



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

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: <http://www.waterboards.ca.gov/losangeles>

Arnold Schwarzenegger
Governor

May 1, 2006

Mr. Ken Gelms
The Reeves Trust
209 Turf View Drive
Solana Beach, CA 92075

Dear Mr. Gelms:

GENERAL WASTE DISCHARGE REQUIREMENTS FOR INJECTION OF FENTON'S REAGENT IN GROUNDWATER AT PETROLEUM HYDROCARBON FUEL AND/OR VOLATILE ORGANIC COMPOUND IMPACTED SITES – THE REEVES TRUST PROPERTY, 11840 FOOTHILL BOULEVARD, LOS ANGELES, CALIFORNIA (FILE NO. 913421407), CI NO. 9068, SERIES NO. 041, ORDER NO. R4-2005-0030)

We have completed our review of your “Remedial Action Plan, In-situ Chemical Oxidation (ISCO)” (RAP) and also your application for coverage under General Waste Discharge Requirements to inject Fenton’s Reagent at the subject site (the site) to reduce the mass of petroleum hydrocarbons in the saturated zone and to reduce any threat to underlying usable aquifers posed by residual hydrocarbon-affected soil and groundwater.

The site is an abandoned service station located on the western corner of the intersection of Foothill Boulevard and Osborne Street in Lakeview Terrace area of the City of Los Angeles, California (Figure 1). The station formerly maintained two 8,000-gallon, one 6,000-gallon, and three 1,000-gallon gasoline underground storage tanks (USTs). The USTs were removed in July 1990. There is also a 280-gallon UST with unknown contents that is closed in-place at the site. Commercial properties are located south and west of the site. Private residence is located to the north and east. The gasoline leak was discovered during the USTs removal in July 1990.

Between 1993 and 1998, two vapor extraction wells, and six onsite groundwater monitoring wells and six offsite groundwater monitoring wells were installed. Between 1993 and 2003, a combination of soil vapor extraction (SVE), multi-phase extraction (MPE), dual-phase extraction (DPE), and manual purging of free product were conducted at the site. During the remediation activities, 28,000 pounds of hydrocarbons have been removed from the subsurface, and the vapor concentrations entering the SVE system have reached asymptotic levels.

Quarterly groundwater monitoring has been performed at the site since October 1993. The latest groundwater monitoring event conducted in March 2006 detected up to 15,000 µg/L of TPHg, 65 µg/L of benzene, 98 µg/L of MTBE, and 230 µg/L of TBA. On June 27, 2005, confirmation soil borings were advanced at three locations. Up to 350 mg/kg of TPHg, 5.3 mg/kg of total xylenes, and 0.210 mg/kg of TBA were detected in the soil.

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The Site is located in the San Fernando Basin. First encountered groundwater beneath the site occurs at a depth of approximately 57 feet bgs. On March 28, 2005, the hydraulic gradient was to the southeast at a gradient of approximately 0.0375 ft/ft (Figure 2).

In the RAP, WorleyParsons Komex (Komex), the consultant of The Reeves Trust (the Discharger), proposed to use the ISCO technology to complete a pilot test by injecting Fenton's Reagent into the wells OW-2C (screened 50-65 ft bgs) and OW-2S (screened 76.5-78.5 ft bgs) located at the source of the petroleum hydrocarbon plume in the groundwater. Approximately 390 gallons of ferrous sulfate solution (6% by weight) will be injected into each ISCO well. Once the injection of ferrous sulfate is completed, approximately 225 gallons of a 10% hydrogen peroxide solution will be gravity fed into the wells. Should the results of the pilot test indicate that ISCO is a cost effective method of completing the remediation, a full scale ISCO program which will consist of quarterly ISCO injection events will be initiated.

Any potential adverse water quality impacts that may result shall be localized, of short-term duration, and shall not impact any existing or prospective uses of groundwater.

Regional Board staff concurs with the proposed RAP provided that the following conditions are met.

1. A technical report detailing the results of the pilot test must be submitted by **July 15, 2006**. The technical report must include a remedial action plan (RAP).
2. If the pilot test proves to be a viable remedial method, this WDR will be applicable to the full scale implementation at the site.
3. All necessary precautions shall be taken to prevent clogging of the monitoring well VEW-2 as a result of Fenton's reagent injection during the pilot test.
4. As there are sufficient number of groundwater monitoring wells at the site, OW-2C and OW-2S can be used for the pilot testing of the Fenton's reagent injection. No other existing groundwater monitoring wells shall be used as injection points for Fenton's reagent during the pilot or full scale remediation.

The staff have also determined that the discharge meets the conditions specified in Order No. R4-2005-0030, "*Revised General Waste Discharge Requirements for Groundwater Remediation at Petroleum Hydrocarbon Fuel and/or Volatile Organic Compound Impacted Sites,*" adopted by this Regional Board on January 24, 2002 and revised on April 19, 2005.

Enclosed are your Waste Discharge Requirements, consisting of Regional Board Order No. R4-2005-0030 and Monitoring and Reporting Program No. CI-9068 and Standard Provisions.

The Monitoring and Reporting Program requires you to implement the monitoring program on the effective date of this enrollment (April 19, 2006) under Regional Board Order No. R4-2005-0030. All monitoring reports shall be sent to the Regional Board, ATTN: Information Technology Unit.

Mr. Ken Gelms
The Reeves Trust

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May 1, 2006

When submitting monitoring or technical reports to the Regional Board per these requirements, please include a reference to Compliance File No. CI-9068, 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 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. Rodney Nelson at (213) 620-6119. Questions regarding the underground storage tank issues should be forwarded to Arman Toumari at (213) 576-6758.

Sincerely,

Jonathan S. Bishop
Executive Officer

Enclosures: 1. Board Order No. R4-2005-0030
2. Monitoring and Reporting Program No. CI-9068

cc: Mark Stewart, Central Basin Watermaster, California Department of Water Resources
Andrew Gray, WorleyParsons Komex

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