



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

June 6, 2008

Mr. David Harris
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
UNOCAL SERVICE STATION NO. 2474
11000 SOUTH ATLANTIC AVENUE, LYNWOOD, CA
(ORDER NO. R4-2007-0019, SERIES NO. 059; CI NO. 9412)
(ID# I-10993) (USTCF #9285)**

Dear Mr. Harris:

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 remediation.

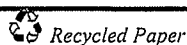
The site is an active 76 Service Station located at 11000 South Atlantic Avenue in the City of Lynwood, California (Site) (Figure 1) (Latitude: N 33° 55' 48", Longitude: W 118° 10' 48").

There are four dispenser islands, two 12,000-gallon gasoline underground storage tanks (USTs), and an aboveground waste oil tank at the site. The former USTs consisted of single-walled steel and were reportedly installed in 1967. In 1981, fiberglass dispenser lines and leak detectors were installed. In 1998, the single-walled USTs were replaced with double-walled USTs. Site investigations detected soil and groundwater contaminations beneath the Site. The quarterly groundwater monitoring program has been implemented since 1994. The most recent monitoring data indicated that the maximum total petroleum hydrocarbon as gasoline (TPH_G) concentration at 100,000 µg/L, benzene concentration at 21,000 µg/L and methyl tertiary butyl ether (MTBE) concentration at 47,000 µg/L were detected.

Delta Consultants (Delta) prepared the "Workplan for Installation of Ozone Injection Wells (Workplan)," dated February 14, 2008, for the subject site. In the Workplan, Delta proposed to install five ozone injection wells (OS-6 through OS-10) (Figure 2) for the in-situ groundwater remediation. The Workplan was approved by the Regional Board on April 14, 2008.

The groundwater monitoring program CI-9412 will be performed for groundwater monitoring wells MW-1, MW-2, MW-5, MW-8, and MW-7 (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 and after the injection activities.

California Environmental Protection Agency



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

Mr. David Harris
ConocoPhillips Company

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June 6, 2008

Regional Board staff have 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, Monitoring and Reporting Program No. CI-9412, 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.

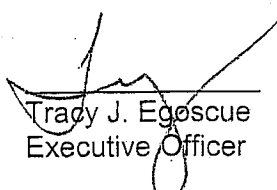
The Monitoring and Reporting Program requires you to implement the monitoring program on the effective date of this enrollment under Regional Board Order No. R4-2007-0019. All monitoring reports shall be sent to the Regional Board, ATTN: Information Technology Unit.

When submitting monitoring or technical reports to the Regional Board per these requirements, please include a reference to Compliance File No. CI-9412, 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-9412
3. Standard Provisions

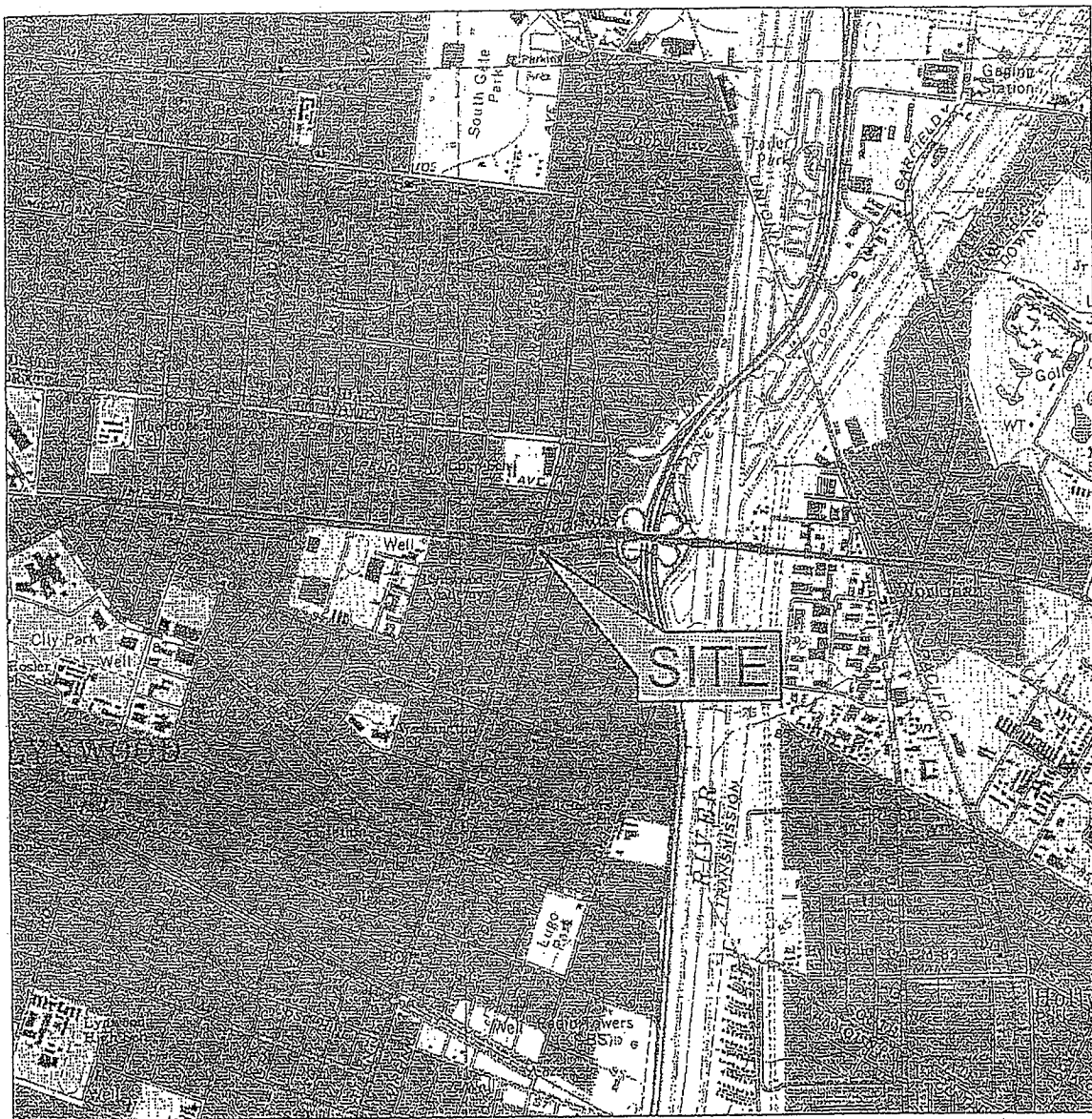
cc: Ms. Yvonne Shanks, State Water Resources Control Board, Underground Storage Tank Cleanup Fund
Mr. Tim Smith, Los Angeles County Department of Public Works
Jane Chatwell Family Bypass Trust, Property Owner
Mr. Jay Badiei, Delta Environmental Consultants, Inc.

California Environmental Protection Agency



Recycled Paper

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



0 1000 FT 2000 FT
 SCALE: 1 : 24,000

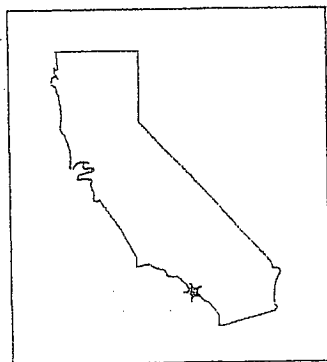


FIGURE 1
 SITE LOCATION MAP

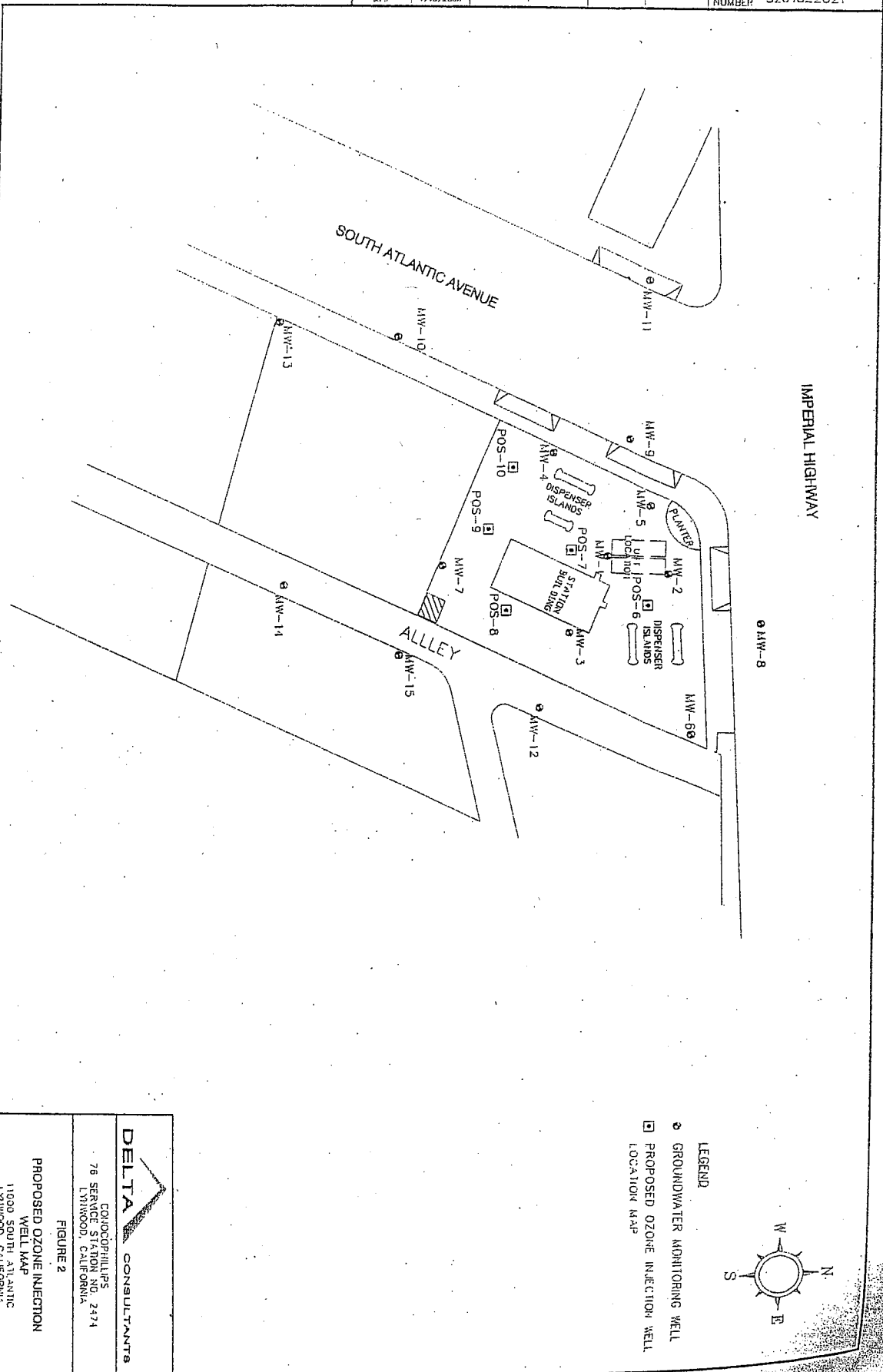
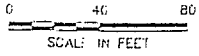
76 STATION NO. 2474
 11000 SOUTH ATLANTIC AVENUE
 LYNWOOD, CA

PROJECT NO. C202-474	DRAWN BY MC 12/2/05
FILE NO. Site Locator 2474	PREPARED BY MC
REVISION NO. 1	REVIEWED BY







SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, CALABASAS QUADRANGLE. 1967

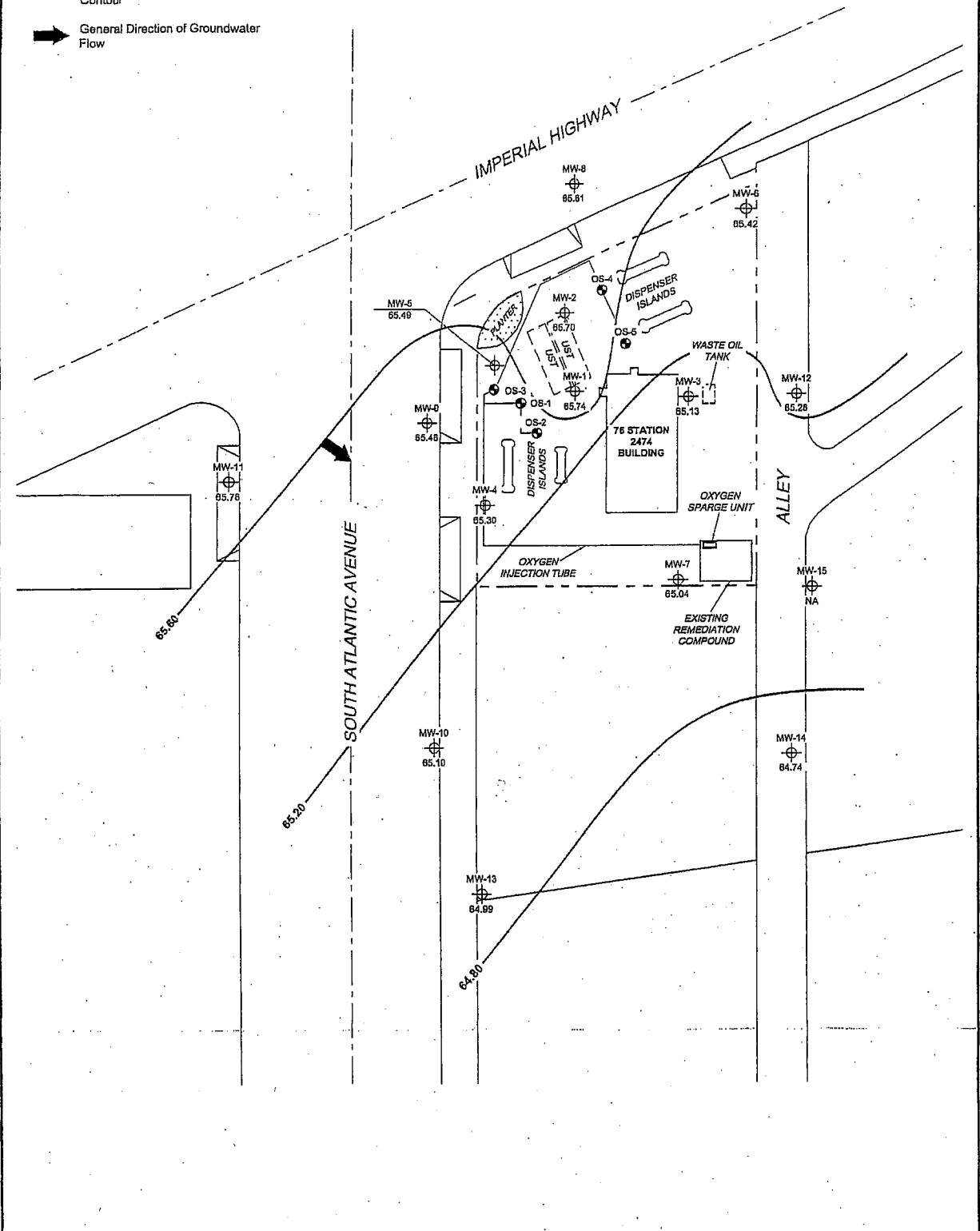
DRAWN BY J.F.F.	CHECKED BY 12/8/2008	APPROVED BY	PROJECT NUMBER C204822021
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H:\Client\ConocoPhillips\Projects\Hwy2474\Drawings\2474-01-11-08\2474-01-11-08-02.dwg (2474-01-11-08-02.dwg) 12/8/2008 2:25:54 PM

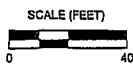
LEGEND

- MW-15  Monitoring Well with Groundwater Elevation (feet)
- OS-5  Oxygen Injection Well
- 65.60  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. NA = not analyzed, measured, or collected. UST = underground storage tank.



PROJECT: 154770
FACILITY:
76 STATION 2474
11000 SOUTH ATLANTIC AVENUE
LYNWOOD, CALIFORNIA

GROUNDWATER ELEVATION
CONTOUR MAP
January 15, 2008

FIGURE 2

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
MONITORING AND REPORTING PROGRAM NO. CI-9412
for
CONOCOPHILLIPS COMPANY
(UNOCAL SERVICE STATION NO. 2474)
11000 SOUTH ATLANTIC AVENUE, LYNWOOD, CA
(OZONE INJECTION FOR GROUNDWATER CLEANUP)
(ORDER NO. R4-2007-0019, SERIES NO. 059)

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 July - September 2008, shall be received at the Regional Board by **October 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, 2009, 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.

June 6, 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 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-8, source wells MW-1, MW-2, and MW-5, and down-gradient well MW-7 to monitor the effectiveness of the in-situ groundwater remediation (refer to attached Figure 3).

Upon completion of the pilot test injection, the discharger shall submit a Remedial Action Plan. If a full scale in-situ remediation of groundwater contamination is proposed, the Regional Board will review and revise new sampling locations for the full scale injection.

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 ¹
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, Lead, Nickel, Cadmium, Manganese	mg/L	Grab	• Quarterly
Oxidation-reduction potential	millivolts		• Quarterly
Dissolved Oxygen	mg/L	Grab	• Quarterly

CONSTITUENT	UNITS	TYPE OF SAMPLE	MINIMUM FREQUENCY OF ANALYSIS ¹
Dissolved ferrous iron Arsenic	µg/L	Grab	• Quarterly
Total Chromium and chromium six ²	µg/L	Grab	• Quarterly
PH	pH units	Grab	• Quarterly
Temperature	⁰ F/ ⁰ C	Grab	• Quarterly
Groundwater Elevation	Feet, above mean sea level and below ground surface	In situ	• Quarterly
¹ One week <u>before</u> injection and quarterly thereafter. ² 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

ConocoPhillips Company
Unocal Service Station No. 2474
Monitoring & Reporting Program No. CI-9412

Order No. R4-2007-0019

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 _____.

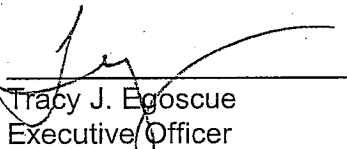
(Signature)

(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:

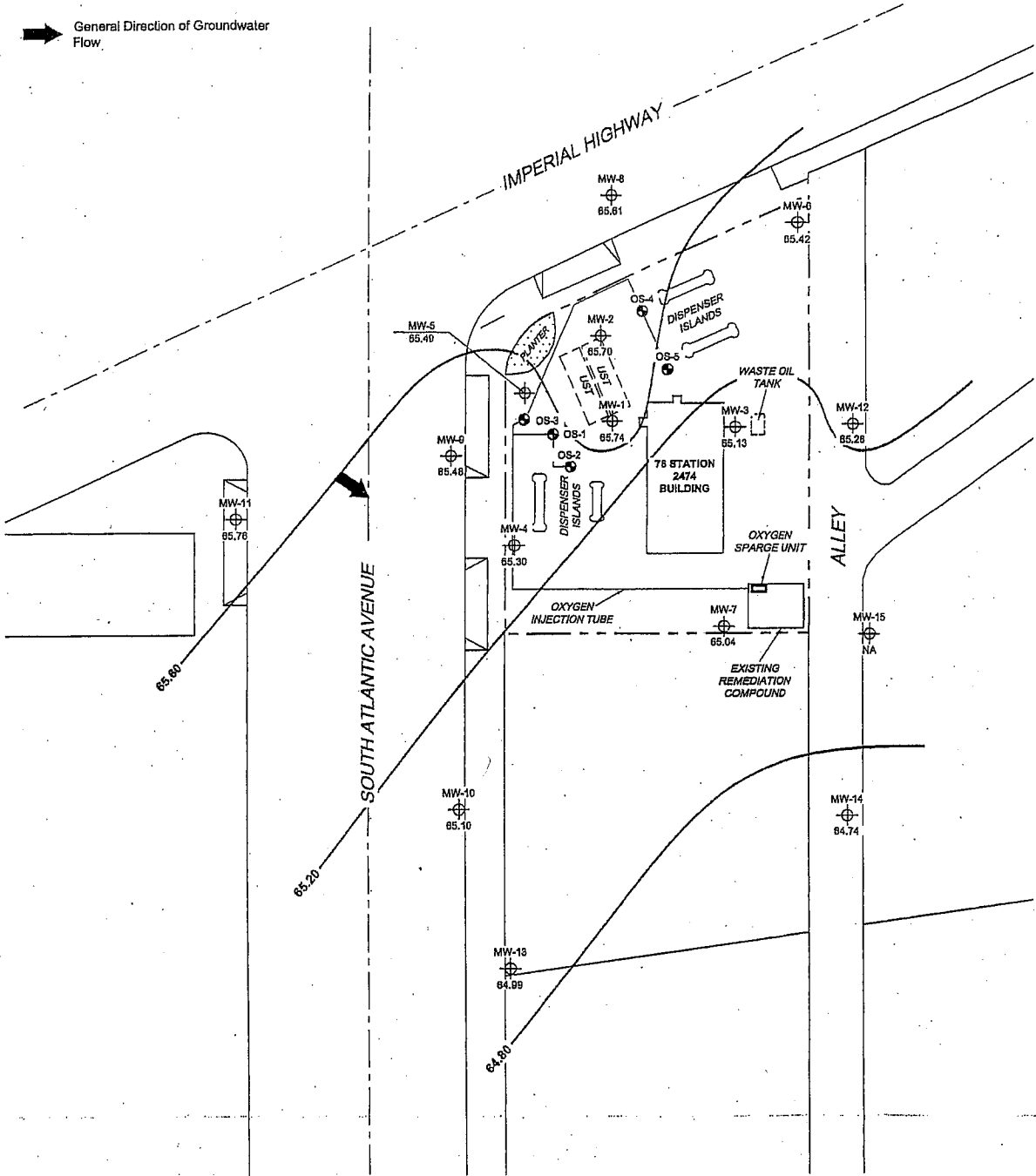


Tracy J. Egoscue
Executive Officer

Date: June 6, 2008

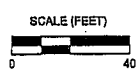
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 78 STATION 2474
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GROUNDWATER ELEVATION
 CONTOUR MAP
 January 15, 2008

FIGURE 2