



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

June 29, 2005

Ms. Shari London
ConocoPhillips Company
3611 South Harbor Boulevard, Suite 200
Santa Ana, CA 92704

GENERAL WASTE DISCHARGE REQUIREMENTS COVERAGE FOR PROPOSED OZONE SPARGING TO GROUNDWATER (ORDER NO. R4-2005-0030) 76 STATION NO. 5836, 11305 CULVER BOULEVARD, CULVER CITY, CALIFORNIA (FILE NO. R-24976, CI-8920, ORDER NO. R4-2005-0030, SERIES NO. 016)

Dear Ms. London:

We have received ConocoPhillips Company (ConocoPhillips)'s application for coverage under General Waste Discharge Requirements for ozone-sparging to address the petroleum hydrocarbons, methyl tertiary butyl ether (MTBE), and tertiary butyl alcohol (TBA) plume originating from the subject site.

The site is an active 76 Station operated by ConocoPhillips located at the west corner of Culver and Sawtelle Boulevard, in Culver City, California. The Station consists of two 12,000-gallon gasoline underground storage tanks (USTs), two fuel dispenser islands, a waste oil UST, and a station building. Petroleum hydrocarbon contamination was detected at the site in January 1998 during station upgrade activities, which included the replacement of the gasoline USTs, associated product piping, and fuel dispensers. Low concentrations of adsorbed-phase hydrocarbons were detected in soil samples collected from beneath the USTs and dispenser islands.

Since 1999, assessment activities at the site included the completion of 15 soil borings (CB1 through CB4, MW-5 through MW-13, AS-1/VW-1, and AS-1/VW-2), 9 onsite monitoring wells (MW-1 through MW-7, MW-9, and MW-1A), 5 offsite monitoring wells (MW-8, MW-10 through MW-13), 5 nested air sparge/vadose wells (AS-1/VW-1, AS-2/VW-2, AS-12/VW-3, AS-16/VW-5, AS-17/VW-6), and 12 single air sparge points (AS-3 through AS-11, AS-14, AS-15, and AS-18). The extent of soil contamination has been delineated. Quarterly groundwater monitoring activities were initiated at the site in February 1999.

Based on the results of Fourth Quarter 2004 Groundwater Monitoring Report prepared by TRC, the maximum TBA concentration was 110,000 µg/L from well MW-1A. The maximum total petroleum hydrocarbons as gasoline (TPH-G), benzene, and MTBE were 3,100 µg/L, 770 µg/L, and 72 µg/L, respectively.

In September 2002, a soil vapor extraction (SVE) pilot test was conducted using monitoring well MW-1A and vapor wells VW-1 and VW-2. Based on the results of the pilot test, it appears that a significant mass of hydrocarbons can be recovered through vapor extraction. Also in

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September 2002, an air-sparging pilot test was conducted using well AS-1 as the sparge point and wells MW-1A, VW-1, VW-2, MW-3, and MW-6 as observation wells. Based on the results of the pilot test, ozone sparging was recommended as a viable remedial method for the dissolved-phase hydrocarbons in a report dated February 11, 2003. In a letter dated February 26, 2003, the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) approved the installation of the ozone-sparging system.

ConocoPhillips plans to use an ozone generator to inject ozone into groundwater. The ozone-sparging system consists of sparging points, an ozone generator, conveyance piping, and monitoring devices, including pressure indicators and depth-to-water gauges. The ozone-sparge system is capable of generating approximately 3 to 6 SCFM of an ozone/air mixture at a maximum pressure of approximately 60 pounds per square inch. Ozone is generated within a corona discharge tube, which ionizes di-atomic oxygen (O₂) produced by an oxygen generator into ozone (O₃). When the ozone/air mixture is sparged through the well points set in the aquifer, the ozone will oxidize petroleum hydrocarbons in situ, such as benzene and MTBE, and other oxygenates including TBA.

Regional Board staff have determined that the proposed discharge meets the conditions specified in Regional Board 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 April 19, 2005.

Enclosed are Waste Discharge Requirements, Order No. R4-2005-0030, and Monitoring and Reporting Program No. CI-8920.

The "Monitoring and Reporting Program" requires you to implement the monitoring program on the effective date of this enrollment under Regional Board Order No. R4-2005-0030. Your first monitoring report is due to this Board two months after the injection. All monitoring reports should 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-8920," which will assure that the reports are directed to the appropriate file and staff. Also, please 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) 570-6119.

Sincerely,

Jonathan A. Bishop
Executive Officer
Enclosures

California Environmental Protection Agency



Ms. Shari London
ConocoPhillips Company

-3-

June 29, 2005

Board Order No. R4-2005-0030
Monitoring and Reporting Program No. CI-8920

Cc: Yvonne Shanks, State Water Resources Control Board, Underground
Storage Tank Cleanup Fund (w/o Board Order No. R4-2005-0030):
John Nordenstam, TRC, Inc.

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