STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING May 9, 2008

ITEM NUMBER: 7

SUBJECT: **Cleanup Cases, Closures, and Corrective Action Plan Approvals**

Status Reports

Scotts Valley Dry Cleaners, 272-A Mount Hermon Road, Scotts Valley, Santa Cruz County [Karyn Steckling 805/542-4642] (New information is shown in italics.)

Water Board staff provides regulatory oversight of the Scotts Valley Dry Cleaners case in Santa Cruz County. The dry cleaner building is located on a property with other commercial buildings and a parking lot in Scotts Valley. The Scotts Valley Water District's Well No. 10A is located approximately 450 feet south of the dry cleaner building.

Background

In 1996, the responsible parties started remediation of tetrachloroethene (PCE) initially by performing excavation (trenching) and vapor extraction in the source area. In March 1998, Water Board staff required the responsible parties to submit a corrective action plan. Since 1998, the responsible parties conducted several remediation pilot tests/interim remedial actions, including air sparging, aquifer pump testing, and injection of hydrogen releasing compounds and cheese whey. The responsible parties revised the corrective action plan several times based on pilot test results.

The responsible parties implemented high vacuum, dual-phase extraction in March 2004 for PCE plume containment. In July 2004, the responsible parties submitted a revised Interim Remedial Action Plan proposing additional groundwater monitoring and extraction well installations and a permanent groundwater extraction and treatment system.

The Water Board permitted the treated groundwater discharge from the proposed system under the General National Pollutant Discharge Elimination System (NPDES) Permit for Discharges of Highly Treated Groundwater to Surface Waters on May 5, 2005. The groundwater extraction system was fully operational by August 10, 2005.

On May 25, 2005, the Water Board issued Cleanup or Abatement Order (CAO) No. R3-2005-0081 and Monitoring and Reporting Program No. R3-2005-0082 to the responsible parties. CAO No. R3-2005-0081 required the responsible parties to commence operation of a groundwater extraction system, submit a work plan to install wells to further investigate the extent of waste discharges offsite, and submit a corrective action plan according to the Executive Officer's schedule.

Our subsequent July 19, 2006 letter required implementation of both proposed offsite and onsite investigative work, report submittal summarizing the investigative work, submittal of an updated site conceptual model, submittal of a more detailed pilot study work plan, and repair or destruction and replacement of the missing/damaged monitoring wells. By October 31, 2006, Secor, on behalf of the responsible parties, submitted a cluster well installation report, a third quarter monitoring report, and a pilot test work plan complying with all of these directives.

On February 7, 2007, the Executive Officer approved the chemical-oxidation pilot test work plan, with a few conditions. On May 17 and 18, 2007, the responsible parties injected approximately 1,500 gallons of 5% potassium permanganate solution into MW-4 and are monitoring nearby monitoring wells (MW-14 and MW-16) to evaluate effectiveness. Potassium permanganate is a strong oxidizing chemical that reacts with the chlorinated solvent waste constituents to produce non-toxic by-products (water, carbon dioxide, manganese dioxide, etc.). Our letter requires the responsible parties to submit quarterly progress reports and a proposal for a site-wide Correction Action Plan in their final pilot test report due July 30, 2008.

Recent Progress

Since the last staff report, we have received the following reports: (1) October 2007 Monthly Groundwater Monitoring Report; (2) November 2007 Monthly Groundwater Monitoring Report; (3) Fourth Quarter 2007 Groundwater Monitoring and Remediation System Status Report; (4) January 2007 Monthly Groundwater Monitoring Report; and (5) February 2008 Monthly Groundwater Monitoring Report. Additionally, staff has received laboratory data for groundwater sampling performed on March 9, 2008.

Chemical Oxidation
The injection well (MW-4) and remediation monitoring well (MW-14) continue to contain potassium permanganate (see attachment for site map). The initial post-injection reports indicate that in-situ chemical-oxidation may be a viable remedial action technology because the responsible parties were able to inject the material easily, and the material has persisted in the groundwater for over ten months. Prior to the pilot test, MW-4 and MW-14 contained 190 micrograms per liter (µg/L) PCE and 160 µg/L PCE, respectively. MW-14 has not contained detectable concentrations of PCE since the injection. Concentrations in MW-4 were less than 2.0 µg/L PCE in June 2007, 13 µg/L PCE in September 2007, 44 µg/L PCE in December 2007, and 16 µg/L PCE in March 2008. The responsible parties are required to determine if it is feasible to implement in-situ chemical-oxidation as a site-wide remedy in their Corrective Action Report due by June 30, 2008.

Current Groundwater Conditions
In general, groundwater concentrations increased during the December 2007 quarterly monitoring event and subsequently decreased during the March 2008 quarterly monitoring event. The deep-zone sentry wells MW-13B and MW-23 continue to contain no detectable concentrations of PCE.

MW-13A contained 1.8 µg/L PCE in March 2008, and this is the first time PCE was detected in MW-13A since May 2005. This low concentration may be due to the recent rains and the fact that the pump and treat system did not operate for approximately 10 days in February 2008 to upgrade its electrical system. The treatment system has been fully operational since February 2008. We will increase the required sampling frequency for MW-13A from quarterly to monthly.

A deeper-zoned monitoring well (MW-22A), screened from 82 to 87 feet below ground surface (bgs), contained PCE at 360 µg/L most recently during the March 9, 2008 groundwater sampling event. MW-22A contained 140 µg/L PCE when it was first sampled in October 2006.

Scotts Valley Water District

Scotts Valley Water District (Water District) has continued using their municipal Well No. 10A since the last staff report. The Water District has sampled Well No. 10A, and the samples did not contain detectable concentrations of volatile organic compounds.

Future Board Updates

We will next update the Board at the meeting scheduled for December 5, 2008. This update will include the information contained in the responsible parties' final chemical-oxidation pilot test report that will contain a Correction Action Plan.

Attachment 1: Secor's Figure 2 Site Map

Corrective Action Plan Approval

Venoco (formerly Chevron), 5675 Carpinteria Avenue, Carpinteria, California, [Rich Chandler 805/542-4627]

The Central Coast Regional Water Quality Control Board (Central Coast Water Board) is the regulatory agency responsible for overseeing the investigation and cleanup of the Venoco (former Chevron) Oil and Gas Processing Facility (Facility) located at 5675 Carpinteria Avenue, Capinteria, California. The responsible parties (RPs), Venoco, Inc. and Chevron Environmental Management Company, have monitored soil, sediment, groundwater, and surface water since 2002, due to the presence of DDT and DDT breakdown products (collectively referred to as DDX) in the area of the Facility known as the former nursery area. The Central Coast Water Board issued Cleanup and Abatement Order (CAO) No. R3-2004-0081 in May 2004 requiring the RPs to clean up the impacted soil and prevent impacted sediment from reaching the ocean. In addition, the RPs will remove soil impacted by metals, from an area of the Facility known as the sandblast area.

Site Background

The Facility was constructed in the 1940's on a 55-acre property and is used for minimal processing and transfer of locally extracted oil and gas (see attached map).

Chemicals Found at the Site

DDT is a pesticide that was extensively used in agricultural activities throughout the Carpinteria area. Congress banned the use of DDT in the U.S. in 1972 primarily due to its effect on wildlife and its persistence in the environment. The presence of DDT at the site is unrelated to the RP's use of the facility.

Cleaning of metal parts in the sandblast area of the Facility has resulted in concentrations of metals in soil that warrant excavation and removal.

Proposed Cleanup Approach

The RPs propose to excavate DDX-impacted soil within the nursery area until concentrations of DDX in the remaining soil are equal to or less than 394 micrograms per kilogram. A study funded by the RP indicates that at this concentration, stormwater runoff will not transport

detectable DDX from the Facility to the ocean. This concentration is also lower than the U.S. Environmental Protection Agency's Preliminary Remediation Goal for residential land use of 1,700 micrograms per kilogram. The RPs will transport the excavated soil to an authorized waste disposal facility.

The RPs will construct additional facilities to control sediment run-off from the nursery area including a sediment filter, and curbs and gutters along the north and northeast boundaries of the nursery area. The RPs will monitor surface water during storm events at the outlet of the sediment filter.
The RPs will also excavate soil from the sandblast area containing concentrations of metals that exceed normal background concentrations. The excavated soil will be transported to an authorized waste disposal facility.

Next Steps in Cleanup

The environmental contractor will begin the proposed Facility cleanup following Central Coast Water Board staff concurrence and after receiving all appropriate agency permits. Central Coast Water Board staff will approve the corrective action plan provided we receive no significant public comments.

Public Comment Period

On March 28, 2008, Central Coast Water Board staff sent a fact sheet to each address located within 1,000 feet of the Facility. The fact sheet provided summary information about the Facility and the proposed cleanup, provided a link for downloading the corrective action plan, and indicated that the public would have 30 days to comment on the corrective action plan. As of the date of this report, we have not received any comments.

Attachment 2: Padre Associates, Inc. Site Location Map

Staff Closed Cases

Former Shell Service Station, 1840 Main Street, Morro Bay, San Luis Obispo County, [John Mijares 805-549-3696]

In January 1999, samples collected from the City of Morro Bay (City) sanitary sewer system detected methyl tertiary-butyl ether (MTBE). Subsequent investigations confirmed the MTBE contamination originated from this former Shell service station. The underground storage tanks (USTs) and gasoline-impacted soil beneath the USTs were removed from the location in January 2002. The Responsible Party (RP) implemented extensive remedial actions since the discovery of the contamination, which included contaminated soil excavation, addition of oxygen releasing compound to the UST excavation backfill, soil vapor extraction, and onsite and offsite groundwater extraction and treatment.

Since 1997, water deliveries from the State Water Project (SWP) were the principal domestic water source for the City. However, during seasonal periods of high water demand and during SWP delivery shutdown, the City extracts water from the Morro Basin Well Field (Morro Well #3, #4, #14, and #15). These supply wells are located to the southwest and approximately 500 feet from the former USTs. Due to concerns that pumping from the Well Field could deflect the MTBE plume to the Well Field, Shell Oil Company (Shell) commissioned the implementation of a response plan, which involved soil and groundwater remediation, groundwater monitoring, and groundwater modeling to predict migration of the MTBE plume under various scenarios. Since

November 2002, the City has activated the Well Field annually (at varying pumping rates and pumping durations) to meet water supply needs during the scheduled annual shutdown of the SWP delivery. In addition, in September 2004, the City performed a 14-day full-scale groundwater safety pumping test and did not detect MTBE in any of the supply wells. Shell's consultant implemented a comprehensive groundwater monitoring program prior to, during, and after each initiation of groundwater pumping at the Well Field. Extensive monitoring conclusively demonstrated that the City's Well Field was never impacted, even prior to MTBE plume stabilization.

Total petroleum hydrocarbons as gasoline (TPHg), benzene, and MTBE were the only three gasoline constituents that have been detected above the Central Coast Water Board groundwater cleanup goals of 1000 micrograms per liter (µg/L), 1 µg/L, and 5 µg/L, respectively. As a result of remedial action and natural attenuation, groundwater has now been cleaned up and meets cleanup goals. TPHg, Benzene, and MTBE have either been below their respective reporting limit or cleanup goal since January 2001, September 2005, and June 2005, respectively. Central Coast Water Board staff did not close the case earlier, although cleanup goals were met, to allow additional groundwater investigation and monitoring mutually agreed upon by Shell and the City. Results of the additional investigation and groundwater monitoring further confirm that groundwater cleanup goals have been met.

On January 30, 2008, Central Coast Water Board staff notified the property owner, the San Luis Obispo County Division of Environmental Health, and other interested parties of our plan to close this case. We received a letter from Mr. Charles P. Ogle, on behalf of his father, Charles E. Ogle, whose property is approximately 400 feet west (downgradient) of the former Shell Service Station. Mr. Charles P. Ogle stated in his February 22, 2008 letter that, "*Unless the Regional Board is prepared to state that Mr. Ogle's property is free of all contamination tied to Shell, including additional or previously unidentified contamination, Mr. Ogle objects to case closure.*" Central Coast Water Board staff responded in a February 22, 2008 letter to Mr. Ogle, that current monitoring data, from an extensive network of monitoring wells, show that petroleum hydrocarbons and fuel oxygenates are below laboratory reporting limits and in compliance with cleanup goals. Therefore, Central Coast Water Board staff has determined that Shell has successfully remediated the gasoline-impacted soil and groundwater and no further investigation or cleanup action is needed for soil and groundwater associated with this UST case either onsite or offsite. On March 5, 2008, Central Coast Water Board staff directed Shell to destroy all monitoring wells. Upon receipt of a well destruction report documenting the proper destruction of all monitoring wells, Central Coast Water Board staff will close this case and the Executive Officer will issue a final case closure letter.

Quik Stop Market #63, 2303 East Lake Avenue, Watsonville, Santa Cruz County, [John Mijares 805-549-3696]

Quik Stop Markets, Inc. (Quik Stop), operates a mini-mart and a gasoline service station at the subject site. In September 1998, Quik Stop removed two 10,000-gallon USTs from the subject site. Gasoline impacted soil and groundwater were observed during UST removal activities. Approximately 1,050 cubic yards of impacted soil were removed and disposed of appropriately during the removal and replacement of the USTs. Approximately 13,300 gallons of contaminated groundwater were removed from the excavation pit prior to backfilling. In January 1999, Compliance & Closure, Inc. (CCI), conducted soil and groundwater investigations to delineate the extent of contamination and installed monitoring wells. A Soil Aeration Vapor Extraction (SAVE) system operated at the site from November 2000 to August 2001. The SAVE

system extracted, treated, and discharged approximately 2,500 gallons per day of contaminated groundwater during its approximately nine months of operation. Due to major mechanical breakdowns, the SAVE system was removed from service and replaced by a groundwater extraction and treatment (GWET) system. The GWET system operated from August 2001 until its shutdown on April 3, 2007. From November 2000 through April 2007, the GWET system extracted, treated, and discharged approximately 5,626,000 gallons of gasoline-impacted groundwater.

In April 2007, CCI temporarily stopped the operation of the GWET system to collect effluent samples to verify compliance with the heavy metal limits contained in the General NPDES Permit for Discharges of Highly Treated Groundwater to Surface Waters. During the time that the GWET system was not operating, concentrations of MTBE have been declining and dropped below the groundwater cleanup goal of 5 micrograms per liter (µg/L) in all monitoring wells by June 2007. Results of three quarters of groundwater monitoring, following the shutdown of the GWET system, confirmed that remedial action and natural attenuation processes have remediated MTBE, other fuel oxygenates, and petroleum hydrocarbons to below their respective reporting limits or below their groundwater cleanup goals.

The depth to groundwater at the site is approximately 4 to 11 feet below ground surface and the flow direction varies from southeast to southwest. The nearest municipal supply well is located approximately 5,000 feet southwest of the site.

On February 11, 2008, Central Coast Regional Water Quality Control Board (Central Coast Water Board) staff notified the property owner, the Santa Cruz County Environmental Health Service, and other interested parties of our plan to close this case. We have not received comments or objections to the planned closure of this case. We directed Quik Stop to destroy all monitoring wells. Upon receipt of a well destruction report documenting the proper destruction of all monitoring wells, Central Coast Water Board staff will close this case and the Executive Officer will issue a final case closure letter.

One Stop Food Store, 1924 Creston Road, Paso Robles, San Luis Obispo County; [Corey Walsh 805-542-4781]

Contractors discovered a release of gasoline during an underground storage tank (UST) system piping and dispenser upgrade conducted during May 2004. The responsible party (RP) installed four groundwater monitoring wells to evaluate the extent of soil and groundwater contamination. The subject site is an active gasoline service station and mini-market located in the northeast corner of the intersection of Creston Road and Myrtlewood Road in Paso Robles.

The subsurface investigation results indicated a maximum soil concentration of 1,800 milligrams per kilogram (mg/kg) TPH as gasoline (TPH-g) and 40 mg/kg toluene at 7 feet below ground surface (bgs) between the middle and southern USTs. These concentrations exceed typical cleanup goals of 100 mg/kg TPH-g and 15 mg/kg toluene. Groundwater monitoring and investigation results indicated a maximum concentration of 22 micrograms per liter (µg/L) methyl tertiary butyl ether (MTBE) at the site. The depth to groundwater at the site ranged from approximately 10 to 12 feet bgs, and generally flows toward the southwest at an average gradient of 0.003 feet per foot.

The site lies within the Atascadero Hydrologic Subarea of the Salinas Hydrologic Unit, (3-9.81). The "Water Quality Control Plan, Central Coast Region" (Basin Plan) designates groundwater in

the Paso Robles area as having beneficial uses for domestic and municipal supply, agricultural supply, and industrial supply. Therefore, the site cleanup goals for common gasoline constituents are as follows: 1,000 µg/L – total petroleum hydrocarbons (TPH), 1 µg/L – benzene, and 5 µg/L – MTBE. These cleanup goals for MTBE and TPH have been established based on a taste and odor thresholds, not the less conservative health risk goals.

Current data indicate all groundwater monitoring results are below cleanup goals for the constituents of concerns, e.g. total petroleum hydrocarbons as gasoline, benzene, toluene, ethylbenzene, xylenes, MTBE, etc. Groundwater samples collected on February 20, 2008 indicate MTBE is the only remaining constituent of concern. Laboratory results indicate a maximum concentration of 2.3 µg/L MTBE.

The nearest public drinking water supply wells are the City of Paso Robles's Sherwood #9 and Osborne #14 located approximately 1,075 feet northeast, and 1,350 feet east of the site, respectively. In addition, a private domestic well is located approximately 750 feet south of the site. In addition, two intermittent streams are located 600 feet north and 900 feet south of site. Based on this information, it is unlikely that the release at this site will impact any water supply wells in the area.

Based on site investigation and groundwater monitoring results, there is no longer a threat to groundwater or surface water quality from the release of petroleum hydrocarbons. Therefore, Central Coast Water Board staff has no further requirements for groundwater monitoring, investigation, or cleanup. The San Luis Obispo County Environmental Health Services, Hazardous Materials Program agrees with this determination. The property owner adjacent owners and other interested parties have also been notified of the proposed case closure.

Limited residual soil contamination left-in-place between the middle and southern USTs could pose an unacceptable risk under certain site development activities, which require San Luis Obispo County Environmental Health Services, and the appropriate local planning and building departments to be notified upon a change in land use or removal of the USTs. This notification requirement will be included in the case closure transmittal letter and Case Closure Summary form attachment.

The responsible party has been directed to destroy all monitoring wells and the Executive Officer will issue a final case closure letter upon receipt of a well destruction report documenting the proper destruction of all monitoring wells.