

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

**STAFF REPORT FOR REGULAR MEETING OF DECEMBER 4-5, 2008**  
Prepared on October 17, 2008

**ITEM NUMBER: 34**

**SUBJECT: Status Report, Scotts Valley Dry Cleaners, 272-A Mount  
Hermon Road, Scotts Valley, Santa Cruz County**

**KEY INFORMATION**

Type of Discharge: Unauthorized Release of Tetrachloroethene (PCE)  
Existing Orders: Cleanup and Abatement Order (CAO) No. R3-2005-0081  
Monitoring and Reporting Program (MRP) No. R3-2005-0082  
(Revised July 19, 2006)  
Waste Discharge Requirements Order No. R3-2006-0067 National  
Pollutant Discharge Elimination System (NPDES) Permit No.  
CAG993002 General Permit for Discharges of Highly Treated  
Groundwater to Surface Waters  
MRP No. R3-2006-0067 (Revised October 24, 2008)

**This Action: Status Report Only**

**DISCUSSION**

**New information is shown in italics**

Scotts Valley Dry Cleaners is located in Scotts Valley (Santa Cruz County) on a property with other commercial buildings and a parking lot. Releases of tetrachloroethene (PCE) from this site threaten Scotts Valley Water District's (SVWD) Well No. 10A, located approximately 450 feet south of the dry cleaner building (Attachment 1).

**Background**

Scotts Valley Dry Cleaners responsible parties discovered soil and groundwater contained tetrachloroethene (PCE) in November 1993. In 1996, the responsible parties started remediation of PCE 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 (CAP) to further delineate and cleanup PCE in soil and groundwater. 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 to assist in PCE biodegradation. The responsible parties revised the proposed remediation treatment strategy several times based on pilot test results.

The responsible parties implemented high vacuum, dual-phase extraction in March 2004 for PCE plume containment, and proposed additional groundwater monitoring and extraction well installations and a permanent groundwater extraction and treatment system in July 2004. The Water Board enrolled 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 and 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 and further delineate the extent of waste discharges offsite, and submit a CAP. Water Board staff issued a July 19, 2006 letter requiring: 1) implementation and reporting of proposed offsite and onsite investigative work, 2) submittal of an updated site conceptual model, 3) submittal of detailed cleanup pilot study work plan for chemical oxidation, and 4) address missing/damaged monitoring wells. By March 1, 2007, the responsible parties complied with all of the July 19, 2006 requirements.

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 monitored the effectiveness of this treatment technology for one year. Based on this evaluation, the responsible parties selected in-situ chemical-oxidation as a site-wide remedy. 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.). The following section describes the recent progress.

### **Recent Progress**

#### Chemical Oxidation

*Responsible parties submitted a Corrective Action Plan (CAP) for site-wide implementation of the chemical oxidation remedial program on September 26, 2008. Stantec proposes to inject sodium permanganate into six new, dedicated injection wells and MW-4. Stantec proposes to install the new injection wells in areas with high solvent waste concentrations. Stantec plans to monitor four quarters past the injection event and then determine whether further injection events are warranted. Water Board staff are currently reviewing the CAP and we will prepare a fact sheet to inform and allow for public comment on the proposed work in the CAP. Following completion of staff's review and public comment on the site-wide CAP, we will enroll the responsible parties in the General Waiver of Waste Discharge Requirements for Specific Types of Discharges Resolution No. R3-2008-0010 (General Waiver) and notify the Water Board of this enrollment and CAP approval.*

#### Current Groundwater Conditions

*In general, the PCE concentrations in the perched groundwater zone onsite have increased since the March 2008 monitoring event. Implementing a site-wide cleanup remedy will reduce the PCE concentrations in the perched groundwater zone and reduce the risk of potential PCE vertical migration into deeper water-bearing zones.*

*Shallow groundwater monitoring well MW-13A (located south of Mount Hermon Road, in between the site and SVWD's Well No. 10A) did not contain detectable concentrations of PCE from June 2005 to December 2007. Since March 2008, MW-13A has contained low levels of PCE (most recently 1.4 micrograms per liter [ $\mu\text{g/L}$ ] PCE in September 2008). The nearby deep-zone sentry wells MW-13B and MW-23 do not contain detectable concentrations of PCE. CAO No. R3-2005-0081 requires the responsible parties to control PCE migration with the groundwater extraction and treatment system, and to monitor MW-13A monthly, to evaluate PCE concentrations and the groundwater extraction and treatment*

system effectiveness. We will require the responsible parties to reevaluate the groundwater extraction and treatment system if PCE concentrations in MW-13A continue to increase. Near-term implementation of the CAP will likely reduce PCE concentrations.

Closer to the site, a deep-zone monitoring well (MW-22A), screened from 82 to 87 feet below ground surface (bgs), contained PCE at 290 µg/L during the September 2008 groundwater sampling event. MW-22A contained 140 µg/L PCE when it was first sampled in October 2006. Water Board staff will require the responsible parties to further characterize the waste present in this groundwater zone.

#### Scotts Valley Water District

Scotts Valley Water District (Water District) continues to use their municipal Well No. 10A. Since the last staff report in May 2008, the Water District has sampled Well No. 10A monthly, and the samples did not contain detectable concentrations of volatile organic compounds. To date, Well No. 10A has never contained detectable concentrations of volatile organic compounds.

#### **Future Board Updates**

We anticipate notifying the Water Board of our approval of the CAP and General Waiver enrollment at the March 20, 2009 Board Meeting.

#### **Attachment**

Attachment 1: Secor's Figure 2: Site Map

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