



California Regional Water Quality Control Board

Los Angeles Region



Alan C. Lloyd, Ph.D.
Agency Secretary

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

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Arnold Schwarzenegger
Governor

August 19, 2005

Mr. Lindsay Parton
Parton & Edwards Construction, Inc.
109 S. La Cumbre Lane
Santa Barbara, CA 93105-3136

GENERAL WASTE DISCHARGE REQUIREMENTS FOR INJECTION OF OZONE / PEROXIDE INTO GROUNDWATER – ONE HOUR MARTINIZING DRY CLEANERS, 4009 HARDWICK STREET, LAKEWOOD, CA 90712 (ORDER NO. R4-2005-0030, SERIES NO. 025; CI NO. 8944, SLIC FILE NO. 0737, SITE ID #2042F00)

Dear Mr. Parton:

We have completed our review of your application submitted by your consultant, Haley & Aldrich (H & A) for a general waste discharge requirements (GWDR) for the injection of ozone or ozone / peroxide into groundwater at One-Hour Martinizing Dry Cleaners (SITE). The injection of ozone is for remediation of volatile organic compounds (VOCs) impacted groundwater at the SITE. The proposed remediation is a substitute remedial alternative in replace of the ineffective HRC injection applied by H & A during 2002-2003.

H & A submitted a revised Remedial Action Plan (RAP) in October 2003 and proposed to apply ozone sparging for remediation of VOC impacted groundwater at the SITE. The maximum concentrations of VOC contamination at the SITE described in RAP include: 1910 µg/L of tetrachloroethene (PCE), 518 µg/L of cis-1,2 dichloroethene (cis-1,2 DCE) and 47 µg/L of trichloroethene (TCE) respectively.

To remediate the VOC impacted groundwater beneath the site, H &A proposed to utilize a C-Sparge system. The proposed C-Sparge system includes initial installation/construction of two or three sparge wells and a compressor and ozone generator for the pilot test. The final design to implement the full scale ozone injection will be based on the results of the pilot test and effective radius of influence at the SITE. In some cases, a higher oxidation potential is required to overcome the natural oxidant demand and ozone may be combined with hydrogen peroxide for injection of a mixture of air, ozone and hydrogen peroxide. The RAP was approved by the Regional Board in our letter dated December 17, 2003.

The C-Sparge technology combines low-flow injection of 3 to 5 cubic feet per minute (cfm) air sparging with ozone or ozone and peroxide. Microbubbles (10 to 50 µm) of encapsulated ozone will be introduced below the water table through sparge points to oxidize contaminants into benign byproducts. These byproducts and residuals include acetate, butyrate, formate, propionate, carboxylic acids, tertiary butyl formate, formaldehyde, carbon dioxide, hydrogen peroxide, and oxygen.

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We have reviewed the information provided and have determined that the proposed discharge meets the conditions specified in Order No. R4-2005-0030, "*General Waste Discharge Requirements for Groundwater Remediation at Petroleum Hydrocarbon Fuel and/or Volatile Organic Compound Impacted Sites*," adopted by this Regional Board on May 5, 2005.

Enclosed are your Waste Discharge Requirements, consisting of Regional Board Order No. R4-2005-0030, Monitoring and Reporting Program No. CI-8944, and Standard Provisions.

The Monitoring and Reporting Program requires you to implement the monitoring program on the effective date of this enrollment (August 8, 2005) under Regional Board Order No. R4-2005-0030. All monitoring reports shall be sent to the Regional Board, ATTN: Information Technology Unit.

When submitting monitoring or technical reports to the Regional Board per these requirements, please include a reference to Compliance File No. CI-8944, which will assure that the reports are directed to the appropriate file and staff. Do not combine other reports with your monitoring reports. Submit each type of report as a separate document.

We are sending a copy of Order No. R4-2005-0030 and Standard Provisions only to the applicant. A copy of the Order can be download from www.waterboards.ca.gov/losangeles or will be furnished upon request.

If you have any questions, please contact Mr. Rod Nelson at (213) 620-6119.

Sincerely,

Jonathan S. Bishop
Executive Officer

Enclosures: 1. Board Order No. R4-2005-0030
2. Standard Provisions Applicable To Waste Discharge Requirements
3. Monitoring and Reporting Program No. CI-8944

cc: Ms. Kurt Souza, California Department of Health Services
Mr. Chris Nagler, Central Basin Watermaster, California Department of Water Resources
Mr. Jose Reynoso, L. A. County Department of Health Services, Water Well Permits
Ms. Lindsey Thomas, Environmental Program Management, LLC
Mr. Jeremy Squire, Haley and Aldrich, Inc.

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