



California Regional Water Quality Control Board

Los Angeles Region



Recipient of the 2001 *Environmental Leadership Award* from Keep California Beautiful

Linda S. Adams
Agency Secretary

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Arnold Schwarzenegger
Governor

February 5, 2009

Mr. Christer Sorensson
Global Environmental, Health & Safety Manager
PRC-DeSoto International, Inc.
5430 San Fernando Road
Glendale, California 91203

Dear Mr. Sorensson:

GENERAL WASTE DISCHARGE REQUIREMENTS FOR CALCIUM POLYSULFIDE INJECTION FOR GROUNDWATER CLEANUP AT PETROLEUM HYDROCARBON FUEL, VOLATILE ORGANIC COMPOUND AND/OR HEXAVALENT CHROMIUM IMPACTED SITES – PRC-DESOTO INTERNATIONAL, INC., 5430 SAN FERNANDO ROAD, GLENDALE, CALIFORNIA 91203 CLEANUP AND ABATEMENT ORDER NO. R4-2002-0085 (SITE ID. NO. 2040129, WIP FILE NO. 113.5886) (ORDER NO. R4-2007-0019, SERIES NO. 060; CI NO. 9415)

We have completed our review of your application for coverage under our General Waste Discharge Requirements permit to inject calcium polysulfide (CaS_x) at the site-referenced above within the City of Glendale, California for soil and groundwater cleanup and remediation.

Prior to operations by PRC-DeSoto (Site) and its predecessors and beginning in the mid-1940s, the north portion of the Site was occupied by a winery and then by an aluminum window and door fabricator. The south portion of the Site was occupied by a lumber yard and soft drink bottling company. Development of the Site began approximately 1946 to 1947 in Building 1 where metal products, gaskets, and sealants were manufactured for use in the aerospace industry utilizing lead dioxide curing technology (non-aqueous). Dichromate technology (involving polysulfide resins and aqueous dichromate curing agent) was introduced in the 1950s. Manufacturing activities included lead curing compounds (lead dioxide) and storage of chromic acid. Since that time, the facility expanded to include the current 15 buildings to support storage of automotive coatings, repackaging of aerospace adhesives, coatings, and sealants.

The manufacture of aerospace sealants was terminated in the late 1990s and plastic injection molding of aerospace and electronic packaging was terminated in 2006. More recently, Site operations have been scaled back considerably and remaining operations are in the process of being decommissioned in preparation for lease termination in October 2008.

The site has been the subject of assessment activities since the 1980's. These assessments have documented the presence of soil and groundwater contamination beneath the site, including volatile organic compounds (VOCs) and heavy metals. The historical highest concentrations of VOCs in soil include methyl ethyl ketone (MEK) at 37,000 milligrams per kilogram (mg/kg), and tetrachloroethylene (PCE) at 440 mg/kg. Additionally, heavy metals, primarily chromium, have

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been detected at a concentration up to 167 mg/kg in soil. Maximum historical groundwater concentrations of trichloroethane (1,1,1-TCA), dichloroethylene (DCE), trichloroethylene (TCE), PCE, and hexavalent chromium (CrVI) have been detected at levels of 340 micrograms per liter ($\mu\text{g/L}$), 210 $\mu\text{g/L}$, 150 $\mu\text{g/L}$, 92 $\mu\text{g/L}$, and 24,000 $\mu\text{g/L}$, respectively. The Regional Board issued Cleanup and Abatement Order (CAO) R4-2002-0085 in 2002 directing the Site to implement a Remedial Action Plan (RAP), which included the excavation and removal of contaminated soil, operating a soil vapor extraction system, the injection of ferrous sulfate to remediate hexavalent chromium (CrVI), and a "hot spot" remediation system. Remediation to date has consisted of implementing the RAP.

The Site is located at 5430 San Fernando Road and is bounded on the north by Milford Street; on the west by San Fernando Road; on the south single-family residential dwellings, an automotive repair shop and California Avenue; and on the east by single and multiple-family residential dwellings along Concord Street. In addition to the main facility described above, the facility occupied several properties on the north side of Milford addressed as 801, 811, and 823 Milford Street; 520 Commercial Street; and 500 State Street.

The primary VOCs source areas are as follows:

- Four industrial clarifiers; a lined trench and four sinks located in Building 4A; containment area for 2 aboveground storage tanks (ASTs) east of Building 7; next to an AST located between Buildings 6 and 7; in the area of three former ASTs between Buildings 8 and 11; inside the hazardous waste storage tanks between Buildings 8 and 11; and an area along the north fence near the maintenance area; and
- Six former underground storage tanks (USTs).

The primary chromium (Cr) and CrVI contamination source areas are as follows:

- Former chromium-reactor (C-reactor) located on the north end of Building 8; and
- Ball mill shed located near the southwest corner of Building 12.

Initially, Santek (formerly SECOR) submitted a RAP entitled "*Remedial Action Plan (RAP)*," (SECOR, January 4, 2008). A supplemental RAP entitled "*Soil Investigation, Baseline Groundwater Monitoring Event and Supplemental Remedial Action Plan*," (SECOR, March 8, 2004) was then submitted and an addendum to the supplemental RAP entitled "*Waste Discharge Requirement Addendum No.1*," (Santek, October 16, 2008) was submitted. The Regional Board approved the RAP on June 28, 2008.

The workplan proposes to inject CaS_x into the saturated zone across all accessible areas of the Site located within the contoured injection area presented in Figures 1 and 2. Thirty-eight dual-nested groundwater injection wells will be installed to mitigate residual CrVI in the saturated zone at typical depths of 50 to 60 feet below ground surface (bgs) and 70 to 80 feet bgs. The nested wells will be installed with bentonite pellet seals between each nested well with one to two feet of sand filter pack above and below each of the well screens. The well installation and injection procedures outlined in the RAP and this WDR will be followed during the remediation activities.



The RAP proposed injection concentration of CaS_x will be between 250 and 500 milligrams per liter (mg/L). In order to properly treat the vadose zone and groundwater in the source area below Building 1, injections may be performed at concentrations up to 5,000 mg/L. A determination as to the proper CaS_x concentration will be based on field testing of groundwater samples for Cr and CrVI at the time of injection wells are developed. Should CaS_x prove to be less practical or less effective, then a bio-reducing agent such as fructose or molasses in combination with CaS_x will be used. The fall back measure, if the other reagents do not work as well as anticipated, will be to continue with injections of ferrous sulfate (FeSO_4) at a concentration of 600 to 1200 mg/L. Approximately 450 gallons of 250 mg/L of CaS_x would be necessary to reduce the CrVI to an insoluble Cr(III) hydroxide at each injection point location. Because of the heterogeneities in the subsurface and inability to effectively mix CaS_x evenly through the affected zone, it is expected that up to 3 to 10 times as much CaS_x may be necessary to effectively treat the affected zone. Therefore, it is recommended that up to 4,000 gallons of CaS_x or 9,000 gallons of ferrous sulfate will be injected at each location. The mass of reductant injected will remain in the system and continue to contact CrVI until either CrVI or reductant is expended. The proposed post-injection monitoring program will collect data that will be used to evaluate the effectiveness of the reductant injection program.

All groundwater monitoring wells associated with this WDR will be gauged and include the following wells: MW-04, -14, -16, -18, -19, -22, -24, -25, -26, -28, -30, -31, -35, -37, -38, and -42 sampled prior to performing the reductant injection. Samples will be analyzed for CrVI by EPA Method 218.6 and in accordance with the list of constituents presented in Table 1 of the injection workplan. The list of constituents includes: KMnO_4 , color, chromium, hexavalent chromium, total organic carbon (TOC), total dissolved solids (TDS), total suspended solids (TSS), turbidity, pH, specific conductivity, oxidation/reduction potential (ORP), temperature, major anions, major cations, and dissolved oxygen (DO).

Regional Board staff has determined that the proposed discharge meets the conditions specified in Order No. R4-2007-0019, *Revised General Waste Discharge Requirements for Groundwater Remediation at Petroleum Hydrocarbon Fuel, Volatile Organic Compound and/or Hexavalent Chromium Impacted Sites (General WDRs)*, adopted by the Regional Water Quality Control Board on March 1, 2007.

This WDR shall not be rescinded until Regional Board staff determines the WDR is no longer needed for the site cleanup.

Enclosed are your Waste Discharge Requirements consisting of General WDRs Board Order No. R4-2007-0019, and Monitoring and Reporting Program No. CI-9415 stipulations along with Standard Provisions.

The Monitoring and Reporting Program requires you to implement the monitoring program on the effective date of this enrollment under Regional Board Order No. R4-2007-0019. All monitoring reports shall be sent to the Regional Board, ATTN: Information Technology Unit.

When you submit monitoring or technical reports to the Regional Board per these requirements, please include a reference to Compliance File No. CI-9415, which will assure that the reports are directed to the appropriate staff and file. Do not combine other reports with your monitoring reports. Submit each type of report as a separate document.



Mr. Christer Sorrensson
PRC-DeSoto International, Inc.

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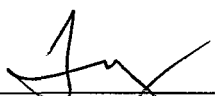
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To avoid paying future annual fees, please submit written request for termination of your enrollment under the general permit in a separate letter, when your project has been completed and the permit is no longer needed. Be aware that the annual fee covers the fiscal year billing period beginning July 1 and ending June 30, the following year. You will pay the full annual fee if your request for termination is made after the beginning of the new fiscal year beginning July 1.

We are sending a copy of the Order No. R4-2007-0019, only to the applicant. A copy of the Order will be furnished to anyone who requests it.

If you have any questions, please contact Mr. Dixon Oriola at (213) 576-6803 or Mr. Larry Moore at (213) 576-6730.

Sincerely,



Tracy J. Egoscue
Executive Officer

Enclosures: 1. Regional Board Order R4-2007-0019
2. Monitoring and Reporting Program No. CI-9415
3. Standard Provisions applicable to Waste Discharge Requirements
4. Site map

cc: Mr. K. Miskin, Santec

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Attachments

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