

Los Angeles Regional Water Quality Control Board

December 9, 2014

Mr. Rex Abacan
Environmental Manager
Circle K Stores, Inc-West Coast Division
255 East Rincon, Suite 100
Corona, CA 92879

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
CLAIM NO.: 7002 0860 0004 5295 4440

**GENERAL WASTE DISCHARGE REQUIREMENTS FOR IN-SITU GROUNDWATER
REMEDICATION AND GROUNDWATER RE-INJECTION (FILE NO. 01-116)
CIRCLE K STORE #2211258
2626 DEL AMO BLVD, LAKEWOOD (FILE NO. I-06124)
CLEANUP FUND ID. 5843; GLOBAL ID. T0603703170;
ORDER NO. R4-2014-0187; SERIES NO. 002; CI NO. 10092.**

Dear Mr. Abacan:

We have completed our review of your application for coverage under General Waste Discharge Requirements to install three onsite ozone sparge wells (OS) at the subject site for the purpose of conducting OS remediation feasibility testing.

The site is an active service station surrounded by commercial properties. Groundwater is present at the site and occurs in three distinct water-bearing zones: Shallow (Zone 1, depth to groundwater is 23 to 34 feet bgs), Intermediate (Zone 2, depth to groundwater 46 to 53 feet bgs), and deep (Zone 3, depth to groundwater is 63 to 78 feet bgs). Groundwater monitoring and sampling has been conducted at the site since 1993.

The data from the most recent groundwater sampling event indicated elevated total petroleum hydrocarbon as gasoline (TPH_G), benzene and tertiary butyl alcohol (TBA) concentrations in zone 2 and zone 3. Currently maximum concentrations of TPH_G, benzene and TBA reported in groundwater in zone 2 are 50,000 microgram per liter (ug/L), 33,000 ug/L and 50,000 ug/L respectively, and 47,000 ug/L, 32,000 ug/L and 26,000 in Zone 3 respectively. There is no plume in Zone 1.

Our July 3, 2014, letter approved your "Workplan to Conduct Ozone Sparge Well Installation And Remediation Feasibility Testing" dated January 23, 2014, prepared by your consultant, TRC. The Workplan proposed to install three onsite ozone sparge wells (OS) at the subject site for the purpose of conducting OS remediation feasibility testing. OS involves the injection of ozone within the saturated zone to promote the oxidative decomposition of dissolved-phase hydrocarbons. One onsite OS well will be installed per water-bearing zone. Well OS01, which will be placed in Zone 1, will be placed in the north corner of the site. Wells OS02A and OS03B will be placed in Zone 2 and Zone 3, respectively, in the southeast corner of the site. The proposed remediation feasibility testing activities will include performance of a 2 to 3 week long ozone sparge test.

CHARLES STRINGER, CHAIR | SAMUEL UNGER, EXECUTIVE OFFICER

We have completed our review of your application and determined that the proposed discharge meets the conditions specified in Order No. R4-2014-0187, "General Waste Discharge Requirements for In-Situ Groundwater Remediation and Groundwater Re-Injection (File No. 01-116)," adopted by the Los Angeles Regional Water Quality Control Board on September 11, 2014.

Ozone injection to groundwater is permitted as an oxidation/aerobic degradation enhancement compound in the General WDRs, Order No. R4-2014-0187. To avoid material surfacing, you can go to http://www.waterboards.ca.gov/losangeles/water_issues/programs/ust/guidelines/Subsurface_injection_of_ISR.pdf for guidance.

Enclosed is Monitoring and Reporting Program No. CI-10092 (MRP) which allows the use of ozone injection for groundwater remediation at the site. This MRP and the General WDRs constitute the WDRs for the proposed feasibility study and full-scale implementation, if necessary.

Please include a reference to MRP No. CI-10092 when submitting technical monitoring reports to the Regional Board. This 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.

In accordance with regulations adopted by the State Board in September 2004 regarding electronic submittal of information, underground storage tank (UST) monitoring reports have been electronically submitted to the State Board GeoTracker system under the UST Global ID T0603703170. To comply with the Monitoring and Reporting Program under this WDRs, you shall upload the WDRs monitoring reports to the GeoTracker under the two Global ID T0603703170 (continuing) and WDR100016424 (new). For more information regarding the new Global ID under WDRs, please see the ESI training video available at:

<https://waterboards.webex.com/waterboards/ldr.php?AT=pb&SP=MC&rID=44145287&rKey=7dad4352c990334b>.

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

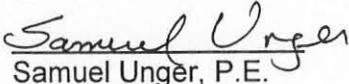
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If you have any questions, please contact Mr. Ahmad Lamaa at (213) 576 – 6716 or at alamaa@waterboards.ca.gov for issues regarding the underground storage tank program or Mr. Eric Wu at (213) 576 – 6683 or at ewu@waterboards.ca.gov for issues regarding the WDR.

Sincerely,



Samuel Unger, P.E.

Executive Officer

Enclosure:

1. Monitoring and Reporting Program CI-10092
2. Order No. R4-2014-0187

cc: Ms. Kathy Jundt, State Water Resources Control Board, UST Cleanup Fund
Mr. Richard Lavin, Los Angeles County, Department of Public Health, Environmental Health-Drinking Water Program
Ms. Phuong Ly, Water Replenishment District of Southern California
Mr. Ross Surrency, TRC

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

MONITORING AND REPORTING PROGRAM NO. CI-10092

FOR

CIRCLE K STORE #2211258
2626 DEL AMO BLVD, LAKEWOOD

(OZONE INJECTION FOR GROUNDWATER REMEDIATION)
(ORDER NO. R4-2014-0187, SERIES NO. 002)

I. REPORTING REQUIREMENTS

- A. Circle K Stores, Inc. (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 July to December 2014, shall be received at the Regional Board by January 15, 2015. 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

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.

- B. Laboratory analyses – all chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by the California Environmental Lab 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

Monitoring & Reporting Program No. CI-10092

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 California 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 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 T0603703170. To comply with the MRP under this WDR, the Discharger shall upload the WDRs monitoring reports to the Geotracker system under the two Global ID T0603703170 (continuing) and WDR100016424 (new).

II. OZONE INJECTION MONITORING REQUIREMENTS

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

1. A location map showing injection points used for the ozone injection feasibility study. Groundwater monitoring wells shall not be used as injection points to avoid reduction of groundwater monitoring network, data bias, well screen clogging and alteration. Three onsite ozone sparge wells (OS) are proposed to be installed at the subject site for the purpose of conducting OS remediation feasibility testing. Well OS01, which will be placed in Zone 1, will be placed in the north corner of the site. Wells OS02A and OS03B will be placed in Zone 2 and Zone 3, respectively, in the southeast corner of the site (Figure 2). Additional injection points for full scale application should be reviewed and approved by the Regional Board prior to full scale implementation.
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.

III. GROUNDWATER MONITORING PROGRAM

The Discharger shall conduct groundwater monitoring at the site. Groundwater samples shall be collected from each zone 2 and zone 3 from one up-gradient groundwater monitoring wells MW02A (zone 2) and MW02B (zone 3), source area groundwater monitoring wells MW03A (zone 2) and MW03B (zone 3) and down-gradient groundwater monitoring wells MW08A (zone 2) and MW08B (zone 3). Additional monitoring wells for full scale implementation may be required by the Regional Board. 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 ¹
Total petroleum hydrocarbons as gasoline (TPH _G) and as diesel (TPH _D)	µg/L ³	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), 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 ⁴	Grab	• Semi-Annually
Oxidation-reduction potential	Millivolts	Grab	• Semi-Annually
Dissolved Oxygen	µg/L	Grab	• Semi-Annually
Dissolved ferrous iron	µg/L	Grab	• Semi-Annually
Total Chromium and hexavalent chromium ²	µg/L	Grab	• Semi-Annually
pH	pH units	Grab	• Semi-Annually
Temperature	⁰ F/ ⁰ C	Grab	• Semi-Annually
Groundwater Elevation	Feet, mean sea level and below ground surface	In situ	• Semi-Annually

¹. One week before injection and semi-annually thereafter.

². 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.

³. µg/L = microgram per liter.

⁴. 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 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 _____.

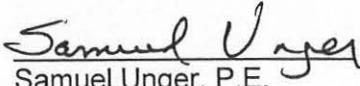
_____ (Signature)

_____ (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 Regional Board.

Ordered by:


Samuel Unger, P.E.
Executive Officer

Date: December 9, 2014