

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

STAFF REPORT FOR REGULAR MEETING MARCH 23, 2007

Prepared February 28, 2007

ITEM NUMBER: 6

SUBJECT: Low Threat and General Discharge Cases

DISCUSSION

**General WDRs Discharges to Land by
Small Domestic Wastewater
Treatment Systems**

Charles River Laboratories, Inc., Hollister,
San Benito County [Cecile DeMartini
805/542-4782]

On October 10, 2006, Regional Board staff received a Report of Waste Discharge from Charles River Laboratories Incorporated (Charles River) seeking approval to discharge domestic wastewater from an industrial facility that houses and breeds mice and rats for biomedical research. The Charles River facility is located at 1000 Park Center Drive, Hollister, California. It is located outside the Hollister city limits in San Benito County but is within the City of Hollister's water service area. Therefore, the facility is subject to future annexation by the City of Hollister and the Charles River wastewater design includes a connection to the City of Hollister wastewater collection system once that option becomes available.

Charles River designed the on-site sewage disposal system for a peak loading rate of 10,000 gallons per day. The septic treatment system consists of a 30,000 gallon holding tank with $\frac{3}{4}$ baffle for solids removal, followed by a 10,000 gallon holding tank which regulates flow into an Orenco AdvanTex® AX100 Filter Treatment System (packed bed filter technology pre-treatment recirculation system) followed by a pressurized drain field. The proposed septic and leachfield

disposal system design complies with the Central Coast Region Water Quality Control Plan (Basin Plan) and meets the requirements for regulation under the State's General Waste Discharge Requirements for Discharges to Land by Small Domestic Wastewater Treatment Systems (Order No. 97-10-DWQ).

Water Board staff sent a letter to the project applicant on February 23, 2007 authorizing discharge to the advanced treatment septic system under Order No. 97-10-DWQ. Under this Order, the Discharger is required to perform influent and effluent water analyses for several parameters on a quarterly basis, meter flow to the leachfield daily, contract with an Orenco-licensed operator for regular maintenance and operation of the system, and summarize all data in a report on an annual basis.

**General WDRs for Food and
Vegetable Processing**

Christopher Ranch, Gilroy, Santa Clara
County [Michael Higgins 805/542-4649]

On February 1, 2006, the Discharger submitted a Notice of Intent to comply with the terms and provisions of Order No. R3-2004-0066. Staff requested the NOI for the following reasons:

First, to regulate wastewater discharges consistently with other fruit and vegetable processors in the Central Coast, which include Costa Family Farms, D'Arrigo Brothers, Fresh Innovations, Pride of San

Juan, Hollister Veg-Pac and Gilroy Veg-Pac;

Second, to improve and update waste discharge requirements, including prohibitions – the General Order's Prohibition No.1 prohibits the discharge of wastewater to surface waters, which the existing Order WDR 91-69 does not contain;

Third, to ease the burden on the Board's staff by imposing waste discharge requirements that are consistent from discharger to discharger; and

Fourth, to impose similar regulatory burdens on similar dischargers, in the interest of fairness.

The Discharger processes garlic year-round and fresh cherries and peppers seasonally, and discharges wastewater at an annual average of 0.090 million gallons per day (mgd), and up to 0.125 mgd during the peak processing month. Product washwater and area washdown water mainly comprise most of the wastewater stream, and boiler blowdown contributes a smaller but significantly saltier fraction. The Discharger stores and treats combined wastewater and stormwater, after screening to remove solids, in four lined aerated ponds. The Discharger aerates the pond contents to control odors and to partially stabilize the wastewater. The Discharger uses the treated wastewater to irrigate cherry orchards and Sudan-grass plantings covering 70 acres.

In an October 24, 2006 letter, the Executive Officer (EO) responded to a disease outbreak caused by E. Coli found on vegetable crops grown in the Central Coast Region. The letter required all fruit and vegetable processors in the Region to address the possibility that E. Coli might contaminate their food products and required the Discharger to daily monitor its wastewater for fecal coliform (which includes E. Coli). However, the Discharger showed that it irrigates its cherry crop with low-flow, low-height sprayers that do not allow the wastewater to contact the cherry crop, which hangs

above and out of reach of the irrigation water. Therefore, in a January 10, 2007 e-mail, the EO found that the Discharger's irrigation method poses no significant threat to public health and exempted the Discharger from the letter's monitoring and reporting requirements.

In accordance with requirements in Monitoring and Reporting Program (MRP) No. 91-69, revised in November 2003, the Discharger monitors its water supply, the wastewater in the treatment ponds, and the groundwater underlying the irrigated lands. Three wells monitor the shallow groundwater for wastewater constituents, including Total Dissolved Solids (TDS), nitrate, and other potential pollutants.

In response to the Board's concerns regarding high TDS concentrations in the discharge, the Discharger eliminated brine discharges to the treatment ponds, the source of the irrigation water. Consequently, while average pond TDS in 2002 was 1,022 mg/L, TDS in 2005 and 2006 dropped to 752 mg/L, well below the 1,000 mg/L Maximum Contaminant Level (MCL).

Samples from Monitoring Well (MW) #3 demonstrate the discharge's effect on the groundwater - which is approximately 15 feet below ground surface - because it is the well downgradient from the irrigated orchard. In 2006, groundwater from MW #3 contained TDS at an average concentration of 702 mg/L, which complies with the MCL. Beginning in 2004, groundwater samples from MW #3 have always complied with the MCL. Therefore, staff reduced the monitoring frequency for TDS, sodium, chloride and all other pollutants, except nitrogen, to semiannually from quarterly. Staff revised MRP No. R3-2004-0066 to reflect the changes.

In 2006, MW #3 contained an average nitrate-nitrogen (NO₃-N) of 5.3 mg/L, a sharp decline from the 2005 average of 20.8 mg/L; the MCL is 10 mg/L, so the 2006 discharge did not impair the

groundwater's beneficial use as drinking water. Neither staff nor the Discharger's representative knows why this decline occurred. Future monitoring will confirm if the trend continues. To provide an adequate number of data for the evaluation, staff retained the quarterly monitoring for nitrate-nitrogen and Kjeldahl-nitrogen in the revised MRP.

Staff reviewed the criteria for establishing a discharge's threat to water quality and complexity and determined the 2B classification better represents the discharge than the current 3B classification. The discharge can impair the beneficial uses of the receiving water (Category "2") rather than degrade water quality without impairing beneficial uses.

If the Board agrees to rescind Order No. 91-69, the Executive Officer will enroll the Discharger under Order No. R3-2004-0066.

COMPLIANCE HISTORY

As discussed above, the Discharger has improved its compliance with waste discharge requirements by reducing the concentration of TDS and Nitrate in its discharge. However, in the first week of February 2007, an unknown member of the Discharger's staff opened a gate in a pipeline and thereby allowed a substantial volume of wastewater from its garlic bin washout area to enter Uvas Creek. The discharge killed numerous fish, including at least a dozen steelhead, an endangered species. The Discharger immediately closed the gate and rendered it permanently inoperative, as verified by staff inspections. Staff referred the issue to the Santa Clara County District Attorney's office and recommended enforcement.

CONCLUSION AND RECOMMENDATIONS

The General Order updates the Discharger's waste discharge requirements, improving upon those

included in existing WDRs Order No. 91-69. Therefore, staff proposes to enroll the Discharger under the General Order, if the Board rescinds WDR Order No. 91-69, as proposed elsewhere in this agenda.

General NPDES Permit for Low Threat Discharges to Surface Waters

California Water Service Company, Stations 64, 67, and 69, Salinas, Monterey County [Cecile DeMartini 805/542-4782]

Regional Board staff received a Notice of Intent (NOI) on July 21, 2006, from the California Water Service Company (Cal Waters) regarding the development and production flow testing of three drinking water supply wells in Salinas (Cal Waters Well Stations 64, 67, and 69). According to the NOI, Cal Waters proposes to install three new municipal supply wells in the Salinas area: adjacent to 411 Airport Road, at 819 Pajaro Street, and across from 15 Maryal Drive.

Well screen placement for Stations 64, 67, and 69 will occur in the middle [approximately 560 to 600 feet below grade surface (bgs)] and lower aquifers (approximately 580 to 770 feet bgs) only following interpretation of aquifer and geological evaluation at those depths. A sanitary seal will be installed passing the upper aquifer (approximately 400 to 530 feet bgs) in Stations 64, 67, and 69 due to high levels of nitrate, uranium, gross alpha radioactivity, and tetrachloroethene found in the upper aquifer zone. Water generated from Station 67 during well development (mechanical swabbing and pumping), aquifer testing, well 'blow-off', and initial and ongoing well sampling will be disposed of into the Salinas River. Water generated from Stations 64 and 69 from identical types of well purging will be disposed of into the Salinas Reclamation Ditch 1665.

Well swab development and production flow tests will produce a maximum discharge flow rate of approximately 3,000 gallons per minute (GPM) and a total

volume of approximately 1.8 million gallons per day (MGD). Well swab development will take approximately 15 hours for each well and production flow tests will take a minimum of approximately 40 hours for each well. Maximum total volumes expected from each well will be 6 MG. Well swab development and production flow tests are a one-time discharge.

Water generated during ongoing well sampling, maintenance, and well rehabilitation is approximately as follows for each water well location:

Action	Frequency	Max Total Volume/ Event (MG)	Purge Rate (GPM)	Duration (Hours)
Blow-off	Weekly	0.02 to 1.5	200 to 2,000	1 to 24
Well Rehabilitation	Once every 5 years	Up to 7.2	500 to 1,000	Up to 120

Best management practices for erosion control, including energy dissipators, such as geotextile barriers, gravel bags or plastic tarps, will be used as necessary at locations where the discharge enters the Salinas River and Salinas Reclamation Ditch. Monterey County Water Resources Agency, owner of the Salinas Reclamation Ditch 1665, has approved the ditch discharge.

Drilling mud and fluids will be contained and recirculated in a closed-loop system. These materials will be disposed of properly. Drilling fluids used to install the well will be a mixture of natural bentonite clay and potable water; drilling fluids will not contain other chemicals or preservatives. The first flush of discharge water from the well will be retained onsite through the use of tanks or a lined temporary onsite retention pond and will not be discharged directly to surface waters.

Discharges will be initially directed into a Baker Tank where the pH will be adjusted to that of the receiving water body.

Discharges will not occur if temperature of the water in the Baker Tank is more than 5 °F above the receiving water temperature. A slow discharge from the Baker Tank may take place at a rate of 100 GPM while temperature monitoring (every 30 to 60 minutes) occurs 200 feet downstream and temperature readings are not greater than 5 °F above upstream (50 feet upstream of discharge point) receiving water body temperatures. The discharge will cease if the difference in water temperatures at the downstream and upstream monitoring point is found to be more than 5 °F.

Sediment removal methods include multiple Baker Tanks with baffles, Baker Tank Phase Separator lined with poly filter fabric, bag and cartridge filter unit equipped with 10-micron filters, and/or injection of Aqua-Clear PFD, natural Site Solutions' chitosan based flocculant or cationic polymer.

Chlorine may be present in the discharge. Dechlorination of extracted well water will occur within Baker tanks prior to discharge into receiving water bodies if total residual chlorine is detected at a concentration of 0.02 mg/L or more. Discharges will be dechlorinated using either undiluted Captor 30% calcium thiosulfate liquid or Vita-D-Chlor (ascorbic acid) tablets. Regional Board staff has modified Monitoring and Reporting Program (MRP) No. R3-2006-0063 to specifically address the expected discharge.

Cal Waters has agreed to comply with the terms of the General Permit, and will implement mitigation measures to avoid or reduce significant impacts. Staff notified Cal Waters of its enrollment in the General Low Threat Permit on January 26, 2007.

Cases Recommended For Closure

Former Golden Gate Petroleum, 950 Orcutt Road, San Luis Obispo, San Luis Obispo County, [Corey Walsh 805/542-4781]

Central Coast Water Board staff recommends closure of this underground storage tank (UST) case where groundwater sample results indicate groundwater pollution remains at concentrations greater than Central Coast Water Board cleanup goals in monitoring wells MW-2, MW-3 and MW-5 in which benzene, methyl tertiary-butyl ether (MTBE) or naphthalene were reported to be slightly above the cleanup goals. As illustrated on the attached figure, benzene was detected at 2.6 micrograms per liter ($\mu\text{g/L}$) in MW-3, and MTBE was detected at 21 $\mu\text{g/L}$ in MW-2 and 33 $\mu\text{g/L}$ in MW-5; naphthalene was also detected at 28 $\mu\text{g/L}$ in MW-3 (however, naphthalene is not represented on the figure). Other common contaminants associated with gasoline, diesel, and fuel oxygenates have been analyzed and are below cleanup goals, or are below laboratory detection limits in groundwater. The cleanup goals for benzene, MTBE, and naphthalene are 1 $\mu\text{g/L}$, 5 $\mu\text{g/L}$, and 21 $\mu\text{g/L}$, respectively. The benzene cleanup goal is based on the California Department of Health Services Maximum Contaminant Level (MCL). The MTBE and naphthalene cleanup goals have been established based on taste and odor thresholds.

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 include domestic and municipal supply, agricultural supply, and industrial supply.

Groundwater ranges in depth from 4 to 11 feet below ground surface and generally flows to the south-southwest at average gradients of 0.01 to 0.05 feet per foot. The nearest water supply well is a small private irrigation well located approximately 700 feet northwest of the site. The residual petroleum hydrocarbons remaining are unlikely to affect this well or groundwater beneficial uses considering the groundwater flow

direction, well distance, and low remaining contaminant concentrations.

The site is currently an operating bulk petroleum distribution facility located on the northeast corner of Orcutt Road and Duncan Lane in a mixed commercial and residential area. The leaking UST case was opened in February 2001, and was discovered during fuel dispenser upgrades performed by the responsible party. Hydrocarbon impacted soils were encountered beneath the fuel dispenser islands and along product piping trenches. As a result, the responsible party, removed approximately 1,500 cubic yards of contaminated soil, and 50,000 gallons of impacted groundwater. The soil was transported offsite and disposed of at EnviroCycle Inc., McKittrick, and the groundwater was treated and disposed to the City of San Luis Obispo sewer system.

As part of a separate investigation, three monitoring wells were installed in September 2004 on properties across Orcutt Road, to the south and southwest of the site. Laboratory results indicated a concentration of 1 $\mu\text{g/L}$ MTBE in a monitoring well across the street and downgradient of the Golden Gate Petroleum site. This same downgradient well was resampled on October 5, 2006, and analytical results indicate that MTBE, other common contaminants associated with gasoline and diesel, and fuel oxygenates were below laboratory detection limits.

Historic laboratory results for the subject site indicate that total petroleum hydrocarbons as gasoline (TPH-g) in soil is slightly greater than Central Coast Water Board cleanup goal. The soil cleanup goal for TPH-g is exceeded in two samples collected at depths of three and one-half feet, and ten feet below ground surface (bgs) at concentrations of 360 milligrams per kilogram (mg/kg) and 130 mg/kg, respectively, which were collected during soil excavation remediation activities. The generally applied cleanup goal for TPH-g in soil is 100 mg/kg.

Based on groundwater monitoring and soil investigation results, there is no significant threat to groundwater resources and no further soil or groundwater investigation or cleanup is necessary. The extent of the plume has been adequately characterized and is contracting or declining in size and concentration, the contaminant mass has been removed from the site to the extent practical, and historical monitoring data indicate the petroleum hydrocarbon concentrations are expected to continue to decrease with time.

Our recommendation for closure is based on the following:

1. Remaining groundwater pollution above cleanup goals is limited in extent, and is only slightly above the cleanup goals for benzene, MTBE and naphthalene,
2. Remaining soil pollution above cleanup goals is limited in extent, and is only slightly above the cleanup goals for total petroleum hydrocarbons as gasoline,
3. The San Luis Obispo City Fire Department, as the lead agency for soil investigation and cleanup activities, agrees that no further soil investigation or cleanup is necessary
4. Remaining hydrocarbon constituents in soil and groundwater are unlikely to reach a drinking water supply well,
5. 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, Central Coast Water Board staff has compared remaining soil and groundwater contaminant concentrations with environmental risk screening levels with respect to possible direct exposure, indoor air impacts, gross contamination, and soil leaching potential. Comparison of these residual soil and groundwater concentrations with corresponding environmental screening levels for residential land use and construction worker exposure scenarios indicate no significant threat to human health or the environment.

However, because of the residual soil contamination remaining in the subsurface, Central Coast Water Board staff will require post closure site management requirements including proper handling of soil and groundwater which may be brought to the surface during future development activities such as grading, excavation, or construction dewatering. Central Coast Water Board staff will outline these post closure site management requirements in the letter transmitting the case closure letter and include them in the case closure summary which will be posted in GeoTracker. The levels of residual contamination and associated risk are expected to reduce with time. The property owner, public agencies, and adjacent property owners have been notified of the proposed case closure, and of the proposed site management requirements.

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

Former Exxon 7-0243, 1040 El Camino Real, Prunedale, Monterey County [John Goni 805/542-4628]

Staff recommends closure of this leaking underground storage tank (UST) case where concentrations of petroleum hydrocarbons constituents have

attenuated to near water quality objectives. Groundwater sampling results from April and May 2006 indicate a maximum benzene concentration of 23 micrograms per liter ($\mu\text{g/L}$) in one monitoring well. Total petroleum hydrocarbons (TPH), toluene, ethylbenzene, xylenes, and methyl tertiary-butyl ether (MTBE) are present at concentrations below cleanup goals in the same well. No other fuel oxygenates were detected. All other monitoring wells associated with this case indicated no detectable concentrations of gasoline contaminants, including fuel oxygenates.

The site is an operating service station. The responsible party commissioned an investigation of a possible gasoline release in 1988 after the California Department of Transportation observed a sheen on water entering an excavation adjacent to this station. This and follow-up investigations revealed residual gasoline hydrocarbons in and downgradient of a former tank excavation. Excavated soil from utility trenches and a storm drain installation project were treated onsite and appropriately disposed offsite. The extent of groundwater contamination was investigated, and monitored with a series of monitoring wells starting in 1988. The highest contaminant concentrations detected were: 48,000 $\mu\text{g/L}$ TPH on July 28, 1997; 9,900 $\mu\text{g/L}$ benzene on April 23, 1993; and 5,200 $\mu\text{g/L}$ MTBE on December 3, 1998.

The depth to groundwater varies from less than one foot to four feet below ground surface and flows in a southwesterly direction at a gradient of 0.04 to 0.05 feet per foot. The two nearest domestic supply wells are approximately 600 feet west and northwest of the site, respectively. The remaining residual petroleum hydrocarbons are unlikely to impact these wells considering the distance, groundwater flow direction, well construction details, and chemical characteristics (including concentrations) of the contaminants. The site is within the Chular Hydrologic Area of the Salinas

River Hydrologic Unit (309.20), for which the "Water Quality Control Plan, Central Coast Region" (Basin Plan) designates groundwater as having beneficial uses of domestic and municipal supply, agricultural supply, and industrial supply. Therefore, the current cleanup goal for benzene is 1 $\mu\text{g/L}$.

The extent of the groundwater plume has been adequately characterized and it is contracting or declining in size and concentration, and monitoring data indicate the petroleum hydrocarbon concentrations are expected to continue to decrease with time. Therefore, there is no threat to groundwater resources and we have no further requirements for groundwater monitoring, investigation or cleanup at the site. The property owner/fee title holder, and nearby property owners have been notified of the proposed case closure.

Our recommendation for closure is based on the following:

- (1) The majority of the contaminated soil mass was removed by excavation,
- (2) Remaining groundwater pollution above cleanup goals is limited in extent, is confined to one monitoring well, and is decreasing in size and concentration,
- (3) The benzene concentration of 23 $\mu\text{g/L}$ in one well is approaching the cleanup goal of 1.0 $\mu\text{g/L}$ and is limited to an area on the site.
- (4) Remaining hydrocarbon constituents are unlikely to reach a drinking water supply well,
- (5) The Monterey County Health Department, lead agency for soil investigation and cleanup activities, has concurred with case closure.
- (6) 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 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 use and construction worker direct exposure scenarios indicate no significant threat to human health or the environment.

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.

Attachments

1. Groundwater Elevations & Hydrocarbon Concentrations Figure