



# California Regional Water Quality Control Board

## Los Angeles Region



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

November 21, 2007

Mr. Karl Bewley  
ConocoPhillips Company  
P. O. Box 25376  
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 254817  
3601 INGLEWOOD AVENUE, REDONDO BEACH, CA (ID# I-09976)  
(ORDER NO. R4-2007-0019, SERIES NO. 039; CI NO. 9340)**

Dear Mr. Bewley:

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 Los Angeles, California, for groundwater cleanup and remediation.

The site is an active service station located at the northwest corner of Inglewood Avenue and Manhattan Beach Boulevard in Redondo Beach, California (Site) (Figure 1) (Latitude: N 33° 53' 15.14", Longitude: W 118° 21' 40.16"). The site currently maintains two 12,000-gallon underground storage tanks (USTs), two dispenser islands and associated product lines.

In February 1987, old USTs were removed and new tanks were installed. Site investigations found soil and groundwater contaminations beneath the Site. A quarterly groundwater monitoring program was initiated in 1992. The most recent monitoring data showed the maximum total petroleum hydrocarbon as gasoline (TPH<sub>G</sub>) concentration at 14,000 µg/L, benzene concentration at 1,500 µg/L, and methyl tertiary butyl ether (MTBE) concentration at 20 µg/L, respectively.

Delta Environmental Consultants, Inc., (Delta) prepared a "Workplan for Remedial Action Modification (Workplan)," dated March 13, 2006, for the subject site. Delta proposes to install 10 injection wells (OS-1 through OS-10) in the vicinity of wells MW-7 and MW-10 (Figure 2) to inject ozone into groundwater. The Workplan was approved by the Regional Board on March 30, 2006.

The groundwater monitoring program CI-9340 will be performed for groundwater monitoring wells MW-4 MW-7, MW-10 and MW-13 (Figure 3) 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

**California Environmental Protection Agency**



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Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

Mr. Karl Bewley  
ConocoPhillips Company

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November 21, 2007

*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-9340 and Standard Provisions.

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.

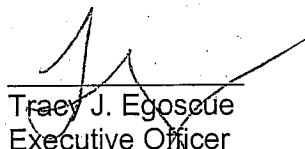
When submitting monitoring or technical reports to the Regional Board per these requirements, please include a reference to Compliance File No. CI-9340, which will assure that the reports are directed to the appropriate file and staff. Do not combine other reports with your monitoring reports. Submit 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/html/permits/gen\\_orders/R4-2007-0019/R4-2007-0019.pdf](http://www.waterboards.ca.gov/losangeles/html/permits/gen_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-9340  
3. Standard Provisions

cc: Ms. Yvonne Shanks, State Water Resources Control Board, Underground Storage Tank Cleanup Fund  
Mr. Tim Smith, Los Angeles Department of Public Works, Environmental Program Division  
Ms. Nancy Matsumoto, Water Replenishment District of Southern California  
K & L Redondo Beach  
Mr. Jay Badiei, Delta Environmental Consultants, Inc.

***California Environmental Protection Agency***

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DRAWING NUMBER  
CP4817

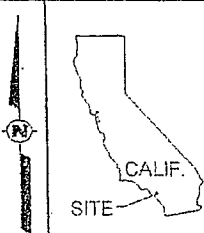
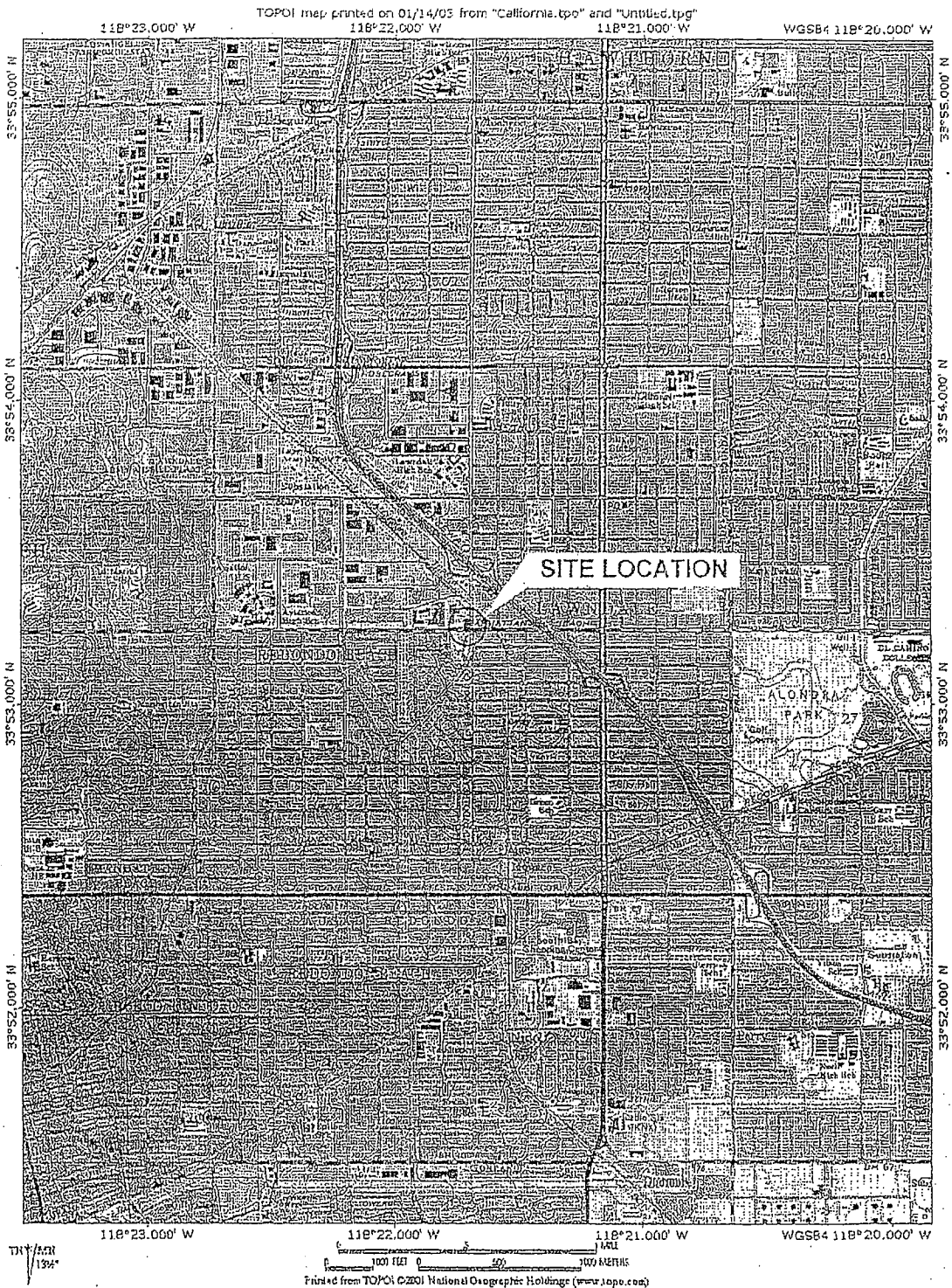
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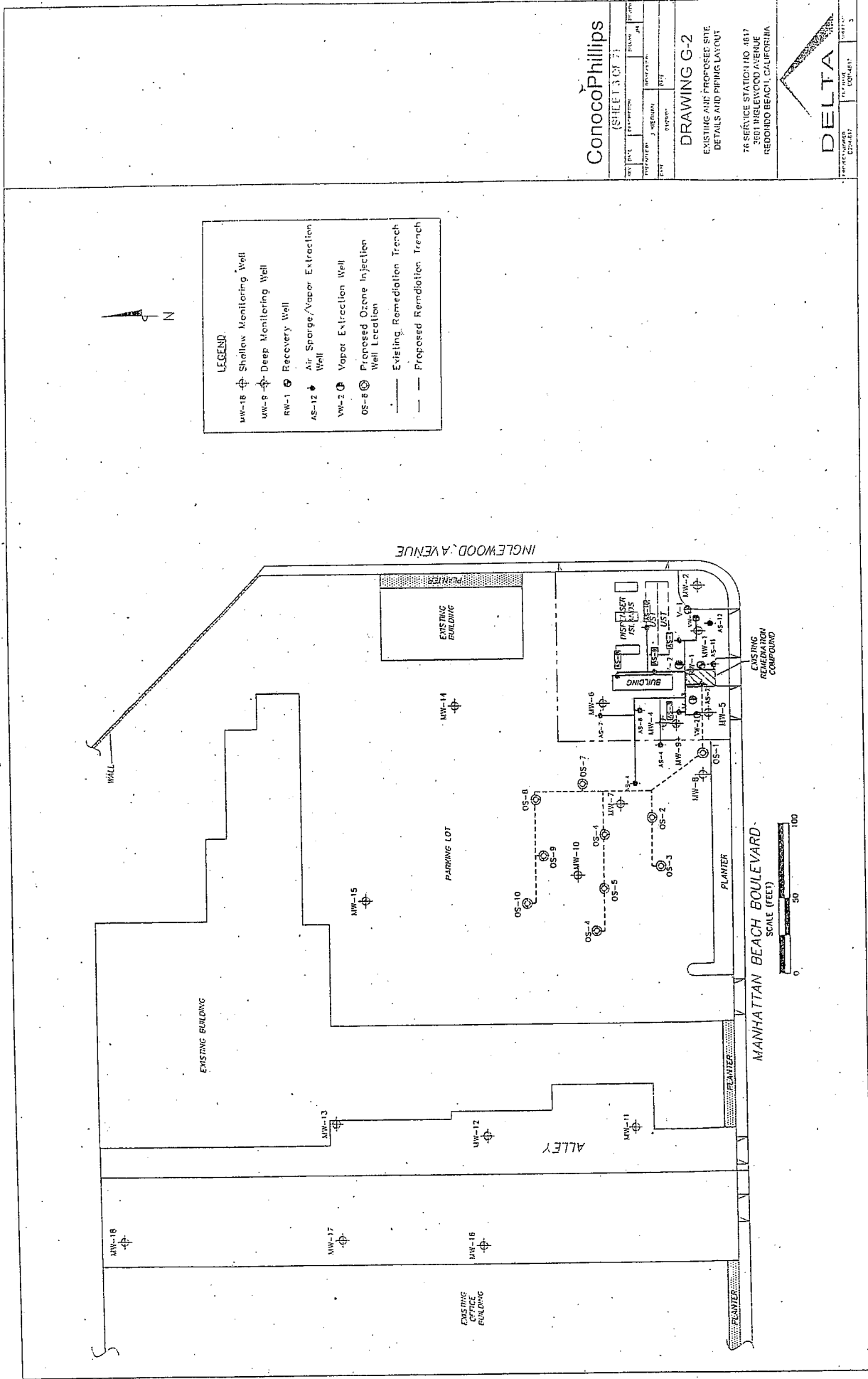
 DELTA ENVIRONMENTAL CONSULTANTS INC.

ConocoPhillips  
76 SERVICE STATION 4817  
REDONDO, CALIFORNIA

FIGURE 1  
SITE LOCATION MAP  
3601 INGLEWOOD AVENUE  
REDONDO BEACH, CALIFORNIA

*Figure 1*

Appendix C  
Appendix D  
Appendix E



**LEGEND**

MW-18	Shallow Monitoring Well
MW-6	Deep Monitoring Well
RW-1	Recovery Well
AS-12	Air Sparge/Vapor Extraction Well
VW-2	Vapor Extraction Well
OS-8	Proposed Ozone Injection Well Location
---	Existing Remediation Trench
---	Proposed Remediation Trench

ConocoPhillips  
(SHEET 3 OF 2)

**DRAWING G-2**

EXISTING AND PROPOSED SITE  
DETAILS AND PIPING LAYOUT

76 SERVICE STATION LTD. 1837  
3681 INGLEWOOD AVENUE  
REDDING BEACH, CALIFORNIA

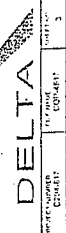
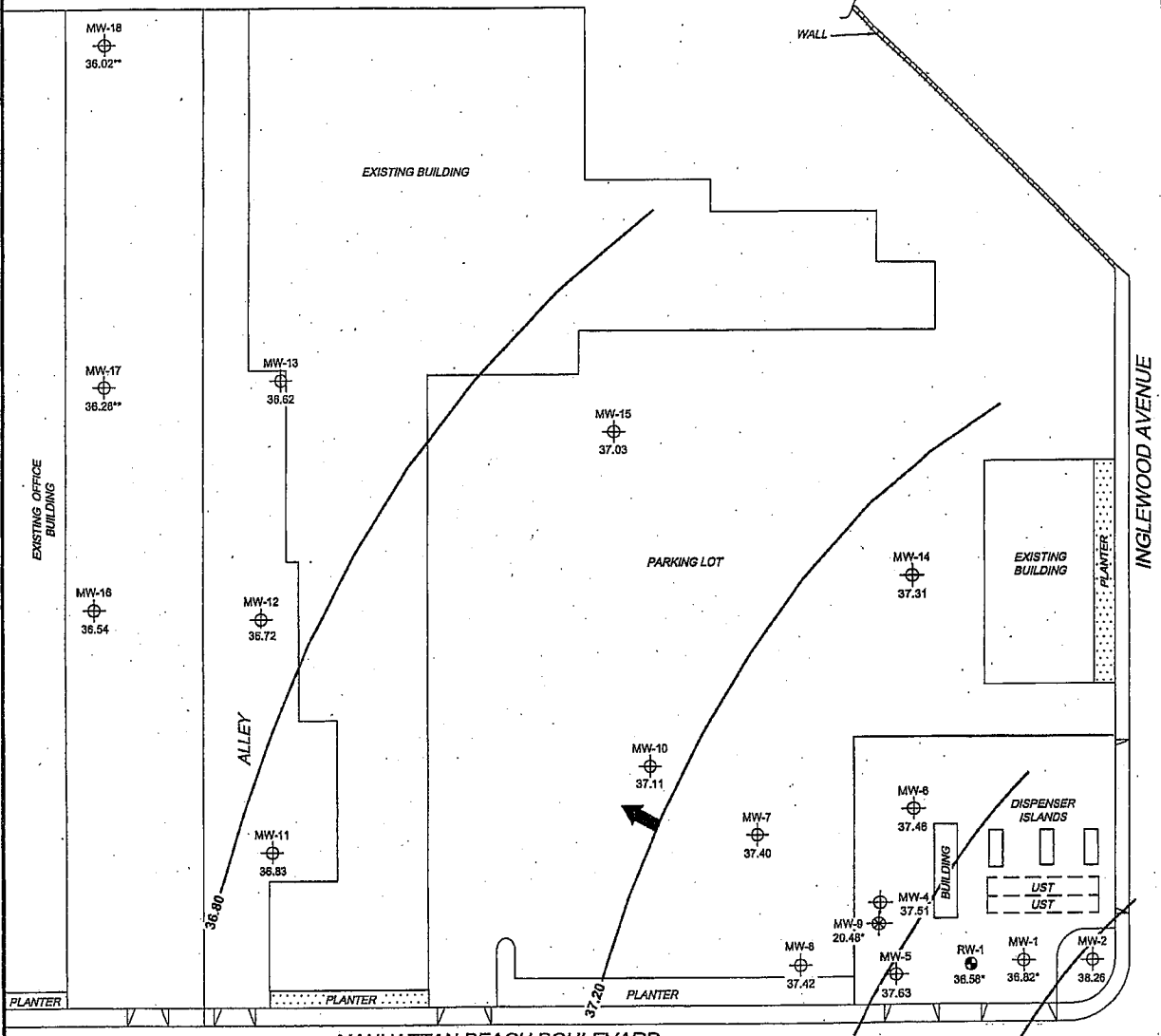


Figure 2

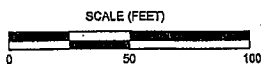
**LEGEND**

- MW-18 Shallow Monitoring Well with Groundwater Elevation (feet)
- MW-9 Deep Monitoring Well
- RW-1 Recovery Well
- 38.00 — Groundwater Elevation Contour
- General Direction of Groundwater Flow



**NOTES:**

Contour lines are interpretive and based on fluid levels measured in monitoring wells. Elevations are in feet above mean sea level. \* = not included in groundwater contour interpretation. UST = underground storage tank. \*\* = gauged on 7/27/07; not included in groundwater contour interpretation.



PROJECT: 122544  
 FACILITY:  
 76 STATION 4817  
 3601 INGLEWOOD AVENUE  
 REDONDO BEACH, CALIFORNIA

GROUNDWATER ELEVATION  
 CONTOUR MAP  
 July 3, 2007

FIGURE 2

STATE OF CALIFORNIA  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION  
MONITORING AND REPORTING PROGRAM NO. CI-9340  
for  
CONOCOPHILLIPS COMPANY  
3601 INGLEWOOD AVENUE, REDONDO BEACH  
(OZONE INJECTION FOR GROUNDWATER CLEANUP)  
(ORDER NO. R4-2007-0019, SERIES NO. 039)

I. REPORTING REQUIREMENTS

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

<u>Monitoring 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.

November 21, 2007

- 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 injection activities:

1. Location map showing injection points used for the ozone injection.
2. Written and tabular summary defining the quantity of ozone injected per month to the groundwater and a summary describing the days on which the injection system was in operation.
3. Quarterly visual inspection at each injection point shall be conducted to evaluate the well casing

integrity for a period of three month 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 during the proposed ozone injection. Separate injection points/wells must be installed at the site for the injection.

### III. GROUNDWATER MONITORING PROGRAM

The Discharger shall conduct groundwater monitoring at the site.

Groundwater samples shall be collected from up-gradient groundwater monitoring well MW-1, source wells MW-4, MW-7, and MW-10, and down-gradient well MW-13 to monitor the effectiveness of the in-situ groundwater remediation (refer to attached Figure 3). Groundwater shall be monitored for the duration of the remediation in accordance with the following discharge monitoring program:

CONSTITUENT	UNITS	TYPE OF SAMPLE	MINIMUM FREQUENCY OF ANALYSIS <sup>1</sup>
Total petroleum hydrocarbons as gasoline (TPHg) and as diesel (TPHd)	µg/L	Grab	• Quarterly
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)	µg/L	Grab	• Quarterly
Methyl tertiary butyl ether (MTBE), Tertiary butyl alcohol (TBA), Tertiary amyl methyl ether (TAME), Di-isopropyl ether (DIPE), ether (ETBE)	µg/L	Grab	• Quarterly
Ethanol Formaldehyde Acetone	µg/L	Grab	• Quarterly
Total dissolved solids Boron Chloride Bromide Sulfate	mg/L	Grab	• Quarterly
Oxidation-reduction potential	millivolts		• Quarterly
Dissolved Oxygen	mg/L	Grab	• Quarterly
Dissolved ferrous iron Arsenic	µg/L	Grab	• Quarterly



CONSTITUENT	UNITS	TYPE OF SAMPLE	MINIMUM FREQUENCY OF ANALYSIS <sup>1</sup>
Total Chromium and chromium six <sup>3</sup>	µg/L	Grab	• Quarterly
PH	pH units	Grab	• Quarterly
Temperature	<sup>0</sup> F/ <sup>0</sup> C	Grab	• Quarterly
Groundwater Elevation	Feet, mean sea level and below ground surface	In situ	• Quarterly

<sup>1</sup> The first sampling event must be conducted one week following the ozone injection.  
<sup>2</sup> The Discharger is required to monitor for these compounds only if they are detected in the first sampling event.  
<sup>3</sup> The Discharger is required to monitor for total chromium and chromium six only if they are detected in the first sampling event.

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 \_\_\_\_\_.

ConocoPhillips Company  
Monitoring & Reporting Program No. CI-9340

Order No. R4-2007-0019

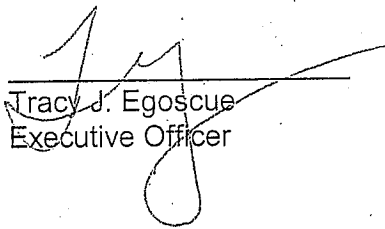
\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(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.

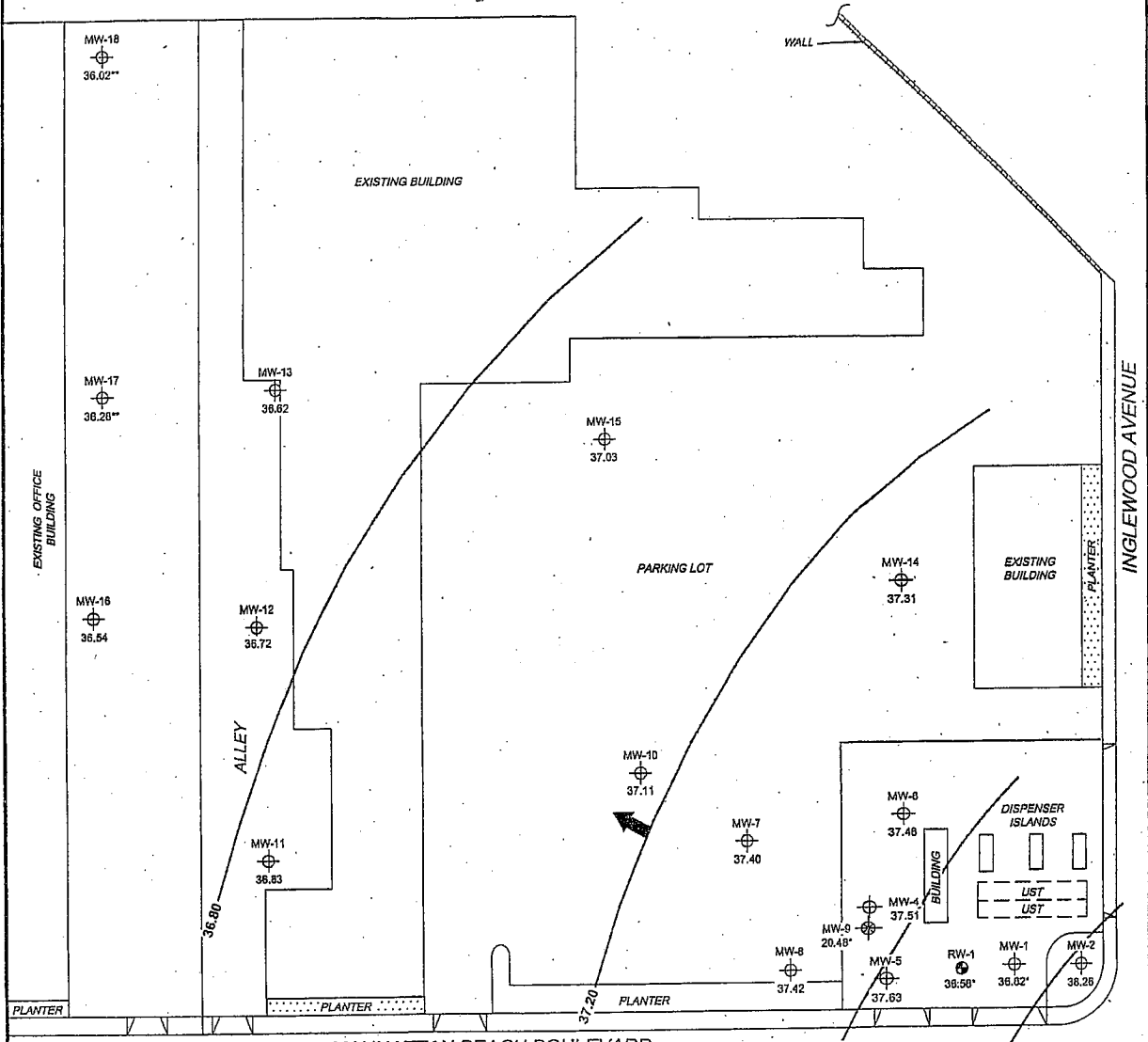
Ordered by:

  
\_\_\_\_\_  
Tracy J. Egoscue  
Executive Officer

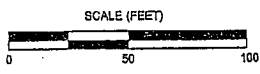
Date: November 21, 2007

**LEGEND**

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**FIGURE 3**