

California Regional Water Quality Control Board
North Coast Region

Monitoring and Reporting Program No. R1-2012-0073
(Revised August 1, 2012)

WDID No. 1B94026NSON

For

VALERO MARKETING AND SUPPLY COMPANY

For

Texaco (Farmers Lane, 1400)
1400 Farmers Lane
Santa Rosa, California

Case No. 1TSR069

Sonoma County

This Monitoring and Reporting Program (MRP) is issued pursuant to California Water Code Section 13267(b) to the responsible parties and requires monitoring and reporting for activities associated with the implementation of remedial activities under General Waste Discharge Requirements Order No. R1-2004-0021 (Order 0021). The objectives of monitoring conducted under this MRP are to provide the Discharger and Regional Water Board staff with information concerning contaminant trends in groundwater and to demonstrate compliance with the provisions of Order 0021. The groundwater monitoring requirements specified below are also summarized in Appendix 1 of this MRP.

Under the authority of the California Water Code Section 13267(b), the Discharger named above is required to comply with the following:

GROUNDWATER AND SOIL VAPOR MONITORING

General Requirements

1. The depth to groundwater shall be measured to the nearest 0.01-foot prior to monitoring well purging and sampling. Groundwater elevations shall be reported in tabular form indicating the surveyed elevations of each well reference point, depth to groundwater from the reference point, and the actual groundwater elevation. The data generated from the elevation readings must be referenced to mean sea level.
2. All monitoring wells shall be purged of least three casing volumes of water, or until dry, prior to sampling. Monitoring wells shall be allowed to recharge to at least 80% of the initial casing volume prior to sampling. All purge water shall be impounded

pending analysis for proper disposal. An alternative well-purging protocol may be used upon the written approval of the Executive Officer.

3. Chemical analyses shall be conducted by laboratories certified for those analyses by the California Department of Health Services.

Baseline Monitoring Requirements

4. Prior to sub-surface chemical injections, samples from groundwater monitoring wells MW-6, MW-10, and MW-15 shall be analyzed for sulfate, sulfide, ferric iron, total nitrogen, nitrate, nitrite, total phosphorus, total dissolved solids (TDS), chemical oxygen demand (COD), and dissolved carbon dioxide.
5. Prior to sub-surface chemical injections, samples from groundwater monitoring wells MW-3, MW-6, MW-10 and MW-15 shall be tested for the water quality parameters: dissolved oxygen, oxidation-reduction potential, pH, and temperature.

Post-Injection Monitoring Requirements

6. Groundwater monitoring wells MW-3, MW-5, MW-10, and MW-15 shall be sampled within one month following the initial injection of chemicals, then quarterly for two years and semi-annually thereafter.
7. Groundwater samples shall be analyzed for total petroleum hydrocarbons measured as gasoline and diesel; benzene, toluene, ethylbenzene, xylenes, methyl tertiary butyl ether, tert butyl alcohol; COD, dissolved carbon dioxide, ferric iron, ferrous iron, total nitrogen, nitrate, sulfate, sulfide, phosphorous, and TDS.
8. Groundwater from each well shall be field tested for dissolved oxygen, oxidation-reduction potential, pH, and temperature.

REPORTING

Project Update Reports shall be submitted quarterly for two years, according to the following schedule:

<u>Monitoring Period</u>	<u>Report Due Date</u>
January through March	April 30 th
April through June	July 31
July through September	October 31 st
October through December	January 31

Project Update Reports shall provide a summary of the remedial activities for the reporting period and an assessment of the in-situ bioremediation progress and process control considerations.

Semi-annual Groundwater Monitoring reports shall be submitted in paper format to the Regional Water Board according to the following schedule:

<u>Monitoring Period</u>	<u>Report Due Date</u>
October through March	April 30 th
April through September	October 31 st

All reports and laboratory analytical data submitted for the site shall also be submitted in electronic format to the State Water Resources Control Board's Geographic Environmental Information Management System database (GeoTracker) as specified in Title 23, Division 3, Chapter 30, Article 2, Sections 3890-3895 of the California Code of Regulations.

Each semi-annual monitoring report shall include the following elements:

- A. Groundwater elevation maps for each monitored water-bearing zone showing groundwater elevations relative to the locations of monitoring wells former and current underground tanks, and other significant features.
- B. Analytical data tables summarizing the current and historical analytical results for all permanent groundwater monitoring points.
- C. Copies of the following: well purging and sampling field logs; chain of custody documentation showing the time and date of collection and person collecting; and signed laboratory reports including quality control data and explanations of analytical anomalies, if any. Monitoring reports shall identify the type of instruments that were used for field-measured data, and shall include copies of the pre and post-calibration records or provide other assurance for field data quality. These supporting documents may be included as appendices in the report.

Ordered by _____
Matthias St. John
Executive Officer
August 1, 2012

WDR Compliance Sampling and Analysis Plan

SAMPLING POINT ID	MONITORING OBJECTIVE	BASELINE MONITORING ¹	POST-INJECTION MONITORING
MW1	Shallow-Zone Well	Depth to Water Only	Monitoring Not Required
MW2	Shallow-Zone Well	Depth to Water Only	Monitoring Not Required
MW3	Shallow-Zone Well	- Biodegradation Parameters ² - Petroleum Constituents ³	Quarterly ^{2, 3}
MW4	Shallow-Zone Well	Depth to Water Only	Depth to Water Only
MW5	Shallow-Zone Well	Depth to Water and Petroleum Constituents Only ³	Quarterly ³
MW6	Shallow-Zone Well	- Biodegradation Parameters ² - Petroleum Constituents ³	Annually ³
MW7	Shallow-Zone Well	Depth to Water Only	Depth to Water Only
MW8	Shallow-Zone Well	Depth to Water Only	Depth to Water Only
MW9	Shallow-Zone Well	Depth to Water Only	Depth to Water Only
MW10	Shallow-Zone Well	- Biodegradation Parameters ² - Petroleum Constituents ³	Quarterly ^{2, 3}
MW11	Shallow-Zone Well	Depth to Water Only	Depth to Water Only
MW12	Shallow-Zone Well	Depth to Water Only	Depth to Water Only
MW13	Shallow-Zone Well	Not Monitored	Depth to Water Only
MW14	Shallow-Zone Well	Depth to Water Only	Annually ³
MW15	Shallow-Zone Well	- Biodegradation Parameters ² - Petroleum Constituents ³	Quarterly ^{2, 3}
MW16	Deep-Zone Well	Monitoring Not Required	Depth to Water Only
MW17	Deep-Zone Well	Monitoring Not Required	Depth to Water Only
MW18	Deep-Zone Well	Monitoring Not Required	Annually ³
OBS1	Shallow-Zone Well	Monitoring Not Required	Monitoring Not Required
RW1A	Injection Well	Monitoring Not Required	Monitoring Not Required

(1) **Baseline Monitoring** for groundwater shall be conducted prior to the initial sub-surface chemical injections.

(2) **Biodegradation Parameters:** sulfate, sulfide, ferric iron, total nitrogen, nitrate, nitrite, total phosphorus, total dissolved solids (TDS), chemical oxygen demand (COD), dissolved carbon dioxide, dissolved oxygen, oxidation-reduction potential, pH, and temperature

(3) **Petroleum Constituents:** total petroleum hydrocarbons measured as gasoline and diesel; benzene, toluene, ethylbenzene, xylenes, methyl tertiary butyl ether, tertiary butyl alcohol