

EXECUTIVE OFFICER'S SUMMARY REPORT
9:00 a.m., October 1, 2009
David C. Joseph Hearing Room
Regional Water Quality Control Board
5550 Skylane Boulevard, Suite A
Santa Rosa, California

Item: 3

Subject: Public Hearing to Consider Adoption of Waste Discharge Requirements Order No. R1-2009-0066 for *In Situ* Treatment of Contaminated Soil and Groundwater and a Mitigated Negative Declaration and Environmental Checklist for the West College Center, LLC, Former Best Cleaners, 1007B West College Avenue, Santa Rosa, California.

Background

The Best Cleaners site is located in the G&G Shopping Center at 1007B West College Avenue in Santa Rosa (Figure 1). The tenant space was occupied by a dry cleaning facility from 1987 to 2006 and operated under five different business operators with four business names, including Peter Pan Cleaners, Art Cleaners, Full Dress Cleaners and Best Cleaners. The property is owned by West College Center, LLC, (hereinafter Discharger). The tenant space is shown on Figure 2.

Regional Water Board staff conducted a soil gas survey in 2001 in the vicinity of the West College Avenue and Clover Drive intersection, including a portion of the G&G Shopping Center, to investigate the source of tetrachloroethylene (PCE) in private water supply wells. The results revealed two sources of PCE contamination in the area, including the Best Cleaners location and a former dry cleaner business location at 946 West College Avenue with the more recent business name of Sonoma French Cleaners. The chemical PCE was used as a fabric cleaning solvent at both former dry cleaning facilities.

The extent of the Best Cleaners PCE plume has generally been defined via the drilling of soil borings, the completion of cone penetrometer tests, and the installation of groundwater monitoring wells screened in multiple water bearing zones. The chemical PCE exists beneath the G&G Shopping Center in close proximity to and west of the former dry cleaner tenant space, and extends off-site east of Clover Drive and south beneath West College Avenue where commingling is likely with another PCE discharge from the 946 West College Avenue former dry cleaning facility. The predominant groundwater flow direction

in the shallow water bearing zone is to the west. Groundwater impacts from PCE are present in the A and B water bearing zones.

Project Description

The proposed groundwater treatment method was identified in the January 25, 2007 *Feasibility Study/Remedial Action Plan*, and consists of reductive de-chlorination via the injection of cheese whey as the reducing agent. The whey mixture may also include emulsified oils and vitamin B12.

Reductive de-chlorination is a microbial mediated chemical reaction where chlorine atoms are replaced by hydrogen atoms. The whey is naturally degraded and fermented in the subsurface resulting in an increase in microbial populations and the generation of hydrogen atoms that become electron donors. The PCE molecules become electron acceptors and degrade to trichloroethene (TCE), dichloroethene (DCE), vinyl chloride (VC); to ethene, chloride, water and carbon dioxide. The degradation process is depicted in Figure 3.

The groundwater treatment system consists of thirteen dual-completion wells installed both on and offsite for the injection of the whey mixture into the A and B water bearing zones. The injection wells are presented on Figure 2. Sufficient reducing agent (whey) is needed over a period of time to complete the de-chlorination process to benign break down products. It is anticipated that the second injection will occur one-month past the initial injection, followed by quarterly injection events for up to three years.

As the de-chlorination process continues, concentrations of PCE will decrease as the concentrations of the break down products increase, including vinyl chloride. Vinyl chloride is more toxic than the parent compound PCE; however, its presence is temporary as the de-chlorination process is completed. The project could result in the temporary generation of hydrogen sulfide and vinyl chloride gases, but is unlikely. The discharger shall comply with Monitoring and Reporting Program Order No. R1-2009-0067 that contains requirements for groundwater and air monitoring, and a contingency plan in the event that Bay Area Air Quality Management District air quality violations are detected. Metals may also be mobilized during the treatment process, which is also temporary. Groundwater monitoring will be conducted according to Monitoring and Reporting Program No. R1-2009-0067 to evaluate treatment effectiveness and the return of pretreatment water quality conditions, minus the chemical contaminants.

The proposed area for active remediation is shown on Figure 4, and extends to the center of West College Avenue, where the presence of PCE breakdown products already exists, such as TCE and DCE, which is evidence of an older and separate release from a former dry cleaner at 946 West College Avenue.

Initial Study/Checklist and Mitigated Negative Declaration

Regional Water Board staff (staff) prepared and circulated for comment an Initial Study/Checklist and Mitigated Negative Declaration for the *in situ* treatment of PCE, TCE, DCE and VC in soil and groundwater. It was prepared in accordance with Title 14, California Code of Regulations, Section 15063.

Staff has determined, on the basis of the Initial Study/Checklist and the documents and sources referenced therein, that the project will have a less than significant impact on the environment with incorporation of the mitigation measures identified in the Discharger's Report of Waste Discharge (ROWD) and the related Initial Study/Checklist. Staff has determined that the proposed project will have a significant beneficial effect on the environment, and is necessary to achieve water quality restoration and protection within a reasonable period of time.

Preliminary Staff: Recommendation:	Adopt Waste Discharge Requirements Order No. R1-2009-0066 for <i>in situ</i> treatment of contaminated soil and groundwater, including the Mitigated Negative Declaration and Environmental Checklist.
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