

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
MONITORING AND REPORTING PROGRAM NO. CI-8926
FOR
COMMINGLED PLUME SITE #00024
FORMER UNOCAL STATION NO. 5865 AND ARCO STATION NO. 0087
ENROLLMENT UNDER REGIONAL BOARD
ORDER NO. R4-2005-0030
SERIES NO. 022

I. REPORTING REQUIREMENTS

- A. Atlantic Richfield Company and Unocal Corporation (hereinafter Dischargers) shall implement this monitoring program on the effective date of this enrollment (July 18, 2005) under Regional Board Order No. R4-2005-0030. The first monitoring report under this Program is due by October 15, 2005.

Monitoring reports shall be received by the dates in 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

- B. If there is no discharge or injection during any reporting period, the report shall so state. Monitoring reports must be addressed to the Regional Board, Attention: Information Technology Unit.
- C. By January 30 of each year, beginning January 30, 2006, the Dischargers 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 Dischargers 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. 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 discharge requirements, as well as all excursions of effluent limitations.

E. The Dischargers shall comply with requirements contained in Section G of Order No. R4-2005-0030 “*Monitoring and Reporting Requirements*” in addition to the aforementioned requirements.

II. INJECTION MONITORING REQUIREMENTS

The quarterly reports shall contain the following information regarding the injection activities. If there is no injection, during any reporting period, the report shall so state:

1. Location Map showing injection points for ozone, hydrogen peroxide, and oxygen
2. Written summary defining:
 - Depth of injection points;
 - Quantity ozone, hydrogen peroxide, and oxygen injected per injection point; and
 - Total amount of ozone, hydrogen peroxide, and oxygen injected at site
3. Monthly visual inspection at each injection well shall be conducted to evaluate the well casing integrity for a period of three months after each injection. The quarterly report shall include a summary of the visual inspection.

III. GROUNDWATER MONITORING PROGRAM

A groundwater-monitoring program shall be designed to detect and evaluate impacts associated with the injection activities (ozone, hydrogen peroxide, and oxygen). The following shall constitute the monitoring program for the commingled plume’s up-gradient wells EB-1 and EW-1; center wells A-MW5 and A-MW6; and down-gradient well AU-3. 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. The Dischargers shall conduct baseline sampling from wells EB-1, EW-1, A-MW5, A-MW6, and AU-3 one or two weeks prior to ozone, hydrogen peroxide, and oxygen solutions injections and regular sampling with the required frequencies for the following constituents:

<u>CONSTITUENT</u>	<u>UNITS</u> ¹	<u>TYPE OF SAMPLE</u>	<u>MINIMUM FREQUENCY OF ANALYSIS</u>
pH ⁵	PH units	grab	Weekly ² /Monthly ³ /Quarterly ⁴
Temperature ⁵	°F	grab	Weekly ² /Monthly ³ /Quarterly ⁴
Oxidation-reduction potential ⁵	Milivolts	grab	Weekly ² /Monthly ³ /Quarterly ⁴
Specific conductivity ⁵	µmhos/cm	grab	Weekly ² /Monthly ³ /Quarterly ⁴
Ferrous iron	µg/L	grab	Weekly ² /Monthly ³ /Quarterly ⁴
Dissolved Oxygen ⁵	µg/L	grab	Weekly ² /Monthly ³ /Quarterly ⁴
MTBE	µg/L	grab	Weekly ² /Monthly ³ /Quarterly ⁴
Tert-Butyl Alcohol (TBA)	µg/L	grab	Weekly ² /Monthly ³ /Quarterly ⁴

Di-isopropyl Ether (DIPE)	µg/L	grab	Weekly ² /Monthly ³ /Quarterly ⁴
Ethyl-t-Butyl Ether (ETBE)	µg/L	grab	Weekly ² /Monthly ³ /Quarterly ⁴
Tert-Amyl-Methyl Ether (TAME)	µg/L	grab	Weekly ² /Monthly ³ /Quarterly ⁴
Total Petroleum Hydrocarbons as gasoline (TPHg)	µg/L	grab	Weekly ² /Monthly ³ /Quarterly ⁴
1,2,4-trimethylbenzene	µg/L	grab	Weekly ² /Monthly ³ /Quarterly ⁴
Benzene	µg/L	grab	Weekly ² /Monthly ³ /Quarterly ⁴
Ethylbenzene	µg/L	grab	Weekly ² /Monthly ³ /Quarterly ⁴
Toluene	µg/L	grab	Weekly ² /Monthly ³ /Quarterly ⁴
Total xylenes	µg/L	grab	Weekly ² /Monthly ³ /Quarterly ⁴
Formaldehyde	µg/L	grab	Weekly ² /Monthly ³ /Quarterly ⁴
Acetone	µg/L	grab	Weekly ² /Monthly ³ /Quarterly ⁴
Ethanol	µg/L	grab	Weekly ² /Monthly ³ /Quarterly ⁴
Methane	µg/L	grab	Weekly ² /Monthly ³ /Quarterly ⁴
Total organic carbon	µg/L	grab	Weekly ² /Monthly ³ /Quarterly ⁴
Total dissolved solids	mg/L	grab	Quarterly ⁴
Sulfate	Mg/l	grab	Quarterly ⁴
Chloride	mg/L	grab	Quarterly ⁴
Boron	mg/L	grab	Quarterly ⁴
Sodium	mg/L	grab	Quarterly ⁴
Carbon dioxide	mg/L	grab	Quarterly ⁴
Manganese	µg/L	grab	Quarterly ⁴
Total iron	µg/L	grab	Quarterly ⁴
Chromium (VI)	mg/L	grab	Quarterly ⁶
Total Chromium	mg/L	grab	Quarterly ⁶
Alkalinity	µg/L	grab	Quarterly ⁴

¹ mg/L: milligrams per liter; µg/L: micrograms per liter; µmhos/cm: microohms per centimeter; °F: degree Fahrenheit.

² Weekly sampling events are required for the first two weeks from the injection date

³ Monthly sampling events are required after the two weekly sampling events for a period of six months from the injection date.

⁴ Quarterly sampling events are required after the first six months sampling events.

⁵ Field instrument will be used to test for this constituent.

⁶ One time sampling event is required for this constituent. If detected, quarterly monitoring is required from the same monitoring wells.

All groundwater monitoring reports must include, at 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

Specifications in this monitoring program are subject to periodic revisions. Monitoring requirements may be modified or revised by the Executive Officer based on review of monitoring data submitted pursuant to this Order. Monitoring frequencies may be adjusted to a less frequent basis or parameters and locations dropped by the Executive Officer if the Dischargers makes a request and the request is backed by statistical trends of monitoring data submitted.

V. CERTIFICATION STATEMENT

Each report shall contain the following completed 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)"

All records and reports submitted in compliance with this Order are public documents and will be made available for inspection during business hours at the office of the California Regional Water Quality Control Board, Los Angeles Region, upon request by interested parties. Only proprietary information, and only at the request of the Dischargers, will be treated as confidential.

Ordered by: _____
Jonathan S. Bishop
Executive Officer

Date: July 18, 2005