

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

STAFF REPORT FOR REGULAR MEETING OF MAY 12-13, 2005

Prepared on April 21, 2005

ITEM NUMBER: 14

SUBJECT: Spills, Leaks, Investigation, and Cleanup Cases

DISCUSSION:

Scotts Valley Dry Cleaners, 272-A Mount
Herman Road, Scotts Valley, Santa Cruz
County [Karyn Steckling 805/542-4642]

Central Coast Water Board (Water Board) staff provide regulatory oversight of the Scotts Valley Dry Cleaners in Santa Cruz County, one of many high priority Spills, Leaks, Investigation, and Cleanup cases in the region.

Scotts Valley Dry Cleaners (SVDC) is permitting a groundwater extraction and treatment system at the Site to control and prevent a dissolved-phase chlorinated solvent plume from migrating towards Scotts Valley Water District's Well No. 10. As an interim measure, SVDC began twice-a-week groundwater pumping events in March 2004, and will continue these pump-outs until the permanent groundwater containment system is permitted and installed.

Background:

SVDC started remediation of the Site in 1996. A Site Plan is included as Attachment 1. SVDC initially performed excavation (trenching) of contaminated soil where the equipment filters were reportedly washed and tetrachloroethene (PCE) was discharged to the area behind the dry cleaning facility. SVDC then conducted soil vapor extraction for two years until soil vapor concentrations diminished to unextractable levels. During the late 1990's, the groundwater contaminant plume, consisting of PCE and PCE-breakdown products, appeared to be migrating toward the east, though remaining on the shopping center property. In March 1998, Water Board staff required SVDC to submit a corrective action plan. Since 1998, several remediation pilot tests/interim

remedial actions were conducted, including air sparging, aquifer pump testing, and placement of hydrogen releasing compounds. The corrective action plan was revised several times based on pilot test results.

The last pilot test, conducted in September and November 2002, was the alternating placement of hydrogen releasing compounds and carbohydrate solutions (cheese whey) to enhance anaerobic biodegradation through a reductive dechlorination process. However, PCE concentrations still appeared to increase in several monitoring wells, including MW-9, which acted as a "sentry" well. MW-9 located approximately 500 feet upgradient of Well No. 10.

Due to the increase in PCE concentrations and because of the slow process of enhanced biodegradation, in August 2001, Water Board staff directed more-active interim remedial measures to prevent plume migration and to increase cleanup effectiveness. SVDC conducted additional remediation pilot tests and interim actions and assessments. In late 2002 and early 2003, SVDC installed a new cluster of sentry wells between monitoring well MW-9 and Well No. 10. The two new sentry wells (MW-13A and MW-13B) are screened in the shallow perched water-bearing zone and the deep aquifer, respectively. A geologic cross-section of the Site is included as Attachment 2.

In August 2003, Regional Board staff directed more effective interim remedial action(s) to control plume migration and reduce PCE concentrations, especially in monitoring well MW-9. SVDC proposed using high vacuum, dual-phase extraction and began its implementation in March 2004, while it continued to evaluate other remedial

alternatives for plume control. In June 2004, Water Board staff required SVDC to submit monthly remediation and monitoring status reports and to continue aggressive dual-phase interim extractions until a more permanent alternative is implemented. Dual-phase extraction was performed on the wells located in the parking lot "hot spot." Unfortunately, dual-phase extraction was demonstrated to be ineffective for removing soil contamination in the off-site "hot spot" area because significant soil contamination was not present in this area (as indicated by the low or non-detected soil sampling results during the well installation in this area and minimal soil vapor concentrations extracted). However, dual-phase extraction technology can be effective for hydraulic containment.

In July 2004, SVDC submitted a revised Interim Remedial Action Plan proposing installation of three monitoring and groundwater extraction wells downgradient of MW-9, and a permanent groundwater extraction and treatment system. The new wells were installed in September 2004, and the treatment system is being permitted. Start up of the system is expected to begin in June 2005.

Interim Dual-Phase Extraction System Operation:

In the January 2005 monthly monitoring report, SVDC reported that it could not perform dual-phase extraction events for most of December 2004, because the on-site temporary storage tank was full and could not be emptied. SVDC indicated that a temporary EPA ID number for waste disposal for the site needed to be updated in December 2004, to a "permanent" EPA ID number due to the increase in water volume generated at the site, which resulted in a one-month delay and backup of water stored on the site. Attachments 3 and 4 include *The Sentinel* newspaper articles dated March 10 and March 26, 2005, respectively, which provide details about the dual-phase extraction events.

In addition, the required December 2004 groundwater sampling could not be performed because the sampling rig broke down on the December 28, 2004 sampling day, and a replacement rig could not be secured during the holidays. SVDC sampled the wells on January 10, 2005, as soon as a sampling rig was available and

resampled the wells on January 27, 2005, in order to make up for the missed December 2004 monitoring. The on-site storage tank was emptied on January 27, 2005, and dual-phase extraction was restarted

Regional Board Staff's Response:

In a February 3, 2005 letter, Water Board staff pointed out that SVDC's January 2005 monthly monitoring report was incomplete and gave SVDC a warning to take appropriate steps to prevent this from happening again and to get back on schedule. The February 3, 2005 letter also requested increased groundwater extraction (at least twice a week) until the permanent treatment system is fully operable. Water Board staff plan to issue a cleanup or abatement order to SVDC to perform twice-a-week pump-outs for hydraulic plume containment, install a permanent groundwater extraction system, and recover Water Board staff regulatory oversight costs.

Scott's Valley Water District Concerns:

Scotts Valley Water District's concern is that MW-13A and MW-13B were not installed deep enough and may be missing heavier PCE that may be sinking to the bottom of the shallow water-bearing zone. The wells were installed to the bottom of the impacted shallow perched water-bearing zone at approximately 50 feet below ground surface. This 50-foot depth was based on field observations (soil was reportedly dry in the fine-grained material (clay) below the water-bearing zone) and the results of the previous investigations at the site. All shallow zone wells associated with this site have total depths of between 30 and 55 feet below ground surface.

In addition, both Water Board and Scotts Valley Water District staff are concerned that PCE was detected for the first time in the deep sentry well MW-13B at a concentration of 3.2 µg/L in January 2005. Well MW-13B is screened at a depth of 185-200 feet, similar to the Scotts Valley Water District Well No. 10 located about 260 feet downgradient from MW-13B (Attachments 1 and 2). Up to this time PCE was only detected in monitoring wells screened in the shallow perched water-bearing zone and located upgradient of well cluster MW-13A and MW-13B. Both MW-13A and MW-13B were sampled on January 31, 2005.

By April 20, 2005, Water Board staff expect to receive the new groundwater sample results to confirm the PCE detection in the deeper zone.

Due to the concerns that the PCE plume might impact the municipal well, Scotts Valley Water District and Water Board staff met on April 8, 2005, to discuss the recent groundwater sample results, operational information regarding the municipal well, SVDC's permanent groundwater extraction system installation and start-up, and need for additional shallow and deep groundwater monitoring wells. As a follow-up to the meeting, Water Board staff is coordinating ongoing monthly meeting with the Scotts Valley Water District staff and the responsible party consultants, all stakeholders in the cleanup process. The purpose of the meetings will be to increase communication and coordinate investigation and cleanup efforts. Because of high demand in the summer months, Scotts Valley Water District will need to use municipal Well No. 10 in summer 2005.

Low Threat Discharge:

As mentioned previously, SVDC is in the process of designing and permitting a permanent groundwater extraction, treatment and disposal system in order to control plume migration. Initial inquiry by SVDC to the City of Scotts Valley (City) indicated a sanitary sewer connection fee of \$200,000 to \$400,000 based on the anticipated volume of treated groundwater requiring disposal. Recent discussions between the City and Water Board staff have resulted in the City lowering its estimate to \$90,000 if the discharge is considered to be to an existing connection. The City granted SVDC a permit to discharge to the sanitary sewer in March 2005. Scotts Valley Water District also encourages connection of the treatment system to the sanitary sewer because the City promotes water recycling to increase recharge of the local groundwater basin.

However, because of the elevated permit cost involved, SVDC submitted a *Notice of Intent* to enroll in the Central Coast Water Board's *General NPDES Permit for Discharges of Highly Treated Groundwater* (General Permit) on March 29, 2005. In comparison to the City permit, the fee for the Water Board's permit to discharge highly treated groundwater to the storm drain is \$5,688 per year. On April 1, 2005, Water Board staff sent a letter to

SVDC requesting additional application information. SVDC hand delivered the additional information on April 11, 2005. On April 12, 2005, Water Board staff sent out written notification to the two property owners located within 300 feet of the Site. If no significant comments are received within the two-week required comment period, the Executive Officer will enroll SVDC under the General Permit.

Cleanup, Looking Forward:

After the permanent groundwater extraction and treatment system is operational, SVDC will be required to revise its corrective action plan with respect to a proposal to clean up source area contamination that appears to be a continuing source of groundwater impairment.

ATTACHMENTS

1. Site Location Map
2. Hydrogeologic Cross Section
3. *The Sentinel* newspaper article dated March 10, 2005
4. *The Sentinel* newspaper article dated March 26, 2005

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