California Regional Water Quality Control Board

Los Angeles Region

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

Alan C. Lloyd, Ph.D
Agency Secretary

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

August 16, 2005

Mr. Jeffrey M. Baker
Tesoro Petroleum Companies, Inc.
3450 S. 344th Way, Suite 100
Auburn, WA 98001

Dear Mr. Baker:

GENERAL WASTE DISCHARGE REQUIREMENTS FOR HRC/ORC INJECTION FOR GROUNDWATER REMEDIATION AT PETROLEUM HYDROCARBON FUEL AND/OR VOLATILE ORGANIC COMPOUND IMPACTED SITES – FORMER FAST GAS #538, TARGET STORE T-290, 2029 REDONDO BEACH BOULEVARD, GARDENA, CALIFORNIA (FILE NO. 01-116, CI NO. 8940)

We have completed our review of your application for coverage under General Waste Discharge Requirements to inject hydrogen peroxide, oxygen and ozone at the subject site (the site) to accelerate the oxidation and enhance aerobic biodegradation of petroleum hydrocarbons in the saturate zone.

Tesoro Petroleum Companies, Inc. (hereinafter Discharger) owns Target Store T-290 (the Site) located at 2029 Redondo Beach Boulevard in Gardena, California (Figure 1). As part of bankruptcy proceedings with Alameda Management, Target Stores inherited the cleanup of the site. Tesoro was a prior supplier/operator of the former service station and, in cooperative agreement with Target Stores, has voluntarily assumed responsibility for managing investigation and remediation activities at the site. The site is a former automobile service station within a Target Store shopping center. The station maintained three 12,000-gallon gasoline underground storage tanks (USTs) and a 500-gallon waste oil UST. The site is flanked by a paved parking lot to the north, a shopping center to the east, the Target Store parking lot to the west, Redondo Beach Boulevard to the South and 157th Street to the north. A gasoline leak was detected in 1991 and the case was transferred to the Regional Board for groundwater investigation in 1995. Orion Environmental is currently the operator of the site.

Between 1994 and 2001, fourteen soil borings, twenty three groundwater monitoring wells (MW-1 through MW-5; MW-A through MW-0; EW-1 through EW-3) were installed. Site investigations indicate that soil and groundwater have been contaminated with petroleum hydrocarbons. In 1995, the four USTs were removed. Following excavation, up to 13,000 mg/kg of TPHg and 35 mg/kg of benzene were detected in the soil.

In September 2004, a free product removal program was implemented. Well EW-1 was manually bailed until free product was no longer detected. In November 2004, the free product removal program was discontinued. Approximately 0.85 gallon of free product was removed from well EW-1.

In March 2005, an additional investigation was conducted to further delineate the extent of soil and groundwater contamination. Soil samples collected detected up to 1,800 mg/kg of TPHg and 6.9 mg/kg of benzene.

Quarterly groundwater monitoring has been performed at the site since May 1996. Historically, up to 150,000 µg/L of TPHg, 29,000 µg/L of benzene and 120,000 µg/L of MBTE were detected in the groundwater onsite. It was determined that groundwater contamination plume has migrated offsite. The latest groundwater monitoring event conducted in August 2004, detected up to 47,000 µg/L of TPHg, 3,700 µg/L of benzene, and 6,500 µg/L of MTBE in the groundwater monitoring wells.

Between January 1999 and December 2004, a vapor extraction and groundwater extraction (VEGE) system operated at the site to cleanup soil and groundwater contamination. The VEGE system has removed approximately 5,277,000 gallons of water, which have been treated and discharged in accordance with a National Pollutant Discharge Elimination System (NPDES) permit. Tesoro proposes to continue operation of the VES system to provide vadose zone remediation.

The site lies within the Los Angeles Coastal plain within the Los Angeles basin. The near surface sediments at the site consist of interbedded sand, gravel, discontinuous layers of sandy silt and clay to a depth of 50 feet below ground surface (bgs). First encountered groundwater beneath the site occurs at a depth of approximately 25 feet bgs. On October 21, 2004, the hydraulic gradient was to the north (Figure 2).

On December 2, 2004, the Discharger submitted to the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) a “Final Remedial Action Plan” (Workplan) proposing to inject hydrogen peroxide, oxygen and ozone into the subsurface to increase dissolved oxygen present in the groundwater and to promote aerobic biological activity by reducing residual hydrocarbons in the saturated zone. The Workplan also proposed additional site assessment to further define the extent of soil and groundwater contamination. The Workplan was approved by the Regional Board on July 7, 2005.

In the workplan, Orion Environmental, the consultant to the Discharger proposed to use the in-situ chemical oxidation technology to accomplish treatment of the impacted area, which measures approximately 1,250 square feet (area of treatment per well), by injecting hydrogen peroxide, oxygen and ozone into 19 injection wells (Figure 3). The injection wells will be installed to a depth of approximately 42 feet bgs at locations of highest contaminant concentrations detected in the groundwater plume and in the former source area near the former USTs and pump islands.

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

Regional Board staff has determined that the proposed 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 May 5, 2005.

Enclosed are your Waste Discharge Requirements, consisting of Regional Board Order No. R4-2005-0030 and Monitoring and Reporting Program No. CI-8940 and Standard Provisions.

The Monitoring and Reporting Program requires you to implement the monitoring program on the effective date of this enrollment (August 16, 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-8940, 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 Chandra Cansler at (213) 576-6701.

Sincerely,
Original signed by

Jonathan S. Bishop
Executive Officer

Enclosures: 1. Board Order No. R4-2005-0030
2. Monitoring and Reporting Program No. CI-8940

Cc: Yvonne Shanks, State Water Resources Control Board, UST Cleanup Fund
Tim Smith, Los Angeles County Department of Public Works, Envr. Programs
Nancy Matsumoto, Water Replenishment District of Southern California
Mark Stewart, Central Basin Watermaster, California Department of Water Resources
Matthew Carfagno, Orion Environmental, Inc.
John Pavlik, Orion Environmental, Inc.
David Luick, property owner, Dayton Hudson Corporation,
33 South 6th Street, Minneapolis, MN 55440-1332