.5 µg/L but below the reporting limit of 4 µg/L). Central Coast Water Board cleanup goals for MTBE, TBA, and EDC are 5 µg/L, 12 µg/L, and 0.5 µg/L, respectively. The isoconcentration maps for MTBE and TBA for the fourth quarter 2010 sampling event are shown on Attachments 1 and 2, respectively.

Former Unocal Service Station #5209 is located at 881 Embarcadero Del Mar in Isla Vista, an unincorporated area in Santa Barbara County. After Unocal's merger with Chevron Oil Company (Responsible Party), the site was designated by Chevron as "Chevron #30-6624". The subject property was operated as a Unocal 76 service station from 1963 until 1994. The property is currently owned by the County of Santa Barbara, and was paved for a parking lot in 2009. The surrounding area is mixture of commercial and residential properties.

The site is located at an elevation of 45 feet above mean sea level. The local topography slopes gently toward the south. The nearest surface water body is a small pond, located in Anisq Oyo Park, approximately 300 feet to the south of the site. The Pacific Ocean is approximately 1,000 feet south of the site.

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 ranges from 4 to 10 feet below ground surface (bgs), depending on the season and generally flows to the north.

Consultants identified one private groundwater well within 0.25 mile of the site. The well was drilled in 1977 to 26 feet bgs for agricultural use and is located in Anisq Oyo Park. The well water was considered to be a poor irrigation source, due to high salt content and apparently was not used for park irrigation. Based on the groundwater flow direction and the limited extent of dissolved petroleum hydrocarbons, we do not consider either the pond or the abandoned irrigation well at risk from this source.

Contractor(s) installed two 10,000-gallon gasoline USTs and one 280-gallon used-oil UST at the site in 1963. In 1985, contractors removed these USTs and upgraded with two 12,000-gallon gasoline USTs and one 550-gallon used-oil UST. The service station ceased operations in 1994 when contractors demolished and removed the USTs and all facilities including station building, dispensers, piping, two hydraulic lifts, and an oil-water separator/clarifier .

In November 1988, contractors encountered soil contamination during product line replacement. As a result, groundwater monitoring well installation began in September 1990. Initial assessment indicated elevated Total Petroleum Hydrocarbons as gasoline (TPHg) and benzene in soil and groundwater samples. Additional site assessment was conducted from 1991 through 2005, consisting of 19 soil borings, 24 groundwater monitoring wells, and 5 vapor wells. During these investigations, the contractor delineated the extent of TPHg, TPH as oil, BTEX, EDC, and fuel oxygenates MTBE and TBA in soil and groundwater. Contractors conducted quarterly groundwater monitoring at the site from 1990 to 2010.

In May 2007, contractors performed a soil vapor survey and risk assessment to evaluate the potential risks associated with the residual hydrocarbons. The human health risk assessment evaluated the potential inhalation risk associated with the vapor intrusion pathway to adjacent residents located north and west of the site. Consultants determined the volatile organic compounds detected in soil gas at the site did not pose a significant risk to building residents.

In December 1985 during the tank upgrade, contractors removed and disposed of 21 truckloads of contaminated soil from the gasoline UST excavation. In December 1997, contractors excavated approximately 1,400 cubic yards of contaminated soil from the former UST area. Analytical results indicated that a minor amount of TPH as oil-contaminated soil was left in place along the western wall of the excavation due to its proximity to an adjacent building. In August 1999, contractors excavated approximately 640 tons of contaminated soil from the eastern part of the site in the vicinity of the former dispenser islands. Based on analytical results, minor amounts of soil contamination at the capillary fringe were left in place. From March to November 2001, a groundwater extraction system removed 16,650 gallons of impacted groundwater. Groundwater extraction between February and May 2005, removed an additional 15,300 gallons of impacted groundwater. From October 2003 to March 2006 and February 2008 through September 2008, an ozone sparging system operated in 10 wells across the site.

Based on current soil boring analytical data, consultants estimate that 0.031 kilograms of MTBE remain within 92 cubic meters of soil and 0.004 kilograms of TBA remain within 11 cubic meters of soil. In 1997 the contractor estimated that 48 gallons of residual TPH as oil remained in the site soil. Due to the lack of TPH as oil in groundwater and the use of ozone sparging at the site, Water Board staff estimates that the amount of TPH as oil has degraded significantly in the intervening 13 years.

Based on the Fourth Quarter 2010 groundwater monitoring results, MTBE, TBA, and EDC are the only contaminants at, or above, their respective Maximum Contaminant Level (MCL) or Notification Level:

- EDC was detected in one well at an estimated value of 2 µg/L in MW-22. The MCL for EDC is 0.5 µg/L.

- MTBE was detected in three wells at 31 µg/L at MW-22, 59 µg/L at MW-5R, and 82 µg/L at MW-19. The concentration of MTBE in MW-5R decreased from a high of 600 µg/L (March 2009) to 59 µg/L (November 2010). In MW-19 the concentration of MTBE decreased from a high of 200 µg/L (May 2005) to 82 µg/L (November 2010). In MW-22 the concentration of MTBE decreased from a high of 240 µg/L (November 2008) to 31 µg/L (November 2010).

- TBA was detected in one well at 190 µg/L at MW-22. The concentration of TBA in MW-22 increased from its initial concentration of 40 µg/L (November 2008) to 190 µg/L (November 2010). TBA is a biodegradation product of MTBE and hence the increasing concentration of TBA. Once MTBE is depleted, we expect natural attenuation processes to reduce the TBA to below its cleanup goal.

The historical trends, in conjunction with the lack of residual soil contamination, suggest that the contaminants will continue to degrade over time to reach their respective MCL or Notification Level.

On November 5, 2010, FPD notified the property owner and the Responsible Party (RP) regarding the proposed case closure pursuant to Section 13307.1 of the California Water Code.

To provide added transparency, on January 4, 2011, the RP's representative issued a public notice of the proposed closure to residents, and businesses (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 February 4, 2011, FPD received and resolved one telephone comment. FPD staff explained to the caller that soil contamination was limited to the site (currently under a parking lot) and that although groundwater contamination did go offsite, a health risk evaluation suggested that it would not have undue impacts to the affected properties. The caller was satisfied with the response and had no further comments or questions.

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. Remaining soil contamination is considered to be of a "de minimis" mass and volume.
2. The extent of dissolved MTBE and TBA groundwater contamination is limited and is not expected to impact the pond and the abandoned agricultural well located at the Anisq Oyo Park which are hydraulically upgradient of the site;
3. Results of soil vapor sampling and a human health risk assessment for the site indicated that the lifetime excess carcinogenic risk and non-carcinogenic Hazard Index were both below action levels;
4. The concentrations of MTBE exhibit declining trends in each of the three monitoring wells (MW-5R, MW-19, and MW-22) in which it is still detected. These declining trends indicate natural attenuation processes are ongoing. This process will reduce MTBE concentrations to below cleanup goals. The concentration of TBA in MW-22 (the only remaining well with a TBA detection) indicates an increasing trend. This is another indication that MTBE is degrading

naturally, which results in the formation of biodegradation product TBA. Once MTBE is depleted, natural attenuation processes is expected to reduce the TBA to below its cleanup goal; and
5. Case closure at this site 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.

Localized residual soil and groundwater contamination still underlies the site and could pose an unacceptable risk under certain site development activities such as site grading, excavation, or de-watering. The Central Coast Water Board, the Santa Barbara County FPD, 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 should include a statement that residual soil and groundwater contamination underlie the property and may underlie 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. The Santa Barbara County FPD may require additional site assessment if the property is proposed to be redeveloped. Additional actions required by the FPD may include, but not limited to, a case review, further remedial action, soil gas analysis, and a human health risk assessment.

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 of MTBE
Attachment 2 Isoconcentration map of TBA

Toro Petroleum Company, 1285 McCray Street, Hollister, San Benito County [John Mijares, (805)549-3696]

Central Coast Water Board staff recommends closure of this UST case where groundwater sample results showed concentrations of benzene and methyl tertiary-butyl ether (MTBE) greater than the Central Coast Water Board cleanup goals of 1 microgram per liter (µg/L) and 5 µg/L, respectively. Results of groundwater samples collected in October 2010 showed benzene at a concentration of 36 micrograms per liter (µg/L) in MW-11, and 19 µg/L in MW-8. Sample results also showed MTBE at a maximum concentration of 26 µg/L in MW-4. Groundwater contaminant concentrations of other petroleum hydrocarbon constituents and other fuel oxygenates in these three monitoring wells, in addition to the other monitoring wells at the site, were either not detected above the laboratory reporting limits or were below the Central Coast Water Board cleanup goals. Monitoring well MW-4 is located off-site and cross-gradient approximately 126 feet north-northwest of the former UST location. MW-8 is located off-site and upgradient approximately 140 northwest of the former UST location. MW-11 is located off-site and upgradient approximately 210 feet west of the former UST location. Sample results from all on-site wells show all contaminants of concern are below the laboratory reporting limits or are below the Central Coast Water Board cleanup goals. A site map showing locations of monitoring wells, historical groundwater flow direction, and results of the October 2010 groundwater monitoring data is shown on Attachment 3.

As shown on Attachment 3, the calculated groundwater flow direction at the site ranges from east-northeast to east-southeast with the predominant flow direction to the east-southeast. Historical soil investigation data, historical groundwater monitoring data, and groundwater flow direction indicate that residual groundwater contamination in monitoring wells MW-4, MW-8, and MW-11 originated from unidentified off-site sources and not from the former UST at the site. Groundwater monitoring data further indicate that the MTBE concentration in MW-4 has declined from a high of 55,000 µg/L to the most recent concentration of 26 µg/L. Similarly, the benzene concentration in MW-8 has declined from a high of 2,900 µg/L to the most recent concentration of 19 µg/L and benzene in MW-11 has declined from a high of 2,700 µg/L to the most recent concentration of 36 µg/L. The decline in concentrations of benzene and MTBE can be attributed to the operation of the on-site Soil Vapor Extraction (SVE) system (February 2007 to December 2009) and to natural attenuation processes. Water Board staff has identified the neighboring property owners and will require further investigation of these contaminants. Groundwater concentrations of petroleum hydrocarbon constituents and fuel oxygenates in eight other on-site and off-site downgradient wells were either not detected above the laboratory reporting limits or were below the Central Coast Water Board cleanup goals.

Toro Petroleum Corporation currently operates the site as a bulk storage and distribution facility with aboveground storage tanks, and a cardlock retail fueling facility. According to the Responsible Party, commercial bulk storage and fuel sales have been continuous at the site since the late 1920s. The site is located along the east side of McCray Street (formerly Prospect Avenue) in Hollister. To the north and east of the site is the former Gibson Farms orchard, owned by Mr. Mark Gibson and currently undergoing residential redevelopment. To the west are the Rancho San Justo Middle School track and athletic field, and Rancho San Justo Park and parking lot. The local topography slopes gently toward the northwest. The nearest surface water is the San Benito River, located approximately two miles southwest of the site.

Records indicate that only one UST was installed and operated at the site. The Responsible Party commissioned the removal of the UST in June 2000. At that time, the contractor noted corrosion holes in the UST. Although no records documenting tankpit soil excavation are available, it is likely that the contractor removed some hydrocarbon-impacted soil from beneath the UST during the tank removal. The Responsible Party commissioned numerous phases of site assessment and remediation between December 2002 and March 2007. Consultants monitored groundwater from September 2003 through October 2010. To remediate hydrocarbon-impacted soil beneath the site, contractors employed a soil vapor extraction (SVE) remediation system between February 2007 and December 2009. The system removed a total of 29,400 pounds of petroleum hydrocarbons.

The site lies in the Gilroy-Hollister Valley Groundwater Basin within the Hollister Area sub-basin. Groundwater quality in the larger basin has been defined as marginally acceptable for potable and irrigation use. The nearby Sunnyslope County Water District's Groundwater Management Plan states that, although 86% of their water supply is produced through four deep-aquifer wells, salinity, nitrates and boron compromise water quality within the basin. Depth to groundwater beneath the site has ranged from 90 to 106 feet bgs. Groundwater flow direction at the site and vicinity ranges from east-northeast to east-southeast with the predominant flow direction to the east-southeast...

The closest well is a municipal well, located approximately 1,100 feet south, nearly cross-gradient to the direction of groundwater flow. The next closest wells are three irrigation wells, also cross-gradient, located approximately 2,640 ft north, 5,350 ft northeast, and 5,600 ft northeast of the site, respectively. Based on groundwater data, the residual benzene and MTBE detected in off-site monitoring wells are not expected to impact these supply wells because of long distances, low concentrations, and limited and localized extent.

Our recommendation to close this case is based on the following:

1. The primary source of on-site contamination was removed during the UST removal in June 2000; Water Board staff has identified the neighboring property owners and will require further investigation of upgrdient, off-site sources.
2. The bulk of petroleum hydrocarbon in soil was removed by soil vapor extraction between February 2007 and December 2009;
3. Groundwater data indicate that petroleum hydrocarbons in on-site and down-gradient wells were either not detected above the laboratory reporting limits, or were below the Central Coast Water Board cleanup goals;
4. Natural attenuation processes and active remediation have significantly reduced concentrations of contaminants in off-site up-gradient groundwater wells (MW-4, MW-8, and MW-11) and natural attenuation is expected to continue;
5. Monitoring wells down-gradient of off-site wells MW-4, MW-8, and MW-11 showed concentrations of petroleum hydrocarbons and fuel oxygenates were either below laboratory reporting limits or below groundwater cleanup goals; and
6. Case closure at this site 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.

On February 28, 2011, the Central Coast Water Board notified all current fee titleholders (property owners) of the proposed case closure pursuant to the notification requirement contained in the California Health and Safety Code, Section 25296.20. We also sent the proposed closure notice to all adjacent property owners, residents, and businesses within 200 feet of the site. We provided these interested parties 30 days to provide comments regarding the proposed closure of this UST case. As of March 28, 2011, Central Coast Water Board staff has not received comments or objections to the proposed case closure.

Localized residual soil and groundwater contamination still underlies the site and could pose an unacceptable risk under certain site development activities such as site grading, excavation, or de-watering. The Central Coast Water Board, San Benito County Environmental Health, 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 should include a statement that residual soil and groundwater contamination underlie the property and may underlie 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 Benito County Environmental Health (EHS) may require additional site assessment if the property is proposed to be redeveloped. Additional actions required by the EHS may include, but not limited to, a case review, further remedial action, soil gas analysis, and a human health risk assessment.

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 letter to the Responsible Party.

Attachment 3 Site Map

Santa Barbara County Fire Station #13, 4570 Hollister Avenue, Goleta, Santa Barbara County [John Mijares, (805)549-3696]

Central Coast Water Board staff and the Santa Barbara County Fire Prevention Division (FPD) staff recommend closure of this UST case where sample results show groundwater concentrations remain greater than Central Coast Water Board cleanup goals. Groundwater samples collected in March 2010 showed 1,2-dichloroethane (EDC) at a concentration of 4.6 micrograms per liter (µg/L) in well CB-2. The Central Coast Water Board cleanup goal for EDC is 0.5 µg/L. All other target constituents were below applicable cleanup levels in the latest sampling results from site wells.

Santa Barbara County Fire Station #13 is located at 4570 Hollister Avenue in an unincorporated area in Santa Barbara County east of Goleta. The County Fire Department used the underground storage tanks at this site until 1989, when the USTs were removed. The property is currently owned by the County of Santa Barbara. The surrounding area is a mixture of public, commercial, and residential properties. The site map, including monitoring well locations is shown as Attachment 4.

The site is at an elevation of approximately 60 feet above mean sea level. The local topography slopes gently toward the west. The nearest surface water consists of a small unnamed creek, which is a tributary to Atascadero Creek. The Pacific Ocean is located approximately 9,000 feet south of the site. The site lies within the Goleta Groundwater Basin (3-16). The 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 ranges from 13 to 36 feet below ground surface (bgs), depending on the season and generally flows to the northeast.

There are several production wells within the site vicinity. These include the private Goleta Cemetery Well, located approximately 150 feet north of the site, two Goleta Water District Wells located northwest and southwest of the site, and three La Cumbre Mutual Water Company wells located east, southeast, and southwest of the site. The Goleta Cemetery well is drilled to a depth of 500 feet bgs. Pump testing suggests that the aquifer that the Goleta Cemetery well is screened may be hydraulically connected with the shallower groundwater.

Santa Barbara County installed three USTs, presumably when the station was built, to provide gasoline and diesel fuel for fire engines that were stationed at the site. In 1986, the County removed a 150-gallon UST from the site. In 1989, a 1,000-gallon diesel tank and a 1,500-gallon gasoline tank were removed from the site. There are no remaining USTs at this site.

In November 1989, contractors encountered soil contamination during the tank removal. Groundwater monitoring well installation began in March 1991. Initial assessment indicated elevated Total Petroleum Hydrocarbons as gasoline (TPHg), BTEX and ethylene dichloride (EDC) in soil and groundwater samples. Contractors conducted additional site assessments from 1991 through 2010, which consisted of drilling and sampling 18 soil borings, 15 vapor wells (11 of which were converted to groundwater monitoring wells when water levels rose), and 15 groundwater monitoring wells. During these investigations, contractors delineated the extent of TPHg, TPH as diesel (TPHd), and other petroleum constituents and fuel oxygenates in soil and groundwater. Contractors conducted groundwater monitoring at the site from 1991 to 2010.

In 2010, contractors conducted a soil vapor survey and risk assessment to evaluate the potential risks associated with the residual hydrocarbons. The human health risk assessment evaluated the potential inhalation risk associated with the vapor intrusion pathway to the sleeping quarters

within the fire station. The contractors determined the volatile organic compounds detected in soil gas at the site did not pose a potential risk to station's staff or the surrounding businesses and residents.

In 1989 during tank removal, the contractors allowed impacted soil to aerate onsite, after which it was used as backfill material. From 1991 through 1997, a soil vapor extraction system operated at the site, and removed 2,315 gallons of gasoline. Testing in 1999 indicated that fuel oxygenates were still present in the groundwater and had migrated northward offsite. A groundwater pump and treat system operated from April 2000 through March 2004, and removed 69,560 gallons of impacted groundwater. An air sparging and vapor extraction system was used to augment site cleanup from June 2002 to March 2004, and removed an additional three pounds of contaminant mass. Contractors monitored groundwater to assess contaminant trends from 2004 through 2010.

Based on the most current soil boring and groundwater analytical data, the contractor estimated that 3.22 kilograms of TPHg remain within seven cubic yards of soil and 0.98 kilograms of TPHd remain within slightly less than six cubic yards of soil. Additionally, the contractor estimated that 0.33 grams of EDC remain in the groundwater.

Based on the March 2010 groundwater monitoring results, EDC is the only contaminant above its respective MCL. EDC was detected in one well at an estimated concentration of 4.6 µg/L in CB-2. This site's highest historical concentration of EDC in groundwater was 1,200 µg/L. Based upon site data, the EDC plume has an extremely limited size and has a surface area approximately 314 square feet. The historical trends, in conjunction with the lack of residual soil contamination, suggest that the EDC will continue to degrade over time and eventually reach its cleanup goal. Other notable groundwater contaminant reductions include: TPHg, from 23,000 µg/L to <50 µg/L; benzene, from 740 µg/L to <0.5 µg/L; MTBE, from 45 to <0.5 µg/L, and TBA from 220 µg/L to <5 µg/L.

On February 9, 2011, FPD notified Santa Barbara County regarding the proposed case closure pursuant to Section 13307.1 of the California Water Code. To provide added transparency, on February 9, 2011, the FPD issued a public notice on the proposed closure to property owners 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 March 23, 2011, no comments were received regarding case closure.

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. Remaining soil contamination is considered minimal;
2. The extent of dissolved EDC groundwater contamination is very limited and is not expected to impact the creek or Goleta Cemetery Well;
3. Results of soil vapor sampling and a human health risk assessment for the site indicated that the lifetime excess carcinogenic risk and non-carcinogenic Hazard Index were both below action levels;
4. The groundwater concentrations of EDC exhibit declining trends in well CB-2 indicating natural attenuation processes are ongoing and expected to eventually reduce EDC to below its cleanup goal; 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.

Localized residual soil and groundwater contamination still underlies the site and could pose an unacceptable risk under certain site development activities such as site grading, excavation, or de-watering. The Central Coast Water Board, the Santa Barbara County FPD, 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 should include a statement that residual soil and groundwater contamination underlie the property and may underlie 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. The Santa Barbara County FPD may require additional site assessment if the property is proposed to be redeveloped. Additional actions required by the FPD may include, but not limited to, a case review, further remedial action, soil gas analysis, and a human health risk assessment.

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 4 Site Map

Santa Barbara Locksmiths, 636 Santa Barbara Street, Santa Barbara, Santa Barbara County [John Mijares, (805)549-3696]

Central Coast Water Board staff and the Santa Barbara County Fire Prevention Division (FPD) staff recommend closure of this UST case where sample results show groundwater concentrations remain greater than Central Coast Water Board cleanup goals. Laboratory analysis of groundwater samples collected in November 2010 indicate benzene at a maximum concentration of 1.1 micrograms per liter (µg/L) and 1,2-dichloroethane ([EDC] also called 1,2-DCA or ethylene dichloride) at 0.67 µg/L. Central Coast Water Board cleanup goals for benzene and EDC are 1.0 µg/L and 0.5 µg/L, respectively. Isoconcentration maps for benzene and EDC for the fourth quarter 2010 sampling event are shown on Attachments 5 and 6, respectively.

The site lies within the Santa Barbara Groundwater Basin (3-17). The Basin Plan designates groundwater throughout the Central Coastal Basin, except for that found in Soda Lake Sub-basin, as suitable for municipal and domestic water supply, agricultural water supply, and industrial use. In the site vicinity, the depth to groundwater ranges from 9 to 20 feet bgs, depending on the season and generally flows to the northeast and north-northwest. The nearest surface water is the Pacific Ocean, located approximately 0.75 miles to the southeast of the site

No groundwater supply wells have been identified within 0.25 miles of the site. The nearest groundwater supply well is a municipal supply well located 1700 feet northeast of the site. Based upon periodic monitoring results for well MW6, located approximately 50 feet northeast (downgradient) of the former service station and positioned between source and the supply well as a control point, the municipal supply well is not threatened by this source.

A service station operated at the site from approximately 1930 to 1948. Based on findings during UST removal conducted in 2006 and 2009, FPD believed that the USTs (one 280-gallon UST, one 600-gallon UST, and one 150-gallon UST) were filled with sand when the service station closed in 1948. In the 2006 and 2009 excavations, contractors removed all three USTs.

In 2005, a contractor discovered a petroleum release during preliminary site assessment activities. Elevated concentrations of Total Petroleum Hydrocarbons as gasoline (TPHg) and diesel (TPHd) were detected in soil samples. Additional soil and groundwater assessment led to the discovery and removal of a 280-gallon UST from beneath the parkway adjacent to Santa Barbara Street in June 2006.

Contractors conducted site assessment from 2005 through 2009 and advanced 17 soil borings, and installed nine groundwater monitoring wells. During these investigations, the contractor delineated the extent of TPHg, TPHd, fuel oxygenates, and other gasoline constituents in soil and groundwater. Contractors conducted quarterly groundwater monitoring at the site from 2006 to 2010.

In June 2009, contractors excavated contaminated soil from beneath the former dispensers. During this excavation, two additional USTs and associated piping were discovered, removed, and the surrounding contamination was excavated. Contractors excavated and transported a total of 124 tons of contaminated soil to a licensed treatment facility.

Based upon current soil boring analytical data, the contractor estimated that of the 208 kg of residual contamination present at the site before remediation, a mass of 26.9 kilograms of TPHg currently remains in place within 9.3 cubic yards of soil.

Fourth Quarter 2010 groundwater analytical results show benzene and EDC are the only site-specific contaminants above their respective MCLs. Concentrations of both compounds have historically been so near the laboratory reporting limit that meaningful trend analysis is not feasible. Based upon the very low concentrations of EDC and benzene, lack of residual soil contamination, and other site-specific factors, Central Coast Water Board and FPD staffs believe this UST case meets the Central Coast Water Board low-risk closure criteria.

Chlorinated solvents trichloroethene (TCE), carbon tetrachloride and tetrachloroethene (PCE) have been detected in groundwater wells at the site. TCE has been detected during multiple monitoring events at concentrations above the laboratory reporting limit but below the MCL of 5 µg/L. Carbon tetrachloride has rarely been detected, but was detected in a majority of site wells during the February 2007 monitoring event, at concentrations ranging from 1.5 to 5.6 µg/L, above the MCL of 0.5 µg/L. PCE has consistently been detected in all wells at the site at concentrations up to 15 µg/L, above the MCL of 5 µg/L for the compound.

FPD staff concludes that the occurrence of TCE, carbon tetrachloride, and PCE in groundwater is not the result of an unauthorized release from the USTs. This opinion is supported by the detection of these compounds in up-gradient monitoring wells and the absence of detectable levels of the compounds in soil samples. The Central Coast Water Board Site Cleanup Program staff has been notified of the presence of the residual contaminants in monitoring wells associated with the site to determine if these groundwater impacts correspond to an existing, known site or are indicative of a previously unknown site.

On February 4, 2011, FPD notified the property owner regarding the proposed case closure pursuant to Section 13307.1 of the California Water Code. To provide added transparency, by copy of its February 4, 2011 directive, Santa Barbara County FPD notified all owners and tenants of properties within 200 feet of the site boundary of the proposed closure. All parties were invited to comment on the proposed closure no later than March 6, 2011. Santa Barbara County FPD did not receive any comments on the proposed closure..

Central Coast Water Board staff and Santa Barbara County FPD staff recommend closure of this case 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 minor residual mass (an estimated 26.9 kg of TPHg) does not pose a threat to water quality;
3. The remaining groundwater contaminants of concern are limited to benzene and EDC;
4. Benzene concentrations in groundwater, though not significantly reduced, have never exceeded 1.2 µg/L, and therefore have not at any time significantly exceeded the water quality objective of 1 µg/L;
5. EDC concentrations in groundwater have decreased from a maximum of 1.7 µg/L to 0.67 µg/L, marginally above the water quality objective of 0.5 µg/L;
6. Excavation of contamination in the source zone has removed 120 kg of TPHg, approximately 90% of the total mass;
7. Data from multiple down-gradient wells do not indicate plume migration towards the nearest drinking water supply well, located 1700 feet northeast of the site;
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, and will not result in water quality less than that prescribed by the Basin Plan.

Localized residual soil and groundwater contamination still underlies the site and could pose an unacceptable risk under certain site development activities such as site grading, excavation, or de-watering. The Central Coast Water Board, the Santa Barbara County FPD, 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 should include a statement that residual soil and groundwater contamination underlie the property and may underlie 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. The Santa Barbara County FPD may require additional site assessment if the property is proposed to be redeveloped. Additional actions required by the FPD may include, but not limited to, a case review, further remedial action, soil gas analysis, and a human health risk assessment.

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, the Executive Officer will issue a case closure concurrence letter to the FPD.

Attachment 5 Isoconcentration map of benzene
Attachment 6 Isoconcentration map of 1, 2 DCA

Shell Service Station, 204 Madonna 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 recent groundwater sample results indicate tributyl alcohol (TBA) remains at concentrations slightly greater than Central Coast Water Board cleanup goals. Groundwater samples collected from one on-site monitoring well continue to exceed the cleanup goal for TBA of 12 micrograms per liter (µg/L). During the most recent groundwater sampling event, a sample showed TBA in MW-5 at 38 µg/L. Other common contaminants associated with gasoline and fuel oxygenates have

been analyzed for in groundwater, and are below cleanup goals, or are below laboratory detection limits. Historic groundwater analytical results show the primary constituents of concern were TBA and methyl-tertiary-butyl-ether (MTBE). Attachment 7, *Groundwater Elevation Contour Map,* presents groundwater flow direction and monitoring well locations.

The Basin Plan designates groundwater beneficial uses beneath this site as domestic and municipal supply, agricultural supply, and industrial supply. Central Coast Water Board staff expects these residual levels of contamination to degrade naturally over time.

The subject site is an active retail gasoline service station. The property is located at the southwest corner of the intersection of Madonna Road and Highway 101 in San Luis Obispo. Contractors first discovered the release of petroleum hydrocarbons in November 1996 during fuel piping and dispenser upgrade work. Contractors excavated approximately 170 tons of impacted soil from the site.

The responsible party (Shell Oil) commissioned several phases of soil and groundwater investigation and cleanup. Additional soil excavations were completed during various phases of site renovation with the removal of approximately 55 tons and 82 tons of impacted soils in June 2000 and November 2001, respectively. All excavated soils were disposed off-site at an appropriate facility. Other remediation included dual-phase extraction between May 2003 and May 2009. These activities removed soil vapors and approximately 5,300 gallons of impacted groundwater.

Central Coast Water Board staff notified the site property owner (Serafino Investments, LLC), neighboring property owners, and other interested parties that we intended to recommend this UST case for closure. Staff received comments from one of the water supply well owners (Sunset Drive-In Well) located within a one-half mile radius of the site. The well owner was concerned about the possible impact to his water well, and asked if his well could be sampled and analyzed for the petroleum constituents of concern. After further discussion of the groundwater flow direction, well location and screen depth, and distance from the site, the well owner dropped his request for well sampling and analysis. The City of San Luis Obispo City Fire Department agrees with the proposed case closure.

Groundwater currently ranges in depth from approximately 4 to 15 ft bgs and generally flows to the northeast at average gradient of 0.06 ft per ft. There are five active water supply wells located within a one-half mile radius of the site. The nearest water supply wells are the Madonna Inn Wells (4000780-001 & -007) located approximately 800 ft northeast (downgradient) of the site. These wells provide drinking water to the Madonna Inn, restaurant, and spa. Other nearby water supply wells are the Elks Lodge #332 Well (4000671-001) and the Sunset Drive-In Well (4000702-001) located approximately 1,500 ft southeast and 2,300 ft south, respectively, from the site. In addition, Embassy Suites operates an irrigation well located approximately 2,400 ft south of the site. The nearest surface water bodies are San Luis Obispo Creek, located approximately 1,700 ft southeast of the site; and Laguna Lake, located approximately 2,600 ft west of the site. 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.

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,
3. The remaining soil pollution above the cleanup goal is limited in extent,

4. The remaining groundwater constituent of concern is limited to TBA, and the groundwater plume is declining in size and concentration, and is contained in only one on-site well (MW-5),
5. TBA concentrations in groundwater have been reduced from a maximum of 24,000 µg/L to 38 µg/L in one on-site monitoring well,
6. MTBE concentrations in groundwater have been reduced from a maximum of 11,000 µg/L to non-detect,
7. The remaining TBA is limited to one on-site monitoring well located downgradient of the former dispensers and USTs,
8. Monitoring data indicate favorable conditions for natural attenuation of petroleum hydrocarbons and concentrations are expected to continue to decrease with time,
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, and
10. 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.

Localized residual soil and groundwater contamination still underlies the site and could pose an unacceptable risk under certain site development activities such as site grading, excavation, or de-watering. The Central Coast Water Board, San Luis Obispo County Environmental Health Services (EHS), City of San Luis Obispo City Fire Department, 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 should include a statement that residual soil and groundwater contamination underlie the property and may underlie 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 will require additional site assessment if the property is proposed to be redeveloped. Additional actions required by the EHS may include, but not limited to, a case review, further remedial action, soil gas analysis, and a human health risk assessment.

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 7: Groundwater Elevation Contour Map

SITE CLEANUP PROGRAM CASE CLOSURES

California Department of Transportation (Caltrans), Burns Creek Canyon Bridge, Highway 1, Big Sur, Monterey County [Alison Jones, (805)542-4646]

The site consists of a Caltrans bridge right-of-way and the underlying canyon where soils have been impacted by lead and zinc contained in paint residues that accumulated during bridge paint maintenance activities from the 1930's through the 1970's. Central Coast Water Board staff recommends closure of this site because the remaining contamination does not pose a significant risk to human health or the environment, as it is not substantially impacting downstream fauna. Although lead and zinc waste remains in soils beneath the bridge at concentrations above soil cleanup goals, staff determined that removing remaining

contamination would result in greater environmental destruction than leaving remaining waste in place.

This site is located along Highway 1 in Monterey County, 12 miles south of Big Sur and about two miles south of Julia Pfeiffer Burns State Park. The site consists of the north and south walls of the 175-foot deep canyon of Burns Creek where it is spanned by the Burns Creek Bridge. Access to the site is extremely difficult. The sides of the canyon are at an approximate average slope of 1:1, and are even steeper in some areas. The canyon is also heavily vegetated with shrubs and poison oak. The bridge crosses Burns Creek about 500 feet northeast (inland) of the Pacific coastline.

The site is transected by Burns Creek, an intermittent stream which flows westward into the Pacific Ocean. Caltrans observed no springs or wet spots on the sides of the canyon during bridge construction or sampling activities, suggesting that, except near the creek, groundwater is not close to the surface. The site does not overlie a designated groundwater basin. Burns Creek is the nearest surface water, located at the base of the canyon. The Basin Plan designates the beneficial uses of Burns Creek to include drinking water supply and aquatic habitat. There are seven residences within 1000 feet of the site. Most of these residences receive their domestic drinking water from the headwaters of Burns Creek, far upstream of the site. There are no wells within a 1000-foot radius of the site, based on information from Caltrans and the GeoTracker web site.

The Burns Creek Bridge was first constructed during the 1930's as part of the construction of Highway 1. The support structure was made of steel and was painted with lead-based paint until the late 1970's; regular maintenance activities included sand-blasting and repainting. During replacement of the bridge in 1994, Caltrans' construction contractor found lead-contaminated sand-blasting residues while excavating for the new bridge abutments.

Subsequent investigation by Caltrans found a 5.5 acre area contaminated by the residue. Caltrans collected 171 soil samples, nine stream sediment samples, six stream water samples, and three shore-sand samples to characterize the extent of waste at the site and to determine background concentrations of metals in soil. Caltrans also analyzed four samples of vegetation and two mussel samples from the mouth of the Burns Creek.

Total lead concentrations in soils varied from 3.1 to 7,650 mg/kg over the affected area. Recommended cleanup goals for lead in soil range from 200 mg/kg in residential areas to 750 mg/kg in commercial areas; the threshold for hazardous waste is 1000 mg/kg. Concentrations were generally highest near the canyon bottom directly beneath the bridge and in the downwind (upslope direction).

Zinc concentrations in soil samples ranged from 1.9 to 3390 mg/kg. The clean-up goal for zinc in residential soil is 600 mg/kg; the threshold for hazardous waste is 5000 mg/kg. Zinc concentrations in stream sediments were within the range of background soil concentrations, and no dissolved zinc was detected in stream water samples.

Total chromium concentrations ranged from 4.4 to 65 mg/kg, well within the range of background soil concentrations for California soils. No hexavalent chromium was detected in soil or sediment samples and no dissolved chromium was detected in water samples.

Lead in the soil appears to be relatively immobile. Although the sand layers from the sand-blasting had been in place for up to 70 years at the time of the investigation lead had migrated downward only 0.5 to 1.5 feet into the underlying native soil. Some of this depth may also reflect more recent sedimentation after the deposition of lead waste stopped in the late 1970s. Stream sediment samples had lead concentrations ranging between 93.1 and 237.5 mg/kg. Of the six stream water

samples collected, five were non-detect for dissolved lead. One stream water sample contained 54 ug/L of dissolved lead, exceeding the surface water Maximum Contaminant Level (MCL) of 15 ug/L; but the sample taken a short distance downstream of this sample on the same day was non-detect. Because the water in Burns Creek is alkaline (pH ranged from 7.72 to 8.53), it is likely that the dissolved lead precipitated out as lead carbonate complexes as it moved downstream. Samples of beach sands near the mouth of Burns Creek ranged from 3.1 to 14.6 mg/kg, within the range of background soil concentrations. Mussels collected near the mouth of Burns Creek did not show elevated lead levels when compared to mussel samples taken at Julia Pfeiffer-Burns State Park. The beach sand and mussel tissue analyses suggest that the lead is not migrating from its source.

Caltrans completed a human health effects evaluation and an ecological risk assessment. Based on this combined risk analysis, exposure to the lead- and zinc-contaminated soil from the site does not appear to represent a human health concern, due to the steep canyon walls which greatly limit access and exposures, and abundant poison oak in the canyon. The waste in soils also does not appear to represent a significant hazard to the flora and fauna in the canyon and near-shore marine environment, based on water, plant, and mussel tissue testing. In addition, the presence of abundant vegetation significantly reduces the potential for erosion that might potentially mobilize the wastes.

Caltrans estimated that approximately 6,000 tons of soil had lead levels in excess of 100 mg/kg, and the estimated cost of removing all contaminated soil would be approximately $5,000,000. Added to that cost would be the expense of reestablishing vegetation on the denuded steep slopes and the cost of minimizing sediment-driven degradation of Burns Creek due to erosion and siltation while the new vegetation re-establishes itself.

Areas outside of the bridge right-of-way easement as well as the bottom of the canyon 50 feet on either side of Burns Creek are defined as environmentally sensitive based on habitat and species evaluation. The rim of the canyon contains seacliff buckwheat, an important host plant for the federally-endangered Smith's Blue butterfly. Caltrans staff concluded that remedial activities, including removal of vegetation and soil, would potentially result in greater impacts to the water quality, habitat, and scenic values of the canyon, than allowing the sandblast grit to remain in place. In weighing the marginal benefits of removing the lead and zinc waste against the cost of habitat destruction and potential threat to surface water due to de-vegetating the steep slopes in the canyon, Central Coast Water Board staff determined that leaving the waste in place and recommending site closure was appropriate.

During initial site clean up activities, Caltrans removed approximately 377 tons of sand-blast sand and contaminated soil on the north slope, east of the bridge. During construction of the bridge, Caltrans removed an additional 15 tons of lead-contaminated excavation material. This material was disposed of as hazardous waste. Air monitoring during construction verified lead was not airborne. Caltrans prepared and implemented a storm water pollution prevention plan which included re-vegetation with 2400 seedlings and hydro-mulching of the disturbed area after the construction was complete. Re-vegetation efforts included extensive planting of seacliff buckwheat, the host for Smith’s Blue butterfly. Inspections by Central Coast Water Board staff during and after construction (the most recent inspection was November 3, 2010) confirm the site is now heavily vegetated, and soils under the bridge area are stable, and do not appear to be eroding.

Central Coast Water Board staff does not consider the residual lead and zinc a significant threat to the water quality or ecological health in and around Burns Creek. Staff recommends closure of this case based on the following:

1. The extent of pollution has been adequately characterized;
2. CalTrans stopped using lead-based paints on the bridge in the 1970s. Additionally, CalTrans removed 392 tons of lead-impacted soil/source material in the 1990’s;

3. Wastes have been remediated to the maximum extent practical; approximately 392 tons of lead-contaminated soil were removed as part of initial cleanup and bridge construction and the remaining disturbed soil has been re-vegetated and protected from erosion;
4. Remaining pollution above the lead and zinc cleanup goals is limited in extent, does not appear to be significantly impacting water quality, does not pose a significant threat to human health or the environment, and removal would cause extensive environmental damage;
5. Surrounding landowners receive drinking water from the headwaters of Burns Creek, far upstream of the existing contamination;
6. Caltrans owns the property directly beneath the bridge and 50 feet to the north and south in fee and maintains records that document the existence of the waste and ensure proper handling of the site soils should future site actions require exposing residual pollution;
7. Caltrans has attached maps documenting the extent and concentration of sandblast sand within the Caltrans right-of-way and the rest of the canyon to the set of "as-built" construction plans for the current bridge, which makes the information part of the permanent record maintained by Caltrans. As a result, future modifications to the bridge or associated excavation activity in the area will be informed by these documents;
8. Caltrans has included a copy of the final site characterization and evaluation report into the permanent project record file for the project. This report will also be placed on the GeoTracker web site, associated with this site;
9. The current fee title holders of the subject and adjacent properties have been notified of the proposed case closure and have no objections to case closure; and
10. Closure at this site 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 does not unreasonably affect present or anticipated beneficial uses.

On February 25, 2011, staff notified the current fee title holders on the subject and adjacent properties of the proposed case closure pursuant to Water Code Section 13307.1. We have received no comments or objections to the proposed closure.

This recommended case closure is consistent with closure of similar cases by the Central Coast Water Board, and elsewhere in the state, in the past. Unless the Water Board directs staff otherwise, the Executive Officer will issue a case closure letter.

Hollister Municipal Airport, Highway 156, Hollister, San Benito County [Alison Jones, (805)542-4646]

Central Coast Water Board staff recommends case closure of this site at the Hollister Municipal Airport, because pesticide-contaminated soil has been stabilized and capped, and does not pose a threat to groundwater or surface water.

The site is located at the Hollister Municipal Airport, off Highway 156, about two miles north of the city of Hollister in San Benito County. From the 1960's through the 1980's, several agricultural chemical applicators operated from the Hollister Municipal Airport, where they would mix batched chemicals such as DDT and other pesticides, and apply them to crops.

Southern Santa Clara Valley is an alluvium-filled valley. Depth to groundwater in the Hollister area is approximately 60 to 80 feet below ground surface, and flow is generally to the west. The site lies within the Gilroy-Hollister Valley Groundwater Basin. The Basin Plan designates groundwater beneficial uses in this Basin to be domestic supply, agricultural water supply and industrial supply. The nearest water supply well is located approximately one-half mile to the east of the airport. The nearest surface water is Santa Ana Creek which is northeast of the

airport and flows northerly to Teoquita Slough, San Felipe Lake and the Pajaro River. Beneficial uses of surface waters downstream include warm freshwater habitat, agricultural supply, recreation, groundwater recharge, and wildlife habitat.

In 1986, the Central Coast Water Board issued Clean-up or Abatement Order (CAO) No. 86-300 to the City of Hollister, requiring assessment of possible pesticide contamination at the airport. Staff identified three locations at the airport where soil exhibited pesticide contamination, including an area where agricultural chemicals were loaded and unloaded, and areas once used for disposal of aircraft holding tank rinsewater. In 1986, airport maintenance personnel indicated that there was no longer batch storage of agricultural chemicals at the airport and spraying of rinsewater from aircraft holding tanks had ceased at least five years previously (approximately 1981). As of 2008, all aerial spraying from the airport was terminated.

The City sampled soil at each of the three locations. Ultimately, the City completed four phases of soil investigation to assess the vertical and horizontal extent of contamination. The primary contaminants of concern were organochlorine pesticides, including DDT, DDE and DDD. Several other pesticides were also detected, but were generally below established cleanup goals, were less persistent and occurred coincident with the organochlorine pesticides. With Water Board staff concurrence, the City removed impacted soil, mixed it with lime, and used it as base for a runway. The soil was compacted and treated with bituminous prime coat and covered by a five-inch thick asphalt-concrete surface. The surface was designed to direct runoff flows across the asphalt surface to drainage swales to prevent ponding of water on, or adjacent to, the taxiway. Remaining unexcavated soil was determined to be below the cleanup goal of 1 mg/kg of combined DDT, DDE and DDD. The City of Hollister has also implemented a pavement maintenance plan to maintain the pavement free of cracks, maintaining the integrity of the cover to minimize infiltration of water to waste.

In evaluating this site for closure, Water Board staff determined that based on the information submitted, the City had complied with the intent of Cleanup or Abatement Order No. 86-300. In addition, Water Board staff required the City to file a Covenant and Environmental Restriction on the property prior to closure of the site. This covenant notes the waste beneath the runway and sets the requirements regarding maintaining the cover and restricting soil disturbance.

Staff does not consider the pesticide-contaminated soil to be a threat to the water supply well or to surface waters. Staff recommends closure of this case based on the following:

1. The extent of pollution has been adequately characterized;
2. Wastes have been remediated to the maximum extent possible because pesticide-contaminated soil above cleanup levels has been stabilized and capped, and no longer poses a threat to surface water, groundwater, or to human health or the environment;
3. Remaining unexcavated soil was determined to be below the cleanup goal of 1 mg/kg of combined DDT, DDE and DDD. Water Board staff determined that based on the information submitted, the City had complied with the intent of Cleanup or Abatement Order (CAO) No. 86-300. The executive officer rescinded CAO No. 86-300 in April 2011.
4. The City has signed and recorded a Covenant and Environmental Restriction on Property for the subject property to ensure proper handling of the site soils should future site actions require exposing residual pollution;
5. The nearest water supply well is located approximately one-half mile from the site and it is very unlikely that groundwater contamination will reach any water supply wells or surface water bodies;
6. The current fee title holders of the subject property and adjacent properties have been notified of the proposed case closure and to date have raised no objections to case closure; 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 does not unreasonably affect present or anticipated beneficial uses of waters of the State.

Staff notified the current fee title holders of the subject property and adjacent properties of the proposed case closure pursuant to Water Code Section 13307.1 on March 30, 2011. To date, we have not received any objections to the proposed closure.

The recommended case closure is consistent with closure of similar soil pesticide contamination 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 letter.