

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

STAFF REPORT FOR REGULAR MEETING OF SEPTEMBER 9, 2005

Prepared on August 17, 2005

ITEM NUMBER: 6

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]

*New information is shown in italics. For additional discussion please refer to the Central Coast Water Board's (Water Board) May 13, 2005, staff report and supplemental sheet.*

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

Background:

The Dry Cleaners started remediation of the Site in 1996. A Site Plan is included as Attachment 1. The Dry Cleaners 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. The Dry Cleaners 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 the Dry Cleaners to submit a corrective action plan. Since 1998, several remediation pilot tests/interim remedial actions were conducted, including air sparging, aquifer pump testing, placement of

hydrogen releasing compounds and cheese whey. The corrective action plan was revised several times based on pilot test results.

However, PCE concentrations still appeared to increase in several monitoring wells, including MW-9, which acted as a "sentry" well. MW-9 is located approximately 500 feet upgradient of Scotts Valley Water District's Municipal Well No. 10 (Well No. 10). In late 2002 and early 2003, the Dry Cleaners installed a new cluster of sentry wells between monitoring well MW-9 and Well No. 10. The two 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, Water Board staff directed more effective interim remedial action(s) to control plume migration and reduce PCE concentrations, especially in monitoring well MW-9. The Dry Cleaners implemented high vacuum, dual-phase extraction in March 2004, while it continued to evaluate other remedial alternatives for plume control. 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. However, dual-phase extraction technology can be effective for hydraulic containment.

In July 2004, the Dry Cleaners 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.

The first time MW-13B detected PCE was in January 2005. Well MW-13B is screened at a depth of 185-200 feet, similar to 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.

Water Board's February 3, 2005 letter requested increased groundwater extraction (at least twice a week) until the permanent treatment system is fully operable.

In order to operate the permanent groundwater extraction and treatment system, the responsible parties the Dry Cleaners submitted a "Notice of Intent" to enroll in the Water Board's "General NPDES Permit for Discharge of Highly Treated Groundwater to Surface Waters" (General Permit) on March 29, 2005. Water Board staff expedited the enrollment of the responsible parties under the General Permit. On May 5, 2005, the Executive Officer enrolled the responsible parties under the general permit in conjunction with Monitoring and Reporting Program No. R3-2005-086.

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. On May 11, 2005 the Water Board met with the Water District, Santa Cruz County, responsible parties, and their consultants to discuss the recent groundwater sample results, operational information regarding the municipal well, the Dry Cleaners' permanent groundwater extraction system installation and start-up, and need for additional shallow and deep groundwater monitoring wells.

#### **Recent Progress:**

*On May 25, 2005 the Water Board issued Cleanup or Abatement Order No. R3-2005-0081 (CAO) and Monitoring and Reporting Program No. R3-2005-0082 to responsible*

*parties. The CAO requires the following: have a permanent pump and treat system operational by July 31, 2005, continue twice-a-week mobile pump-outs until the permanent system is operational, submit a workplan for additional monitoring well installation by July 31, 2005, follow Monitoring and Reporting Program No. R3-2005-0082, comply with monitoring requirements of the general permit, submit a Revised Corrective Action Plan following plume containment, and reimburse Water Board staff for oversight costs.*

*On April 27, 2005, the Water Board approved the construction of two additional wells (MW-20 and MW-21) to be connected to the permanent pump and treat system. These well locations were chosen to provide the most efficient containment of contaminated shallow groundwater. On June 8, 2005, the Dry Cleaners installed these wells.*

*Sampling events in May 2005 resulted in detections of PCE at 10 parts per billion (ppb) and trichloroethene (TCE) at 0.57 ppb in MW-13B. In MW-13A, PCE was detected at 1.2 ppb and TCE at 1.1 ppb.*

*On May 21, 2005, the Dry Cleaners performed a qualitative pumping test to evaluate water level changes in response to pumping Well No. 10. During forty-eight hours of pumping Well No. 10, the water level in MW-13B decreased by 0.2 feet. The shallow monitoring wells included in the study did not have a clear response to pumping Well No. 10.*

*The latest monthly report (June 2005) detected PCE in MW-13B at 7.6 ppb and TCE was not detected. Neither PCE nor TCE were detected in MW-13A.*

*The consistent detections of PCE in MW-13B indicate that PCE is present in the regional aquifer. In addition, the pumping test indicates that the groundwater monitored in MW-13B is in communication with Well No. 10. The shallow groundwater present onsite, however, is not as strongly in communication with Well No. 10. More information regarding the specific threat of groundwater contamination in the regional aquifer and*

Well No. 10 will be determined as the onsite pump and treat system is operated, additional deep groundwater monitoring wells are installed and monitored, and Well No. 10 is pumped and monitored.

Mobile groundwater pump-outs continued until construction of the permanent system began around June 8, 2005. Water Board's June 8, 2005, letter approved discontinuing mobile pump-outs in order to expedite construction and installation of the permanent system.

On July 6, 2005, the Dry Cleaners informed the Water Board that even though the construction of the permanent system was completed, there was an error in the design of the electrical system and a different air compressor for the pumps was needed, resulting in a delay for operation of the permanent system. The system was then operated on an interim basis until the correct air compressor arrived because the Dry cleaner's consultant needed to manually operate the system while using a temporary air compressor. On July 29, 2005, the Dry Cleaners sent an extension letter request to begin continuous operation of the permanent pump and treat system by August 12, 2005. The CAO required continuous operation of the permanent system by July 31, 2005. Water Board staff did not wish to pursue enforcement at that time despite the fact that the Dry Cleaners would be in violation of the CAO for up to 12 days. By operating the system on an interim basis, the Dry Cleaners incurred additional operational costs compared to the cost of the system in continuous operation. Water Board staff were informed that the permanent pump and treat system was considered fully operational by August 10, 2005.

Because of high demand for water in the summer months, Scotts Valley Water District turned on Well No. 10 on July 11, 2005. Currently existing wellhead treatment (an air stripper) is being used, and acts as a preventative treatment method if PCE was present in the influent groundwater. Influent and effluent water was sampled for the first three days of pumping with a 24-hour

turnaround time, and volatile organic compounds (VOCs) were not detected. The Department of Health and Safety directed the Water District to sample the influent for VOCs once/month. Currently the Water District is sampling the influent for VOCs every week or every other week. Well No. 10 has continued to not detect VOCs. This is most likely due to either the VOC contaminant plume not extending to the well and/or a large dilution factor present because the well draws water from many deep well screens. The Water District will install granular activated carbon (GAC) treatment on Well No. 10 shortly, and the Dry Cleaners continue to work closely with the Water District to provide assistance for this wellhead treatment.

As required by the CAO, the Water Board received the Dry Cleaner's work plan for well installation before the July 31, 2005 deadline. This work plan proposed installing two shallow wells south of Mount Hermon Road rather than additional deep aquifer monitoring wells due to budget concerns after the recent construction of the pump and treat system. Water Board staff will be requiring installation of additional deep monitoring wells in addition to or instead of the two shallow monitoring wells.

#### **Cleanup, Looking Forward:**

The Water Board will be requiring the Dry Cleaners to sample another nearby well, Valley Gardens Golf Course Well, located about 300 feet southwest of Well No. 10. The Golf Course Well water is used only for irrigation. The property owner was notified about the potential for VOC groundwater contamination in the Water Board letter dated June 17, 2005. The Golf Course Well is located within the San Lorenzo Water District; Water Board staff has been in communication with them about the Dry Cleaners' site and will copy all future correspondence pertaining to this site to them.

After plume containment, the Dry Cleaners are required to revise their corrective action plan with respect to a proposal to clean up source area contamination that appears to be a continuing source of groundwater impairment.

*Water Board staff will continue to coordinate ongoing meetings with all stakeholders to increase communication and coordinate cleanup and investigation efforts.*

**ATTACHMENTS:**

1. Site Location Map
2. Hydrogeologic Cross Section

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