



California Regional Water Quality Control Board

Los Angeles Region

Cindy Flores



Linda S. Adams
Cal/EPA 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

May 5, 2008

Ms. Holly Quasem
ConocoPhillips Company
3611 Harbor Boulevard, Suite 200
Santa Ana, CA 92799-5376

**GENERAL WASTE DISCHARGE REQUIREMENTS FOR GROUNDWATER CLEANUP AT
PETROLEUM HYDROCARBON FUEL, VOLATILE ORGANIC COMPOUND AND/OR
HEXAVALENT CHROMIUM IMPACTED SITES
76 STATION 251112
5740 ATLANTIC AVENUE, LONG BEACH
(ORDER NO. R4-2007-0019, SERIES NO. 057; CI NO. 9410)**

Dear Ms. Quasem:

We have completed our review of your application for coverage under the General Waste Discharge Requirements to inject ozone at the site referenced above in Long Beach, California, for groundwater cleanup and remediation.

The Site is an active retail gasoline service station located on the southeast corner of Atlantic Avenue and South Street in Long Beach, California (Site) (Latitude: N 33.86°, Longitude: W 118.18°). The Site contains two 10,000-gallon gasoline underground storage tanks (USTs) and one 550-gallon waste oil UST.

Several site assessments have been conducted at the Site since 1985. Site investigations found soil and groundwater contaminations beneath the Site. A quarterly groundwater monitoring program was initiated in 1992. The most recent monitoring data in December 2007 showed the maximum total petroleum hydrocarbon as gasoline (TPH_G) concentration at 98,000 µg/L, benzene concentration at 32,000 µg/L, toluene concentration at 16,000 µg/L, ethylbenzene concentration at 6,400 µg/L, methyl tertiary butyl ether (MTBE) concentration at 33,000 µg/L, and tertiary butyl alcohol (TBA) concentration at 37,000 µg/L (TRC figure 2-groundwater map and TRC figures 4, 5 & 6-plume map).

A soil vapor extraction pilot test was performed in October 1994. The test results indicated that SVE was a feasible method to clean up fuel hydrocarbon in soil and groundwater. In December 1994, a bio-vent test was conducted to evaluate intrinsic bioremediation to treat both soil and groundwater. Based on the results of the pilot test, a bio-venting remedial action plan was prepared and approved. The bio-vent remedial system had been operated since 1999.

Delta Environmental Consultants, Inc., (Delta) prepared an "Addendum to Interim Remedial Action (Workplan)," dated July 31, 2007, and "Interim Remedial Action (Workplan)," dated March 20, 2007, for the subject site. Delta proposes to install 5 injection wells (OS-1 through OS-5) in the vicinity of wells BC-1R, BC-3R, MW-2 and MW-3 (Delta Figure 2) to inject ozone into the groundwater as a pilot test. The Workplan was approved by the Regional Board on October 26, 2007.

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The groundwater monitoring program CI-9410 will be performed for groundwater monitoring wells up-gradient groundwater monitoring wells BC-6 & -8, source wells BC-1R, -3R, MW-2 & -3, and down-gradient wells BC-4, -5 & -7 (Delta figure 2) to assess the groundwater contamination plume and the effectiveness of the treatment. Each of these wells will be monitored prior to the initiation of the remediation activities and periodically during completion of the injection activities.

Regional Board staff has determined that the proposed discharge meets the conditions specified in Order No. R4-2007-0019, "*Revised General Waste Discharge Requirements for Groundwater Remediation At Petroleum Hydrocarbon Fuel, Volatile Organic Compound and/or Hexavalent Chromium Impacted Sites (General WDRs)*," adopted by the Los Angeles Regional Water Quality Control Board on March 1, 2007.

Enclosed are your Waste Discharge Requirements, consisting of General WDRs Board Order No. 2007-0019 and Monitoring and Reporting Program No. CI-9410 and Standard Provisions.

If the pilot test proves to be a viable remedial method, this WDR will be applicable to the full scale implementation at the Site.

The WDRs issued shall not be rescinded until Regional Board staff determine the WDRs are no longer needed for the subject site.

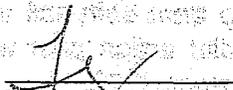
The Monitoring and Reporting Program requires you to implement the monitoring program on the effective date of this enrollment under Regional Board Order No. R4-2007-0019. All monitoring reports shall be sent to the Regional Board, ATTN: Information Technology Unit.

When submitting monitoring or technical reports to the Regional Board per these requirements, please include a reference to Compliance File No. CI-9410, 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. R4-2007-0019 only to the applicant. A copy of the Order will be furnished to anyone who requests it, or on line at:
http://www.waterboards.ca.gov/losangeles/board_decisions/adopted_orders/general_orders/r4-2007-0019/r4-2007-0019.pdf

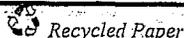
If you have any questions, please contact Mr. Rod Nelson at (213) 576-6119.

Sincerely,


Tracy J. Egoscue
Executive Officer

- Enclosures: 1. Board Order No. R4-2007-0019
2. Monitoring and Reporting Program No. CI-9410
3. Standard Provisions

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ConocoPhillips Company

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cc: Ms. Yvonne Shanks, State Water Resources Control Board, Underground Storage Tank
Cleanup Fund
Ms. Nancy Matsumoto, Water Replenishment District of Southern California
Mr. Jeff Benedict, City of Long Beach, Department of Health and Human Services
Mr. Andrew Ewing, URS Corporation

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**STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
MONITORING AND REPORTING PROGRAM NO. CI-9410
FOR
76 STATION 25112
5740 ATLANTIC AVENUE, LONG BEACH
(OZONE INJECTION FOR GROUNDWATER CLEANUP)
(ORDER NO. R4-2007-0019, SERIES NO. 057)**

I. REPORTING REQUIREMENTS

- A. ConocoPhillips Company (hereinafter Discharger) shall implement this monitoring program on the effective date (May 5, 2008) of Regional Board Order No. R4-2007-0019. The first monitoring report under this program, for April-June 2008, shall be received at the Regional Board by **July 15, 2008**. Subsequent monitoring reports shall be received at the Regional Board according to the following schedule:

<u>Reporting Period</u>	<u>Report Due</u>
January – March	April 15
April – June	July 15
July – September	October 15
October – December	January 15

Monitoring reports must be addressed to the regional Board, Attention: Information Technology Unit.

- B. If there is no discharge or injection during any reporting period, the report shall so state.
- C. By January 30 of each year, beginning January 30, 2008, the Discharger shall submit an annual summary report to the Regional Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous calendar year. In addition, the Discharger shall explain the compliance record and the corrective actions taken, or planned, which may be needed to bring the discharge into full compliance with the waste discharge requirements (WDRs).
- D. Laboratory analyses – all chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by the California Department of Health Services Environmental Laboratory Accreditation Program (ELAP). A copy of the laboratory certification shall be provided each time a new and/or renewal certification is obtained from ELAP.
- E. The method limits (MLs) employed for effluent analyses shall be lower than the permit limits established for a given parameter, unless the Discharger can demonstrate that a particular ML is not attainable and obtains approval for a higher ML from the Regional Board Executive Officer (Executive Officer). The Discharger shall submit a list of the analytical methods employed for each test and the associated laboratory quality assurance/quality control (QA/QC) procedures upon request by the Regional Board.

May 5, 2008

- F. Groundwater samples must be analyzed within allowable holding time limits as specified in 40 CFR Part 136. All QA/QC samples must be run on the same dates when samples were actually analyzed. The Discharger shall make available for inspection and/or submit the QA/QC documentation upon request by Regional Board staff.
- G. Each monitoring report must affirm in writing that "All analyses were conducted at a laboratory certified for such analyses by the California Department of Health Services, and in accordance with current United States Environmental Protection Agency (USEPA) guideline procedures or as specified in this Monitoring Program." Proper chain of custody procedures must be followed and a copy of the completed chain of custody form shall be submitted with the report.
- H. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and the corrective actions taken or planned that may be needed to bring the discharge into full compliance with WDRs. This section shall be located at the front of the report and shall clearly list all non-compliance with WDRs, as well as all excursions of effluent limitations.
- I. The Discharger shall maintain all sampling and analytical results: date, exact place, and time of sampling; dates analyses were performed; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.
- J. If the Discharger performs analyses on any groundwater samples more frequently than required by this Order using approved analytical methods, the results of those analyses shall be included in the report.
- K. In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized to demonstrate compliance with the requirements and, where applicable, shall include results of receiving water observations.

II. OZONE INJECTION MONITORING REQUIREMENTS

The quarterly reports shall contain the following information regarding ozone injection activities:

1. Location map showing injection points used for the ozone injection.
2. Written and tabular summary defining the quantity of ozone injected to the groundwater and a summary describing the days on which the injection system was in operation.

3. Monthly visual inspection at each injection point shall be conducted to evaluate the well casing integrity for a period of two months after each injection. The quarterly report shall include a summary of the visual inspection.
4. To avoid groundwater monitoring network reduction, data bias, and well screen clogging or alteration, no groundwater monitoring wells shall be used as injection points. Separate injection wells must be installed at the site for the injection.

III. GROUNDWATER MONITORING PROGRAM

A groundwater-monitoring program shall be designed to detect and evaluate impacts associated with the injection activities of ozone. Groundwater samples shall be collected from up-gradient groundwater monitoring wells BC-6 & -8, source wells BC-1R, -3R, MW-2 & -3, and down-gradient wells BC-4, -5 & -7 to monitor the effectiveness of the in-situ groundwater remediation (refer to attached Figures-TRC figure 2, TRC figure 4 and Delta figure 2). These sampling stations shall not be changed and any proposed change of monitoring locations shall be identified and approved by the Regional Board Executive Officer (Executive Officer) prior to their use during the implementation of the pilot or full scale remediation. Groundwater shall be monitored for the duration of the remediation in accordance with the following discharge monitoring program:

CONSTITUENT	UNITS¹	TYPE OF SAMPLE	MINIMUM FREQUENCY OF ANALYSIS
Total petroleum hydrocarbons as gasoline (TPHg) and as diesel (TPHd)	µg/L	Grab	Quarterly ²
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)	µg/L	Grab	Quarterly ²
Methyl tertiary butyl ether (MTBE), Tertiary butyl alcohol (TBA), Tertiary amyl methyl ether (TAME), Di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE)	µg/L	Grab	Quarterly ²
Ethanol Formaldehyde Acetone	µg/L	Grab	Quarterly ²
Total dissolved solids Boron Chloride Bromide Lead Nickel Manganese	mg/L	Grab	Quarterly ²

CONSTITUENT	UNITS ¹	TYPE OF SAMPLE	MINIMUM FREQUENCY OF ANALYSIS
Sulfate			
Oxidation-reduction potential	millivolts		Quarterly ²
Dissolved Oxygen	mg/L	Grab	Quarterly ²
Dissolved ferrous iron	µg/L	Grab	Quarterly ²
Total Chromium and chromium six ³	µg/L	Grab	Quarterly ²
PH	pH units	Grab	Quarterly ²
Temperature	⁰ F/ ⁰ C	Grab	Quarterly ²
Groundwater Elevation	Feet, mean sea level and below ground surface	In situ	Quarterly ²
¹ mg/L: milligrams per liter; µg/L: micrograms per liter; µmhos/cm: microohms per centimeter; °F: degree Fahrenheit. ² One week before injection and Quarterly thereafter. ³ The Discharger is required to monitor for total chromium and chromium six in the baseline, second and fourth quarterly sampling. If detected at any of these sampling events, the total chromium and chromium six must be monitored quarterly thereafter.			

All groundwater monitoring reports must include, at a minimum, the following:

- a. Well identification, date and time of sampling;
- b. Sampler identification, and laboratory identification;
- c. Quarterly observation of groundwater levels, recorded to 0.01 feet mean sea level and groundwater flow direction.

IV. MONITORING FREQUENCIES

Monitoring frequencies may be adjusted to a less frequent basis or parameters dropped by the Executive Officer if the Discharger makes a request and the Executive Officer determines that the request is adequately supported by statistical trends of monitoring data submitted.

V. CERTIFICATION STATEMENT

Each report shall contain the following declaration:

"I certify under penalty of law that this document, including all attachments and supplemental information, was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.

Executed on the _____ day of _____ at _____.

(Signature)

(Title)"

VI. PUBLIC DOCUMENTS

These records and reports are public documents and shall be made available for inspection during normal business hours at the office of the California Regional Water Quality Control Board, Los Angeles Region.

Ordered by: _____
Tracy J. Egoscue
Executive Officer

Date: May 5, 2008