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GOVERNOR

MATTHEW RODRIGUEZ  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

## Los Angeles Regional Water Quality Control Board

March 13, 2014

Mr. Robert Donovan  
Tesoro Refining & Marketing Company LLC  
3450 S. 344<sup>th</sup> Way, Suite 201  
Auburn, WA 98001

Certified Mail with Return Receipt  
7001 0360 0000 3649 2692

### **GENERAL WASTE DISCHARGE REQUIREMENTS FOR GROUNDWATER REMEDIATION AT PETROLEUM HYDROCARBON FUEL, VOLATILE ORGANIC COMPOUND AND/OR HEXAVALENT CHROMIUM IMPACTED SITES--FORMER ARCO STATION NO. 1695, 600 MOORPARK ROAD, THOUSAND OAKS (ORDER NO. R4-2007-0019-019; CI NO. 9486)**

Dear Mr. Donovan:

On February 24, 2009, you were enrolled in the General Waste Discharge Requirements (WDRs), Order No. R4-2007-0019-019, for a pilot study of hydrogen peroxide injection at the subject site (Site).

In August 2009, hydrogen peroxide injection field testing was performed. During the testing, strong peroxide reactions and surfacing (as heavy foram) was observed that contributed to limited fluid acceptance into the formation. The field testing was halted in December 2009.

The groundwater monitoring data indicated the dissolved hydrocarbon plumes have not been stabilized by natural attenuation, with total petroleum hydrocarbons as gasoline, benzene, ethyl benzene, toluene, xylenes, methyl tertiary butyl ether, tertiary butyl alcohol and ethanol detected, in May 2013, up to 23,000 µg/L, 2,700 µg/L, 4,300 µg/L, 21 µg/L, 320 µg/L, 500 µg/L, 250 µg/L and 7,500 µg/L, respectively.

In response to the Ventura County Environmental Health Division (VCEHD) requirements to address localized hydrocarbon impacts at the Site, Stratus proposed, on your behalf, to conduct a feasibility study using persulfate as outlined in the technical report entitled "Interim Remedial Action Plan – In Situ Chemical Oxidation Treatability Study" (IRAP). The IRAP was approved by the VCEHD in a letter dated February 14, 2013. In a letter dated December 12, 2013, Stratus requested the WDRs be modified to accommodate the change of injection material to be used at the Site.

Persulfate is permitted as an oxidation/aerobic degradation enhancement compound in the General WDRs, Order No. R4-2007-0019-019. To avoid material surfacing, you can go to [http://www.waterboards.ca.gov/losangeles/water\\_issues/programs/ust/guidelines/Subsurface\\_injection\\_of\\_ISRR.pdf](http://www.waterboards.ca.gov/losangeles/water_issues/programs/ust/guidelines/Subsurface_injection_of_ISRR.pdf) for guidance.

Enclosed is the revised Monitoring and Reporting Program No. CI-9486 (MRP) which allows the use of persulfate for in-situ groundwater remediation at the Site. This MRP in conjunction with the enrollment letter of February 24, 2009, for the WDRs, Order No. R4-2007-0019-019,

CHARLES STRINGER, CHAIR | SAMUEL UNGER, EXECUTIVE OFFICER

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constitute the Waste Discharge Requirements for the proposed feasibility study, and full-scale implementation if necessary.

When submitting technical monitoring reports to the Regional Board per these requirements, please include a reference to Compliance File No. CI-9486, 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.

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 T0611100292. To comply with the MRP under the WDRs, you shall upload the WDRs monitoring reports to the State Database GeoTracker under the two Global ID T0611100292 and WDR100000253. For more information regarding the new Global ID for WDRs, please see the ESI training video available at:

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

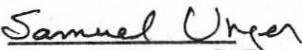
For all parties who upload electronic documents to the State Database GeoTracker, the Regional Board will no longer accept documents (submitted by either hard copy or email) that already have been uploaded to GeoTracker. Please see Electronic Submittal to the Los Angeles Regional Board for GeoTracker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

If you have any questions, please contact Mr. Gregg Kwey at (213) 576-6702 or [kwey@waterboards.ca.gov](mailto:kwey@waterboards.ca.gov) for issues regarding underground storage tanks, or Dr. Eric Wu at (213) 576-6683 or [ewu@waterboards.ca.gov](mailto:ewu@waterboards.ca.gov) for issues regarding the WDRs.

Sincerely,

  
Samuel Unger, P.E.  
Executive Officer

Enclosures: revised Monitoring and Reporting Program No. CI-9486

cc: Mr. David Salter, Ventura County Division of Environmental Health  
Mr. Danny Monson, Tesoro Refining & Marketing Company LLC  
Mr. Todd Hayes, Stratus Environmental Inc.

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

MONITORING AND REPORTING PROGRAM NO. CI-9486

FOR

FORMER ARCO STATION NO. 1695  
600 MOORPARK ROAD, THOUSAND OAKS

(PERSUFATE INJECTION FOR GROUNDWATER CLEANUP)  
(ORDER NO. R4-2007-0019, SERIES NO. 088)

I. REPORTING REQUIREMENTS

- A. Tesoro Refining & Marketing Company LLC (hereinafter Discharger) shall implement this monitoring program on the effective date of this revised Monitoring and Reporting Program (MRP). The first monitoring report under this MRP, for the period from January to June 2014, shall be received at the Regional Board by July 15, 2014. 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 Department of Public Health 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 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.
- 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 T0611100292. To comply with the MRP under this WDRs, the Discharger shall upload the WDRs monitoring reports to the Geotracker system under the two Global ID T0611100292 and WDR100000253.

II. PERSUFATE INJECTION MONITORING REQUIREMENTS

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

1. Location map showing injection points used for the persulfate 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. Two up-gradient dual-zone injection wells (SGI-INJ-1A/B, and SGI-INJ-2A/B) and one source area injection well (INJ-3) are currently proposed that can be referenced in Figure 2. Additional injection points for full scale application should be reviewed and approved by the County of Ventura, Environmental Health Division (VCEHD) and Regional Board prior to full scale implementation.
2. Written and tabular summary defining the quantity of persulfate 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 one up-gradient groundwater monitoring well EMW-4; one source area groundwater monitoring well EMW-2; and one down-gradient dual-zone groundwater monitoring wells SGI-MW-12A and SGI-MW-12B. Additional monitoring wells for full scale implementation may be required by VCEHD and/or 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 <sup>1</sup>
Total petroleum hydrocarbons as gasoline (TPHg) and as diesel (TPHd)	µg/L	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), 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>3</sup>	Grab	• Semi-Annually
Oxidation-reduction potential	milivolts	Grab	• Semi-Annually
Dissolved Oxygen	µg/L <sup>4</sup>	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>0</sup> F/ <sup>0</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>. mg/L=milligram per liter.

<sup>4</sup>. µg/L=microgram 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)

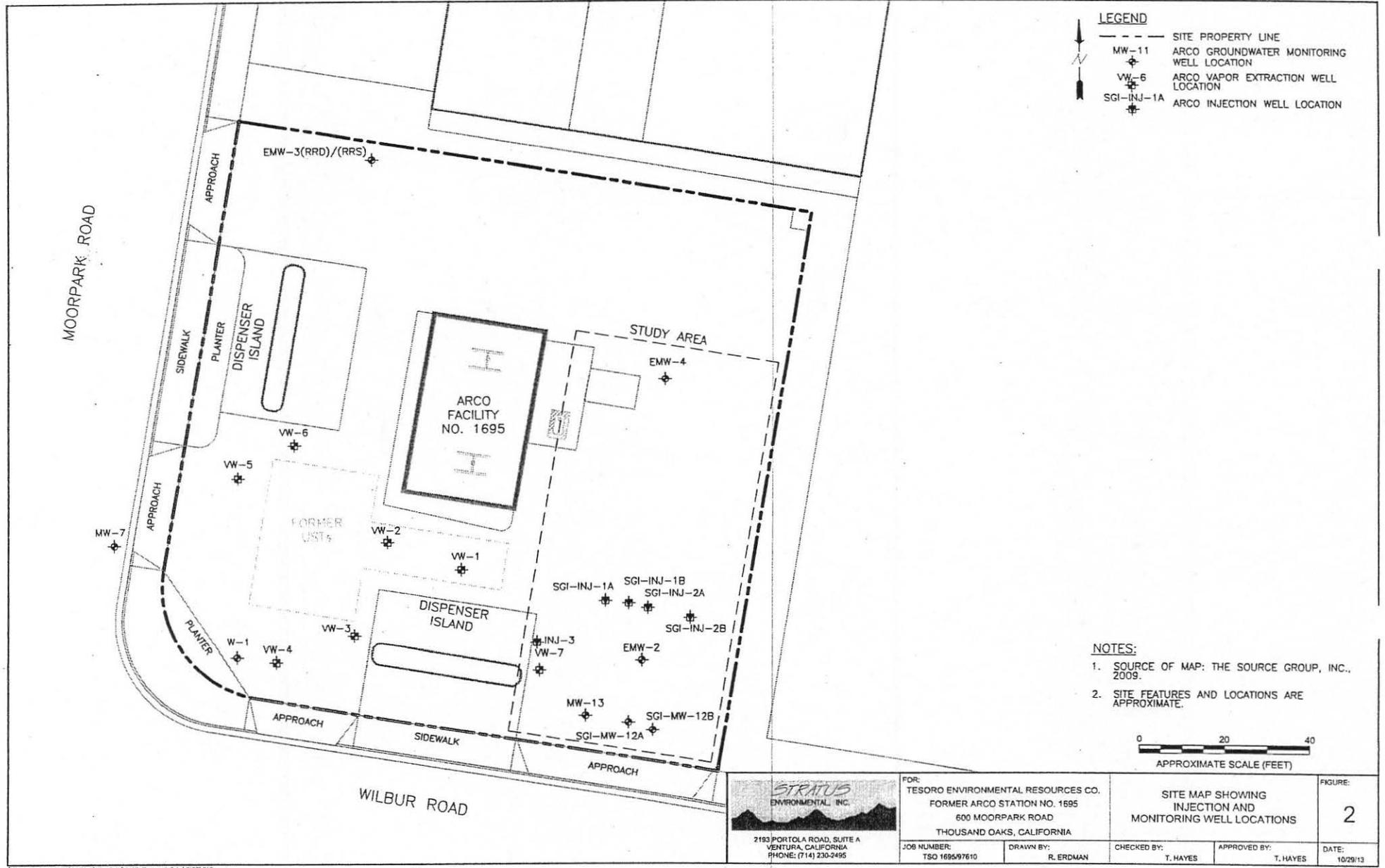
\_\_\_\_\_(Title)"

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  
Samuel Unger, P.E.  
Executive Officer

Date: March 13, 2014

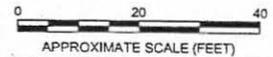


**LEGEND**

- N
- SITE PROPERTY LINE
- MW-11 ARCO GROUNDWATER MONITORING WELL LOCATION
- VW-6 ARCO VAPOR EXTRACTION WELL LOCATION
- SGI-INJ-1A ARCO INJECTION WELL LOCATION

**NOTES:**

1. SOURCE OF MAP: THE SOURCE GROUP, INC., 2009.
2. SITE FEATURES AND LOCATIONS ARE APPROXIMATE.



<p>STRATUS ENVIRONMENTAL, INC. 2193 PORTOLA ROAD, SUITE A VENTURA, CALIFORNIA PHONE: (714) 230-2495</p>	<p>FOR: TESORO ENVIRONMENTAL RESOURCES CO. FORMER ARCO STATION NO. 1695 600 MOORPARK ROAD THOUSAND OAKS, CALIFORNIA</p>		<p>SITE MAP SHOWING INJECTION AND MONITORING WELL LOCATIONS</p>		<p>FIGURE: <b>2</b></p>
	<p>JOB NUMBER: TSO 1695/97610</p>	<p>DRAWN BY: R. ERDMAN</p>	<p>CHECKED BY: T. HAYES</p>	<p>APPROVED BY: T. HAYES</p>	<p>DATE: 10/29/13</p>