STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING JULY 7, 2006

Prepared April 12, 2006

ITEM NUMBER: 16

SUBJECT: Low Threat and General Discharge Cases

DISCUSSION

General Waste Discharge Requirements

City of Arroyo Grande Well Development, San Luis Obispo County [Sorrel Marks 805/549-3695]

Upon receipt of an appropriately filed Notice of Intent (application), staff reviewed the submittal to ensure compliance with permit conditions and enrolled the City of Arroyo Grande's Water Supply Well project under the General NPDES Permit for Discharges with Low Threat to Water Quality (Low Threat General Permit) on June 7, 2006. The City Arroyo Grande plans to discharge untreated well water during development of domestic supply wells. Such discharges will be managed so as to prevent soil erosion from high velocity discharges and will not include chlorine or other additives, which may be detrimental to water quality and/or threaten to violate water quality standards. Enrollment under the Low Threat General Permit requires the City of Arroyo Grande to comply with Monitoring and Reporting Program No. 01-119. The Monitoring and Reporting Program includes annual monitoring of discharges and receiving waters.

General NPDES Permit for Low Threat Discharges

City of Buellton, Buellton, Santa Barbara County [David LaCaro 805/549-3892]

Staff enrolled the City of Buellton's supply well rehabilitation project into the National Pollutant Discharge Elimination System (NPDES) General Permit for Low Threat Discharges to Surface Water (General Permit) Order No. 01-119. The General Permit allows discharges that are identified in finding 3 of the General Permit to be discharged to waters of the state, provided that certain best management practices met. Proposed discharges will result from the rehabilitation and maintenance a water supply wells (well No. 9). Supply well rehabilitation procedures include bailing, wire brushing, acidizing, dual swab/airlift method, development pup testing, and constant rate pump testing. The dual swab/airlift method will recover acidic residues, minerals deposits, other loosened materials, and fluids. A neutralizing agent will be injected into the recovered well water and will be pumped to two 21,000-gallon Baker tanks. Discharges will enter an adjacent storm drain leading to Zaca Creek (tributary to Santa Ynez River). Anticipated production rates will range from 83 to 1,000 gallons per minute. The dual swab/airlift method will last for 3 to 5 days. Well development pump testing will last approximately 3 to 5 days, constant rate pump testing will last for one 8-hour period. Energy dissipation and/or other methods of erosion control will be provided for the discharge location

The City, as part of its application, submitted analytical result from existing monitoring wells located in Santa Ynez Valley. Analytical results demonstrated that levels of metals, organics, and other constituents required by section A of the General Permit were detected below MCLs and Basin Plan Objectives (Table 3-8).

Staff modified the General Permit Monitoring and Reporting Program (MRP) to fit the characteristics of the discharges. Total chlorine residual, Oil/Grease, acute toxicity, and total fecal coliform were removed from Section A.2, *Discharge Monitoring*, because the discharge is comprised of groundwater.

General Waste Discharge Requirements for Wineries

Royal Oaks Winery, Santa Ynez, Santa Barbara County [David LaCaro 805/549-3892]

Regional Board staff enrolled Royal Oaks Winery under the General Waste Discharge Requirements for Discharges of Winery Waste (General WDRs) on May 4, 2006. Royal Oaks Winery is located at 3010 Roblar Avenue, near Santa Ynez, in Santa Barbara County.

Royal Oaks Winery produces approximately 20,000 cases of wine per year. The process wastewater treatment and disposal system is based on an estimated peak flow of 1,200 gpd. Large solids are separated from wastewater by floor drain screens. Wastewater is settled in a 4,000-gallon septic tank. Wastewater is disposed in a large dual leachfield system, consisting of over 1,000 lineal feet of leachline. Pomace (grape seeds and skins) will be collected and removed from the facilities and tilled into soil between the rows of vineyards surrounding the facility within 48 hours. Additional disposal methods are based on the January 18, 2001, Solid Waste Management Plan.

Enrollment under the General WDRs requires Royal Oaks Winery to follow Monitoring and Reporting Program No. R3-2003-0084, which is modified specifically for Royal Oaks Winery. Most notably, leachfields must be monitored for over-saturation and standing water monthly during the non-crush season, and weekly during the crush season. Regional Board staff will begin regular compliance inspections of Royal Oaks Winery late this fall.

Staff Closed Cases

Thompson Residence, 23060 Evergreen Lane, Santa Cruz County; [Tom Sayles 805-542-4640]

The property owner removed two underground storage tanks (USTs) on March 29, 1994. Soil samples collected from the tank excavation detected total petroleum hydrocarbons as diesel (TPH-d) and benzene at maximum concentrations of 13,000 milligrams per kilograms (mg/kg), and 0.009 mg/kg, respectively. Methyl tertiary butyl ether (MTBE) was not detected at the site.

The property owner subsequently installed three monitoring wells to assess groundwater conditions beneath the site. The initial results for samples collected on August 25, 1995 indicate concentrations of TPH-d and benzene at 16,000 micrograms per liter (g/L) and 24 g/L, respectively. Groundwater samples collected on March 28, 1996, detected maximum concentrations of TPH-d and benzene at 90,000 g/L and 26 g/L, respectively and generally confirmed earlier results. Quarterly groundwater monitoring was implemented to evaluate contaminant concentrations over time.

In August 2004, approximately 170 cubic yards of contaminated soil were excavated from the source area and appropriately disposed offsite. Approximately 130 gallons of groundwater were removed during the excavation

dewatering activities and dispose of by a licensed waste hauling firm.

Post excavation groundwater samples collected on March 6, 2006, indicate that all hydrocarbon constituents are below cleanup goals or laboratory detection limits.

The depth to groundwater is approximately 4 to 10 feet below ground surface. Groundwater flow is generally to the southeast at a gradient of 0.13 feet per foot. The nearest domestic water supply well is located more than one mile from the site.

Based on the results of active soil and groundwater cleanup and the current groundwater monitoring, there is no threat to groundwater quality and no further investigation or cleanup is necessary. The Santa Cruz County Health Services Agency agrees with this determination. The property owner has been notified of case closure and has been directed to destroy all monitoring wells. Water Board staff will close this case, 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.

Chevron Service Station, 404 Soquel Avenue, Santa Cruz, Santa Cruz County, [Tom Sayles 805-542-4640]

In July 1988, Chevron completed a soil gas survey, which suggested the presence of petroleum hydrocarbons in soil beneath the site. Chevron subsequently installed six monitoring wells to assess groundwater conditions beneath the site. Groundwater samples collected on April 7, 1989 detected maximum concentrations of total petroleum hydrocarbons as gasoline (TPH-g) and benzene at 1,400,000 g/L and 18,000 g/L, respectively.

In July 1989, two extraction wells were installed to remediate groundwater beneath the site using pump and treat technology. Chevron removed four underground storage tanks (USTs) in May 1991 and replaced them with seven USTs. In February 2004, the site was reconfigured and all seven USTs were removed and replaced with two gasoline USTs. Approximately 800 cubic yards of hydrocarbon-impacted soil were excavated and disposed of offsite during the 1991 and 2004 tank removal activities.

A total of 13 groundwater monitoring wells were installed to fully define the extent of groundwater contamination. Quarterly groundwater monitoring was conducted from July 1989 until March 2006 to evaluate water quality improvement resulting from remediation at the site. Recent groundwater results for samples collected on March 6, 2006, indicate that all hydrocarbon constituents are below cleanup goals or laboratory detection limits.

The depth to groundwater is approximately 6 to 12 feet below ground surface. Groundwater flow is generally to the west at a gradient of 0.007 feet per foot. The nearest water supply well is located more than one mile from the site.

Based on the soil and groundwater cleanup and quarterly groundwater monitoring, there is no threat to groundwater quality and no further investigation or cleanup is necessary. The Santa Cruz County Health Services Agency agrees with this determination. The property owner has been notified of case closure and the responsible party has been directed to destroy all monitoring wells. Water Board staff will close this case, 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.

Cases Recommended for Closure

Mustang Moving, 2885 South Higuera Street, San Luis Obispo, San Luis Obispo County [Corey Walsh 805-542-4781]

Staff recommends closure of this underground storage tank (UST) case where soil and groundwater sample results indicate pollution remains at concentrations greater than Central Coast Water Board (Water Board) cleanup goals for diesel petroleum hydrocarbons. In addition, groundwater sample results indicate that benzene, and naphthalene (a component of diesel) are greater than groundwater cleanup goals. The cleanup goal for diesel is exceeded in two monitoring wells MW-1 and MW-5, for benzene in MW-1 and MW-2, and for naphthalene in MW-1. Analytical results indicate diesel, benzene, and naphthalene at maximum concentrations of 5,600 micrograms per liter (ÿg/L), 20 ÿg/L, and 140 ÿg/L, respectively. Attachment 1, *Groundwater Contour and Hydrocarbon Concentration Map,* presents groundwater flow direction and contaminant concentrations for samples collected on March 22, 2006. Other typical petroleum hydrocarbon constituents of concern (e.g., toluene, ethylbenzene, xylenes, and fuel oxygenates) are below cleanup goals or were not detected in groundwater samples.

The site is a moving and storage facility that reportedly operated two underground storage tanks until approximately May 1986 when they were temporarily abandoned. The tanks remain on the property, abandoned permanently in-place, in accordance with a San Luis Obispo City Fire Department permit issued January 14, 1988. The tanks formerly contained gasoline and diesel fuel, and were 1,000-gallons and 300-gallons in capacity, respectively.

Initial soil sampling results collected under San Luis Obispo City Fire Department oversight in August 1987 indicated underlying soil was impacted, but no groundwater was observed. The City Fire Department required no further investigation until early 2004. Samples collected on May 26, 2004, indicated that underlying soil and groundwater were impacted with petroleum hydrocarbons. Groundwater sample results indicated gasoline petroleum hydrocarbons at 4,150 g/L, diesel at 3,800 g/L, motor oil at 900 g/L, and benzene at 27 g/L. Soil samples detected up to 940 milligrams per kilogram (mg/kg) diesel, and 120 mg/kg motor oil. The responsible party's consultant subsequently drilled seven soil borings, which were converted to monitoring wells.

Shallow groundwater beneath the site has generally fluctuated between 10 feet and 17 feet below ground surface, and generally flows to the west/southwest at approximately 0.001 feet per foot.

The site lies within the San Luis Obispo Creek Hydrologic Subarea (3-10.24) of the Estero Bay Hydrologic Unit. The "Water Quality Control Plan, Central Coast Region" (Basin Plan) designates groundwater beneficial uses to be domestic and municipal supply, agricultural supply, and industrial supply. Therefore, the groundwater cleanup goals for common gasoline and diesel constituents are as follows: 1,000 g/L total petroleum hydrocarbons, 1 g/L benzene, and 21 g/L naphthalene. The petroleum and naphthalene cleanup goals have been established based on taste and odor thresholds, not health risks. The benzene goal is based on the California Primary Maximum Contaminant Level, which is based on health effects data, but also contains other information relating to technical and economic feasibility of attainment in a water distribution system.

The nearest water supply wells are a domestic/ irrigation well located approximately 1,000 feet northwest of the site at the Elks Lodge, and a domestic well located approximately 1,800 feet southwest of the site at the Sunset Drive-In Theater. The residual petroleum hydrocarbons remaining are unlikely to impact these wells considering the groundwater flow direction, area geology, well distances, and low remaining contaminant concentrations.

The groundwater plume extent has been adequately characterized and is generally contracting or declining in size and concentration, and historical monitoring data indicate the petroleum hydrocarbon concentrations are expected to continue to decrease with time. Therefore, based on the information provided, we have no further requirements for groundwater monitoring, investigation or cleanup of the site.

Our recommendation for closure is based on the following:

1. Remaining groundwater pollution above cleanup goals is limited in extent and decreasing in concentration,

2. Remaining hydrocarbon constituents are unlikely to reach a drinking water supply well, and

3. Closure is consistent with Section III.G. of State Board Resolution No. 92-49, allowing the 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, and will not result in water quality less than that prescribed by the Basin Plan.

In addition, Water Board staff has evaluated remaining soil and groundwater concentrations with respect to direct human exposure, indoor air impacts, gross contamination, and leaching potential in soil. Comparison of these residual soil and groundwater concentrations with corresponding environmental screening levels for a residential land use scenario indicate no significant threat to human health or the environment.

Based on the groundwater monitoring results, there is no significant threat to groundwater resources and no further soil or groundwater investigation or cleanup is necessary. In addition, San Luis Obispo City Fire Department, as the lead agency for soil investigation and cleanup activities, agrees with case closure. City Fire Department indicates it will require a deed notice to be attached to the property indicating residual soil and groundwater contamination exists on the property, and that two underground storage tanks remain abandoned in-place.
The property owner and adjacent property owners/tenants have also been notified of the proposed case closure.

Unless the Water Board objects, and pending monitoring well destruction, the Executive Officer will issue a case closure letter pursuant to California Underground Storage Tank Regulations.

<u>Coast Dairies and Land Company Property, Big Ranch, Swanton Road, north of Davenport, Santa Cruz County; [Tom Sayles 805-542-4640]</u>

Staff recommends closure of this underground storage tank (UST) case where groundwater sample results indicate groundwater pollution remains in groundwater at concentrations slightly greater than the Central Coast Water Board's cleanup goal for total petroleum hydrocarbons as gasoline (TPH-g) and benzene. TPH-g and benzene were detected at 6,600 micrograms per liter (g/L) and less than 5.0 g/L, respectively in one monitoring well on March 28, 2006. All other petroleum hydrocarbon constituents, including methyl tertiary butyl ether (MTBE), were below detection limits or this Water Board's cleanup goals.

A review of historical case file documents indicates that one 500-gallon UST was located at the site and has not been used for approximately 30 years. Records indicate that the tank was removed in the early 1990's. Soil samples collected on June 25, 2004, near the former tank indicated maximum concentrations of TPH-g, benzene, and MTBE at 5.63 milligrams per kilograms (mg/kg), 0.020 mg/kg, and less then 0.005 mg/kg, respectively. On October 22, 2004, the

responsible party commissioned installation of five soil borings, four of which were converted to groundwater monitoring wells. The results of the initial groundwater sampling indicated maximum concentrations of TPH-g, benzene, and MTBE at 13,100 g/L, 23.7 g/L, and 7.4 g/L, respectively.
Quarterly groundwater monitoring has been implemented since October 2004. Maximum contaminant concentrations were detected on June 27, 2005, at 22,000 g/L TPH-g, less than 25 g/L benzene, and less than 50 g/L MTBE.

Natural attenuation processes have reduced all petroleum hydrocarbon constituents concentrations including MTBE, to non-detectable or to levels below this Water Board's cleanup goals with the exception of 6,600 g/L TPH-g and less than 5.0 g/L benzene in one monitoring well near the former tank collected on March 28, 2006.

The site lies within the Santa Cruz Hydrologic Unit, which the " Water Quality Control Plan, Central Coast Region" (Basin Plan) designates groundwater as having beneficial uses for domestic and municipal supply, agricultural supply, and industrial supply. Therefore, cleanup goals for common hydrocarbon constituents are as follows: 1,000 g/L – TPH, 1 g/L – benzene, and 5 g/L– MTBE.

Depth to groundwater is approximately 2 to 4 feet below ground surface. Groundwater flow is generally to the southwest with a gradient of 0.058 feet per foot. The nearest water supply well is located upgradient of the former tank. The supply well was sampled in November 2004 and December 2004 and analyzed for petroleum hydrocarbon constituents. All results were below these Water Board's cleanup goals. The supply well is perforated from 60 feet to 600 feet below ground surface and with the perforations being below the Santa Cruz Mudstone. The low remaining contaminant concentrations are not expected to impact the supply well due to the distance, low residual concentrations, and the intervening Santa Cruz Mudstone aquitard.

Our recommendation for closure is based on the following:

The source of the leak, the former UST, has been removed;
The extent of contamination remaining above the cleanup goal is localized in extent, confined to the site, and contained in only one onsite monitoring well,
Historic groundwater monitoring trends indicate that natural attenuation processes have been successful in reducing the petroleum hydrocarbon concentrations to levels that are below or approaching the cleanup goals,
The remaining TPH-g concentration will continue to decline and the contamination is unlikely to reach the water supply well; and
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, and will not result in water quality less than prescribed by the Basin Plan.

In addition, Water Board staff has evaluated remaining groundwater concentrations with respect to possible indoor air impacts, and soil concentrations with respect to direct human exposure, indoor air impacts, and potential leachability to groundwater. Comparison of these soil and groundwater concentrations with corresponding environmental screening levels for residential land us e and construction worker direct exposure scenarios indicate no significant threat to human health or the environment.

Based on the tank removal, natural attenuation processes, and the groundwater monitoring data, there is no

threat to groundwater quality and no further groundwater investigation or cleanup is necessary. The Santa Cruz County Environmental Health Services Agency agrees with this determination. The responsible party and fee titleholder has been notified of this proposed case closure.

Unless the Water Board objects, the Executive Officer will issue a formal case closure letter upon proper monitoring well destruction.

Attachments

Groundwater Contour and Hydrocarbon Concentration Map