



Los Angeles Regional Water Quality Control Board

August 31, 2012

Mr. Donald C. Albin
Rainbow Transport Tank Cleaners
21119 Wilmington Avenue
Carson, CA 90810

REVISED MONITORING AND REPORTING PROGRAM – OZONE INJECTION FOR GROUNDWATER REMEDIATION AT RAINBOW TRANSPORT TANK CLEANERS PROPERTY, 21119 WILMINGTON AVENUE, CARSON, CALIFORNIA (FILE NO. 12-019, WDR ORDER NO. R4-2007-0019, SERIES NO. 189, CI-9820, GLOBAL ID WDR100003825)

Dear Mr. Albin:

On July 6, 2012, Rainbow Transport Tank Cleaners (Rainbow) was enrolled under the Los Angeles Regional Water Quality Control Board (Regional Board) Order No. R4-2007-0019, "General Waste Discharge Requirements for Groundwater Remediation at Petroleum Hydrocarbon Fuel, Volatile Organic Compound And/Or Hexavalent Chromium Impacted Sites, Waste Discharge Requirements (WDR) For Pilot Tests For The Injection Of Surfactants Into Subsurface To Remediate Petroleum Hydrocarbon Impacted Groundwater," adopted by this Regional Board on March 1, 2007, for the injection of ozone into existing injection wells. Upon enrollment of WDR, Rainbow was required to implement Monitoring and Reporting Program (MRP) No. CI-9820.

On August 9, 2012, ENVIRON International Corporation (ENVIRON), on behalf of Rainbow, proposed to modify the MRP with the following requests:

- 1) Change the minimum frequency of turbidity analysis from weekly to bi-weekly. ENVIRON could not identify readily available data loggers that fit inside the existing 2-inch diameter monitoring wells used for the MRP and that provide turbidity measurements as well. Therefore, ENVIRON requests to change the minimum frequency of analysis for turbidity from weekly to bi-weekly during injection in order to coincide with bi-weekly volatile organic compound (VOC) sampling. Given that the pilot test will be completed over a period of approximately three months, changing the turbidity measurement from a weekly to bi-weekly schedule will not materially impact the findings of the pilot test.
- 2) Change the type of sample for turbidity from down-well data logger to low-flow sample as a result of the above request.

On August 27, 2012, Regional Board staff received an e-mail from the Department of Toxic Substances Control (DTSC) confirming approval of the proposed changes to the turbidity

monitoring. After review, Regional Board staff concurs with the request, and the MRP No. CI-9820 is therefore modified as follows:

- 1) Change the minimum frequency of analysis for turbidity from weekly to bi-weekly.
- 2) Change the type of sample for turbidity from down-well data logger to low-flow sample.

The Permittee shall comply with the Electronic Submittal of Information (ESI) requirements by submitting all reports and correspondence required under the MRP, including groundwater monitoring data, discharge location data, and pdf monitoring reports to the State Water Resources Control Board GeoTracker database under Global ID WDR100003825. ESI training video is available at:

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

Please see Paperless Office Notice for GeoTracker Users, dated December 12, 2011 at:
<http://www.waterboards.ca.gov/losangeles/resources/Paperless/Paperless%20office%20for%20OGT%20Users.pdf>

If you have any additional questions, please contact the Project Manager, Mr. David Koo at (213) 620-6155 (dkoo@waterboards.ca.gov) or the Unit Chief, Dr. Eric Wu at (213) 576-6683 (ewu@waterboards.ca.gov) regarding this matter.

Sincerely,


Samuel Unger, P.E.
Executive Officer

Enclosure: Monitoring and Reporting Program No. CI-9820 revised on date August 31, 2012

cc: Mr. Ryan Batty, Department of Toxic Substances Control
Mr. Eddie Arslanian, ENVIRON
Mr. Timothy Cameron, Cameron & Pearlson

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

REVISED MONITORING AND REPORTING PROGRAM NO. CI-9820
FOR
RAINBOW TRANSPORT TANK CLEANERS PROPERTY
21119 WILMINGTON AVENUE, CARSON, CA

ENROLLMENT UNDER REGIONAL BOARD
ORDER NO. R4-2007-0019 (SERIES NO. 189)
FILE NO. 12-019

I. REPORTING REQUIREMENTS

- A. Rainbow Transport Tank Cleaners Property (hereinafter Discharger) shall implement this revised Monitoring and Reporting Program at 21119 Wilmington Avenue, Carson, California, the location of which is shown on Figure 1, on the effective date of this enrollment (August 31, 2012) under Regional Board Order No. R4-2007-0019. The first monitoring report under this revised monitoring program is due by October 15, 2012.

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.
- C. By January 30th of each year, beginning January 30, 2013, 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 discuss 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.
- D. Laboratory analyses – all chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by the California Department of Public Health Environmental Laboratory Accreditation Program (ELAP). The one exception is for the Dissolved Gasses (ethene, ethane, methane) that will be analyzed by Microseeps, Inc. of Pittsburgh, Pennsylvania which is certified by the National Environmental Laboratory Accreditation Program (NELAP). A copy of the laboratory certifications shall be provided each time a new and/or renewal is obtained from ELAP and/or NELAP.

- 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 Executive Officer. At least once a year, 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.
- F. 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. Proper chain of custody procedures must be followed and a copy of the chain of custody documentation shall be submitted with the report.
- 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 Public Health, 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. For every item where the requirements are not met, the Discharger shall submit a statement of the cause(s), and actions undertaken or proposed which will bring the discharge into full compliance with waste discharge requirements at the earliest possible time, including a timetable for implementation of those actions.
- I. The Discharger shall maintain all sampling and analytical results, including strip charts, 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. 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.
- K. Any mitigation/remedial activity including any pre-discharge treatment conducted at the site must be reported in the quarterly monitoring report.
- L. 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.

- M. The Discharger shall comply with requirements contained in Section G of Order No. R4-2007-0019 "*Monitoring and Reporting Requirements*" in addition to the aforementioned requirements.

II. INJECTION MONITORING REQUIREMENTS

Ozone Injections - An injection pilot test will be performed at the site at four well locations. The approximately three month pilot test will be followed by approximately two to four weeks of post-injection monitoring. The injection will contain a mixture of ozone and compressed air. The ozone will serve as a chemical oxidant for the remediation of volatile organic compounds in groundwater at the site.

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 ozone injection wells.
2. Written summary defining:
 - Depth of injection;
 - Estimated volume and concentration of the ozone per injection well; and
 - Estimated total mass of ozone injected at site.
3. Monthly visual inspection at each injection well shall be conducted to evaluate the well casing integrity. The quarterly report shall include a summary of the visual inspection.

III. GROUNDWATER MONITORING PROGRAM FOR THE REMEDIATION PROJECT

A comprehensive baseline monitoring program has been approved for the site by the California Department of Toxic Substances Control. The table in this section identifies the constituents that will be analyzed in the wells during the baseline sampling event prior to injection and subsequent groundwater monitoring events during the monitoring period for the purpose of evaluating the effectiveness of the injection as part of the pilot study. If it is determined that the injection may continue as a full-scale remedy, then the constituent list and frequency will be re-evaluated.

The objective of this Monitoring and Reporting Program is to detect and evaluate impacts associated with the injection activities. The following wells shall constitute the Monitoring and Reporting Program for wells MW-16 (A/B), MW-17 (A/B), MW-20 (A/B), MW-23 (A/B), and MW-24 (A/B) (Figure 2 attached), where "A" represents a shallow zone screened interval and "B" represents an intermediate zone screened interval. 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.

<u>CONSTITUENT</u>	<u>UNITS</u> ¹	<u>TYPE OF SAMPLE</u>	<u>MINIMUM FREQUENCY OF ANALYSIS</u>
Water Temperature	°C	Down-well data logger	Weekly during injection
Specific Conductance	µS/cm	Down-well data logger	Weekly during injection
Dissolved Oxygen	mg/L	Down-well data logger	Weekly during injection
pH	pH units	Down-well data logger	Weekly during injection
Oxygen Reduction Potential	mV	Down-well data logger	Weekly during injection
Turbidity	NTU	Low-flow sample	Bi-weekly during injection
Volatile Organic Compounds (VOCs) (EPA Method 8260B)	µg/L	Low-flow sample	Baseline, Biweekly during injection, and Post-Injection ²
Dissolved Gases (carbon dioxide, methane) (Method RSK175)	µg/L	Low-flow sample	Baseline and Post-Injection ²
Metals (EPA Method 6010B)	mg/L	Low-flow sample	Baseline, Monthly during injection, and Post-Injection ^{2,3}
Hexavalent Chromium (EPA Method 7199)	mg/L	Low-flow sample	Baseline, Monthly during injection, and Post-Injection ^{2,3}
Anions ⁴ (EPA Method 300)	mg/L	Low-flow sample	Baseline and Post-Injection ²
Total Dissolved Solids (EPA method 160.1)	mg/L	Low-flow sample	Baseline and Post-Injection ²
Boron (EPA Method 200.7)	mg/L	Low-flow sample	Baseline and Post-Injection ²
Ammonia-Nitrogen (EPA Method 350.3)	mg/L	Low-flow sample	Baseline and Post-Injection ²
Biochemical Oxygen Demand (Standard Method 5210B)	mg/L	Low-flow sample	Baseline and Post-Injection ²
Chemical Oxygen Demand (Standard Method 5220C)	mg/L	Low-flow sample	Baseline and Post-Injection ²

¹ mg/L: milligrams per liter; µg/L: micrograms per liter; µS/cm: microsiemens per centimeter; mV: millivolts; °C: degree Celsius; NTU: Nephelometric Turbidity Units.

² Samples will be analyzed for these constituents prior to ozone injection (baseline sampling) and after ozone injection has concluded (post-injection sampling). The post-injection sampling will involve two sampling events. The first post-injection sampling event will involve collection of samples from all five wells pairs approximately two weeks after ozone injection has concluded. The second post-injection sampling event will involve collection of samples from wells MW-16 (A/B), MW-23 (A/B) and MW-24 (A/B), only, approximately four weeks after ozone injection has concluded.

³ The sampling to be completed monthly during the injection period will involve collection of samples from wells MW-16 (A/B), MW-23 (A/B) and MW-24 (A/B), only.

⁴ Anion analyses will include chloride and sulfate.

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. Monthly 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 Discharger 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)"

VI. Electronic Submittal of Information (ESI) to GeoTracker

The Discharger shall comply with the Electronic Submittal of Information (ESI) requirements by submitting all reports required under the MRP, including groundwater monitoring data, discharge location data, correspondence, and pdf monitoring reports to the State Water Resources Control Board GeoTracker database under Global ID WDR100003825.

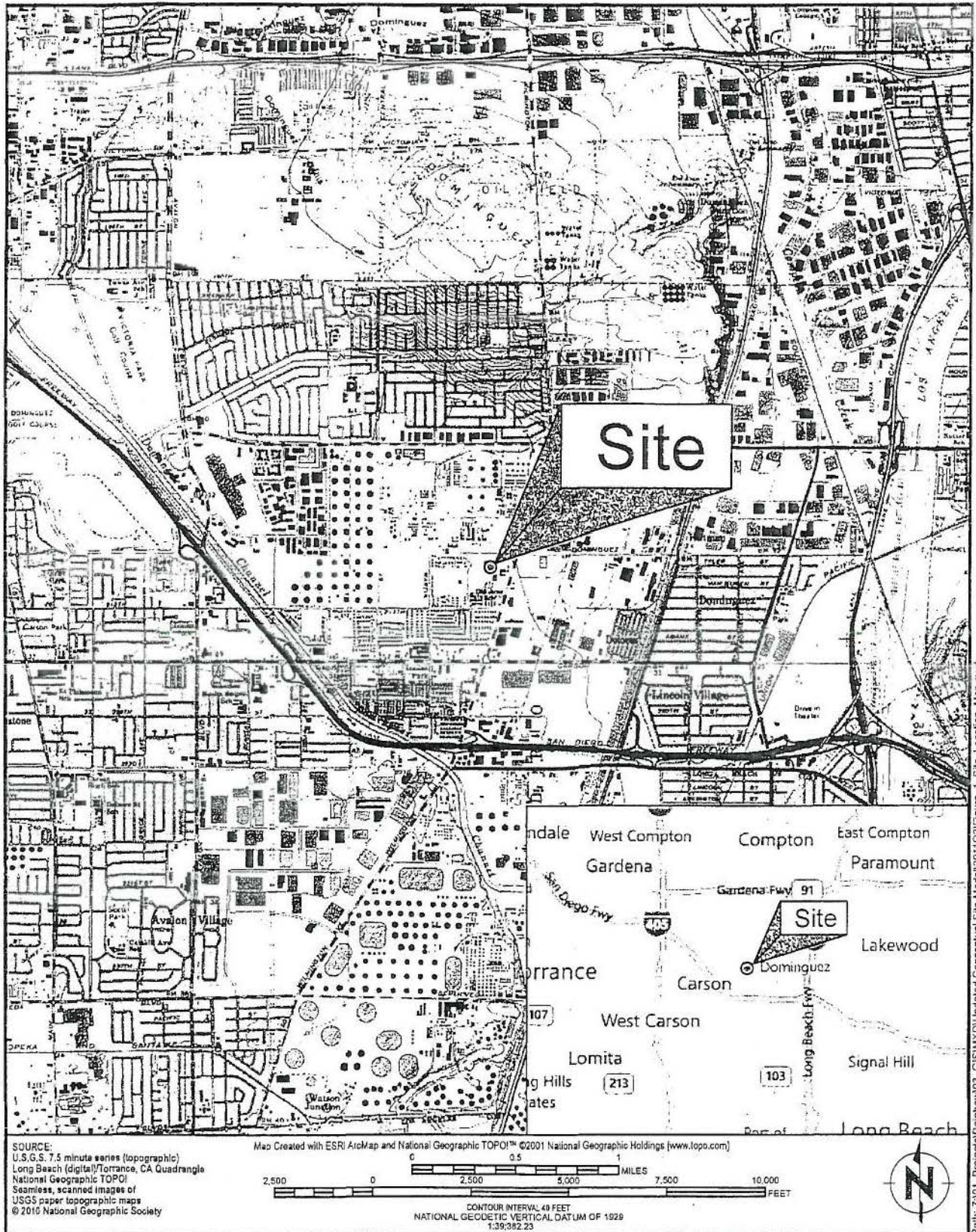
Rainbow Transport Tank Cleaners Property
Monitoring and Reporting Program No. CI-9820

File No. 12-019
Order No. R4-2007-0019

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 Discharger, will be treated as confidential.

Ordered by: Samuel Unger
Samuel Unger, P.E.
Executive Officer

Date: August 31, 2012



Path: Z:\01_P\Projects\Rainbow\03_GIS\MXD\Updated\Conceptual Site Location\201103\figure_1_Site_Location_Map.mxd

<p>ENVIRON</p> <p>DRAFTED BY: SShin</p> <p>Date: 11/23/2011</p>	<p>Site Location Map</p> <p>Rainbow LLC 21119 Wilmington Avenue, Carson, California</p>	<p>Figure 1</p> <p>PROJECT: 05-18543B</p>
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