



EDMUND G. BROWN, JR.  
GOVERNOR

MATTHEW RODRIGUEZ  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

## Los Angeles Regional Water Quality Control Board

April 5, 2016

Mr. Duane Zertuche  
Environmental Health and Safety Officer  
Long Beach Transit  
1963 E. Anaheim Street  
Long Beach, California 90801

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
CLAIM NO. **7015 0640 0006 6057 2902**

### **GENERAL WASTE DISCHARGE REQUIREMENTS FOR GROUNDWATER REMEDIATION AT PETROLEUM HYDROCARBON FUEL, VOLATILE ORGANIC COMPOUND, AND/OR HEXAVALENT CHROMIUM IMPACTED SITES:**

#### **LONG BEACH TRANSIT**

**1963 EAST ANAHEIM STREET, LONG BEACH, CALIFORNIA**

**CASE NO. 908130652; GLOBAL ID T060378240; CUF ID NO. 17284; PRIORITY D – 1**

Dear Mr. Zertuche:

We are in receipt of your application for coverage under the General Waste Discharge Requirements (WDR) utilizing in situ chemical oxidation.

The site is a former fuel dispensing station and is a fuel dispensing and maintenance facility for City of Long Beach ground transportation. The site is located at 1963 East Anaheim Street, between Gardenia Avenue and Cherry Avenue in the City of Long Beach, California. A remote-fill product pipeline leak and a dispenser leak were discovered in the northern tank farm area of the site in November 2000. Elevated concentrations of total petroleum hydrocarbons as gasoline (TPH<sub>G</sub>), volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene, and xylenes (BTEX), and fuel oxygenates including methyl tertiary-butyl ether (MTBE) were reported in soil and groundwater during initial placement of soil borings beneath the reported leak area (Soil boring B-1) in July 2001. Soil boring B-1 was converted into groundwater monitoring well MW-1. Between November 2002 and June 2013, ten additional groundwater monitoring wells (MW-2 through MW-11) were installed at the Site to monitor and delineate the impacts to groundwater.

The most recent groundwater monitoring data (June 2015) reported maximum concentrations of 8.71 micrograms per liter (µg/L) benzene, 119 µg/L MTBE, 47,000 µg/L tertiary butyl alcohol (TBA), and 23.6 µg/L tetrachloroethylene (PCE). It should be noted that MW-1 was not sampled due to the existence of 0.05 foot of free product. TPH<sub>G</sub> was not detected in all other wells above the method detection limit of 0.005 milligrams per liter (mg/L). The reported depth to groundwater ranges from approximately 23.57 feet to 26.53 feet bgs with a groundwater flow direction toward the southwest at a gradient of 0.0009 Ft/Ft.

Our letter dated March 19, 2015, approved the Remedial Action Plan (RAP) dated December 2014, submitted by SCS Engineers (SCS). The RAP proposed to conduct a pilot test to

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evaluate in situ chemical oxidation to remediate the dissolved phase hydrocarbon plume. The RAP described constituent treatment with the chemical oxidizer would involve injection (under permit) of Regen-Ox (sodium percarbonate) or Klozur CR (sodium persulfate/calcium peroxide/calcium hydroxide) in the upper 5 feet of the aquifer at 9 locations in the area surrounding MW-1. The application rate proposed would be 15.4 pounds Regen-Ox per foot of aquifer thickness treated (oxidant plus activator) over the course of three applications (each one to two weeks apart) or a single application of 12 pounds of Klozur CR per foot. In situ treatment with the oxygen releasing substance in the area of MW-9 would also involve injection in the upper 5 feet of the aquifer, in 20 locations, at an application rate of 12.3 pounds of oxygen release compound (ORC) advanced per foot or 36 pounds of PermeOx Ultra (calcium peroxide providing extended oxygen release) per foot. Injection would involve accessing the aquifer using a direct push drill rig and emplacement of reagents through the drill rod at each location as it is withdrawn from the ground.

We have completed our review of your application and determined that the proposed injections meet the conditions specified in Order No. R4-2014-0187, "General Waste Discharge Requirements for In-Situ Groundwater Remediation and Groundwater Re-Injection" adopted by the Los Angeles Regional Water Quality Control Board (Los Angeles Regional Board) on September 11, 2014.

Enclosed is your WDR, consisting of the General WDR R4-2014-0187, including the Revised Monitoring and Reporting Program (MRP) CI No. 10220 and Standard Provisions. The WDR issued shall not be terminated until Regional Board staff determines the WDR are no longer needed for the site cleanup.

All technical monitoring reports submitted to the Los Angeles Regional Board per these requirements must reference CI No. 10220 to ensure 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.

In accordance with regulations adopted by the State Water Resources Control Board regarding electronic submittal of information, Underground Storage Tank Program (UST) monitoring reports have been electronically submitted to the State Board GeoTracker system under the UST Global ID T0603780422. To comply with the MRP under the WDR, you shall upload the WDR monitoring reports to the State Database GeoTracker under both Global IDs Global ID T060378240 (continuing) and WDR100037604 (new).

For all parties who upload electronic documents to the State GeoTracker Database, the Regional Board will no longer accept documents (submitted by either hard copy or email) that already have been uploaded to GeoTracker. Please see Electronic Submittal to the Los Angeles Regional Board for GeoTracker Users dated December 12, 2011 at:

<http://www.waterboards.ca.gov/losangeles/resources/Paperless/Paperless%20Office%20for%20OGT%20Users.pdf>

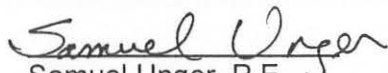
To avoid paying future annual fees, please submit a written request for termination of your enrollment under the general permit in a separate letter when your project has been completed and the permit is no longer needed. Be aware that the annual fee covers the fiscal year billing period beginning July 1 and ending June 30, the following year. You will pay the full annual fee

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if your request for termination is made after the beginning of each new fiscal year beginning July 1.

If you have any questions, please contact Dr. Eric Wu at (213) 576-6683 or [ewu@waterboards.ca.gov](mailto:ewu@waterboards.ca.gov) for issues regarding the WDR or Mr. Joshua Cwikla at (213) 576-6713 or [joshua.cwikla@waterboards.ca.gov](mailto:joshua.cwikla@waterboards.ca.gov) for issues regarding the underground storage tanks.

Sincerely,

  
Samuel Unger, P.E.  
Executive Officer

Enclosures: 1. General WDR Order No. R4-2014-0187  
2. Revised Monitoring and Reporting Program No. CI No. 10220

cc: Mr. Micah Reich, State Water Resource Control Board, UST Cleanup Fund  
Mr. Brian Partington, Water Replenishment District of Southern California  
Ms. Carmen Piro, City of Long Beach  
Mr. Ken Lister, SCS Engineers

STATE OF CALIFORNIA  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM CI NO. 10220

FOR

LONG BEACH TRANSIT  
1963 EAST ANAHEIM STREET, LONG BEACH, CALIFORNIA  
(INSITU CHEMICAL OXIDATION FOR GROUNDWATER CLEANUP)  
(ORDER NO. R4-2014-0187, SERIES NO. 065)

I. REPORTING REQUIREMENTS

- A. Long Beach Transit (hereinafter Discharger) shall implement this monitoring program on the effective date of this Monitoring and Reporting Program (MRP). The first monitoring report under this MRP, for the period from January to June 2016, shall be received at the Regional Board by July 15, 2016. Subsequent monitoring reports shall be received at the Regional Board according to the following schedule:

<u>Monitoring Period</u>	<u>Report Due</u>
January – June	July 15
July – December	January 15

The Discharger shall comply with the Electronic Submittal of Information (ESI) requirements by submitting all reports required under the MRP to the State Water Resources Control Board (State Board) GeoTracker database, Attention: Information Technology Unit.

If there is no discharge or injection during any reporting period, the report shall so state.

- B. Laboratory analyses – all chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by the State Board Division of Drinking Water - 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.
- C. 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.

- D. 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.
- E. Each monitoring report must affirm in writing "All analyses were conducted at a laboratory certified for such analyses by the State Board ELAP 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.
- F. 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.
- G. 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.
- H. If the Discharger performs analyses on any groundwater samples more frequently than required by this MRP using approved analytical methods, the results of those analyses shall be included in the report.
- I. 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.
- J. The Discharger should not implement any changes to the MRP prior to receiving Executive Officer's written approval.
- K. In accordance with regulations adopted by the State Board regarding electronic submittal of information, UST monitoring reports have been electronically submitted to the State Board GeoTracker system under the UST Global ID T060378240. To comply with the MRP under this WDR, the Discharger shall upload the WDRs monitoring reports to the GeoTracker system under both Global IDs T060378240 (continuing) and WDR100037604 (new).

II. CALCIUM PEROXIDE OR CALCIUM OXY-HYDROXIDE AND SODIUM PERCARBONATE/SODIUM SILICATE OR SODIUM PERSULFATE INJECTION MONITORING REQUIREMENTS

The reports shall contain the following information regarding injection activities:

1. A location map showing injection points used for the calcium peroxide or calcium oxy-hydroxide and sodium percarbonate or sodium persulfate injection. Groundwater monitoring wells shall not be used as injection points to avoid reduction of groundwater monitoring network, data bias, well screen clogging, and alteration.
2. Written and tabular summary defining the quantity of calcium peroxide or calcium oxy-hydroxide and sodium percarbonate or sodium persulfate injection injected to the groundwater and a summary describing the days on which the injection system was in operation.
3. Additional monitoring locations are to be permitted with Regional Board staff concurrence. Proposal for additional injection points shall be reviewed and approved by the Regional Board, and then this WDR can be used for full-scale clean up.

III. GROUNDWATER MONITORING PROGRAM

The Discharger shall conduct groundwater monitoring at the site. The Executive Officer may change the monitoring program at any time during remediation. Groundwater samples shall be collected from all onsite and offsite wells associated with the site. Additional monitoring wells for full scale implementation may be required by the Regional Board. During the pilot test, groundwater samples will be collected approximately forty-five and ninety days after the initial injection. Groundwater shall be monitored for the duration of the remediation in accordance with the following monitoring program:

CONSTITUENT	UNITS	TYPE OF SAMPLE	MINIMUM FREQUENCY OF ANALYSIS <sup>1</sup>
Total petroleum hydrocarbons as gasoline (TPH <sub>G</sub> ) and as diesel (TPH <sub>D</sub> )	µg/L <sup>3</sup>	Grab	Semi-Annually
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)	µg/L	Grab	Semi-Annually
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	Semi-Annually
Naphthalene	µg/L	Grab	Semi-Annually
Ethanol, Formaldehyde Acetone	µg/L	Grab	Semi-Annually

Total dissolved solids, Arsenic, Boron, Chloride, Bromide, Sulfate, Lead, Nickel, Cadmium, Manganese	mg/L <sup>4</sup>	Grab	Semi-Annually
Oxidation-reduction potential (ORP)	Millivolts	Grab	Semi-Annually
Dissolved Oxygen	µg/L	Grab	Semi-Annually
Dissolved Ferrous Iron	µg/L	Grab	Semi-Annually
Total Chromium and Hexavalent Chromium <sup>2</sup>	µg/L	Grab	Semi-Annually
pH	pH units	Grab	Semi-Annually
Temperature	<sup>o</sup> F/ <sup>o</sup> C	Grab	Semi-Annually
Groundwater Elevation	Feet, mean sea level and below ground surface	In situ	Semi-Annually

- <sup>1</sup>. One week before injection and semi-annually thereafter.
- <sup>2</sup>. The Discharger is required to monitor for total chromium and hexavalent chromium in the baseline, second and fourth semi-annual sampling. If detected at any of these sampling events, the total chromium and chromium six must be monitored semi-annually thereafter.
- <sup>3</sup>. µg/L = microgram per liter.
- <sup>4</sup>. mg/L = milligram per liter.

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. Semi-annual observation of groundwater levels, recorded to 0.01 feet mean sea level, and calculated groundwater flow direction.

#### IV. MONITORING FREQUENCIES

Specifications in the MRP are subject to periodic revisions. 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 Regional Board, upon request by interested parties.

Ordered by:

Samuel Unger  
Samuel Unger, P.E.  
Executive Officer

Date: April 5, 2016