



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 28, 2005

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

Dear Ms. London:

GENERAL WASTE DISCHARGE REQUIREMENTS FOR OZONE INJECTIONS AT PETROLEUM HYDROCARBON FUEL AND/OR VOLATILE ORGANIC COMPOUND IMPACTED SITES – 76 STATION 4764, 1124 MARICOPA HIGHWAY, OJAI, CALIFORNIA (VCEHD FILE NO. C88086; CI NO. 8910) (R4-2005-0030; SERIES NO. 004)

We have completed our review of your application for coverage under General Waste Discharge Requirements for the ozone injection at the site referenced above in Ojai, California.

ConcocoPhillips Company (hereinafter Discharger) is conducting the groundwater cleanup activities at a facility commonly known as 76 Station 4764 (Site) located at 1124 Maricopa Highway in Ojai, California (Figures 1 and 2) (Latitude: 34° 26' 32", Longitude: 119° 15' 44"). The Site is occupied by an operating 76 service station. Service station facilities include two 12,000-gallon underground gasoline storage tanks (USTs), two fuel dispenser islands, a 500-gallon waste oil UST, an aboveground electric hoist, and a station building. The site has been developed as a service station since the 1960s. Surrounding properties are developed with commercial and residential uses. The original USTs, installed during the 1960s, were replaced in the early 1980s.

Site investigations indicate that soil and groundwater have been contaminated with fuel hydrocarbons. The maximum petroleum hydrocarbon concentrations in soil were found at the Site during the February 1998 dispenser and product line sampling. The maximum concentrations reported prior to overexcavation activities included up to 2,100 milligrams per kilogram (mg/kg) total petroleum hydrocarbons as gasoline (TPH_G), 44 mg/kg benzene, and 450 mg/kg methyl tertiary butyl ether (MTBE). The maximum concentrations reported in subsequent excavation confirmation samples included up to 2,000 mg/kg TPH_G, 1.6 mg/kg benzene, and 13 mg/kg MTBE; 35 of 36 confirmation samples collected following overexcavation contained detectable MTBE concentrations. Based on the findings of previous investigations, residual petroleum hydrocarbon-affected soil is present at the Site beneath the dispenser islands, extending to a depth of at least 13 feet below ground surface (bgs).

Thirteen on-site (MW-1 through MW-10 and OB-1 through OB-3) and five off-site (MW-11 through MW-15) groundwater monitoring wells were installed. The most recent groundwater monitoring data (March 8, 2005) reported the maximum total purgeable petroleum hydrocarbon (TPPH)

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concentration at 1,500 µg/L, benzene concentration at 5.8 µg/L and MTBE concentration at 200 µg/L.

In February 1998, during dispenser island and product piping upgrade activities, overexcavation was conducted resulting in the removal of approximately 100 cubic yards of petroleum hydrocarbon impacted soil. Upon completion of overexcavation, 500 pounds of powdered oxygen release compounds (ORC) were applied within the excavation cavities below the groundwater table and at the capillary fringe. From April 18, 2002 to April 20, 2002, a High Vacuum Dual Phase Extraction (HVDPE) pilot test was performed. However, due to the costs associated with a groundwater discharge connection at the nearest storm drain and the costs associated with the production and treatment of groundwater containing elevated MTBE and TBA concentrations prior to discharge, HVDPE is not a viable remedial technology for the site.

On August 25, 2003, the "Work Plan for Ozone-Sparge Pilot test" was submitted to the Ventura County Environmental Health Division (VCEHD). VCEHD approved the Work Plan on September 4, 2003. On October 23, and 24, 2003, air sparging pilot test activities were conducted using a C-Sparger system. Nest sparge point INJ-1A (shallow zone) and INJ-1B (deeper zone) were used to inject air into the saturated zone of 18 to 20 feet bgs, and 28 to 30 feet bgs, respectively. Data collected during the pilot test suggests that a proposed C-Sparge system would be an effective remedial option. An Interim Remedial Action Plan (IRAP) using the C-Sparge system was approved by the VCEHD on January 28, 2004.

In March 2004, two offsite monitoring wells (MW-14 and MW-15), one dual-nest site C-Sparge injection well (INJ-2A/B) and six onsite C-Sparge wells (INJ-3 through INJ-8) were installed (Figure 3).

The C-Sparge system generates approximately 3 to 6 standard cubic feet per minute (scfm) of an ozone/air mixture at a maximum pressure of approximately 60 pound per square inch (psi). Ozone is generated within a corona discharge tube, which ionizes di-atomic oxygen (O₂) produced by an oxygen generator into ozone (O₃). The concentration of ozone in the system's output flow is adjustable from 100 to 300 parts per million by volume (ppmv) based on the concentration of O₂ input. When the ozone/air mixture is sparged through the well points set in the aquifer, the ozone will oxidize petroleum hydrocarbons in-situ.

Regional Board staff have 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 (Series No. 004) and Monitoring and Reporting Program No. CI-8910 and Standard Provisions.

The Monitoring and Reporting Program requires you to implement the monitoring program on the effective date of this enrollment (June 28, 2005) under Regional Board Order No. R4-2005-

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ConocoPhillips Company
76 Station 4764

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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-8910, 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 concerning this matter, please call Mr. Rodney Nelson at (213) 620-6119.

Sincerely,

Jonathan S. Bishop
Executive Officer

Enclosures: 1. Board Order No. R4-2005-0030
2. Monitoring and Reporting Program No. CI-8910

cc: Ms. Yvonne Shanks, State Water Resources Control Board, Underground Storage Tank Cleanup Fund
Mr. Dave Salter, Ventura County Environmental Health Division
Mr. Richard Chandler, ATC Associates, Inc.

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