

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2008-0826
CALIFORNIA WATER CODE SECTION 13267
FOR
UNION PACIFIC RAILROAD COMPANY
FORMER REDWOOD OIL COMPANY LEASE FACILITY
203 PLEASANT AVENUE
PLACER COUNTY

Union Pacific Railroad Company (UPRR or Discharger) owns the property at 203 Pleasant Avenue in Auburn (Site). Redwood Oil Company leased the Site and operated a fuel bulk plant facility. Operations at the facility have resulted in groundwater polluted with petroleum hydrocarbons. In November 2007, groundwater was about 14 feet below ground surface. This pollution impaired the beneficial uses of this water resource. No remedial activities have been conducted.

This Monitoring and Reporting Program (MRP) is issued pursuant to Section 13267 of the California Water Code and is necessary to delineate groundwater pollutant plumes and determine whether future remediation efforts are effective. Existing data and information about the site show the presence of various chemicals, including total petroleum hydrocarbons as gasoline (TPHg), TPH as diesel (TPHd), benzene, ethylbenzene, toluene, and xylenes (collectively BTEX) and methyl tertiary butyl ether (MTBE) emanating from the property under the control of the Discharger. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

Prior to construction of any new groundwater monitoring or extraction wells, and prior to destruction of any groundwater monitoring or extraction wells, the Discharger shall submit plans and specifications to the Regional Water Board for review and approval. Once installed, all new wells shall be added to the monitoring program and shall be sampled and analyzed according to the schedule below.

GROUNDWATER MONITORING

As shown on Figure 1, there are ten monitoring wells at the Site designated MW-1, MW-2, MW-3, MW-1R, MW-2R, MW-3R, MW-4, MW-5, MW-6, and MW-7. The groundwater monitoring program for the ten monitoring wells and any wells installed subsequent to the issuance of this MRP, shall follow the schedule below. Monitoring wells with free phase petroleum product or visible sheen shall be monitored, at a minimum, for product thickness and depth to water. The volume of extracted groundwater also shall be provided in quarterly monitoring reports. Sample collection and analysis shall follow standard EPA protocol.

Constituents	EPA Analytical Method	Maximum Practical Quantitation Limit (µg/l) ¹	Sampling Frequency
Depth to Groundwater	---	---	Quarterly
TPH as gasoline	8015M	50	Quarterly
TPH as diesel	8015M	50	Quarterly
Benzene ²	8021B or 8260B	0.5	Quarterly
Toluene ²	8021B or 8260B	0.5	Quarterly
Ethylbenzene ²	8021B or 8260B	0.5	Quarterly
Xylene ²	8021B or 8260B	0.5	Quarterly
DIPE ³	8260B	0.5	Quarterly
MTBE ³	8260B	100	Quarterly
TBA ³	8260B	5	Quarterly
TAME ³	8260B	0.5	Quarterly
ETBE ³	8260B	0.5	Quarterly
Dissolved Lead ⁴	200.8	100	Quarterly

¹ For nondetectable results. All concentrations between the Method Detection Limit and the Practical Quantitation Limit shall be reported as trace.

² Fuel additives including benzene, toluene, ethylbenzene, and xylene (BTEX) shall be analyzed in all new monitoring wells for four consecutive quarterly monitoring events. If results are nondetectable for BTEX for four consecutive sampling events, no further monitoring for BTEX will be required in the well. If BTEX is detected, it shall be added to the quarterly monitoring program for the well in which it was detected.

³ Oxygenates, including MTBE, tertiary butyl alcohol (TBA), tertiary amyl methyl ether (TAME), di-isopropyl ether (DIPE), and ethyl tertiary butyl ether (ETBE) shall be analyzed in all new and existing monitoring wells during two monitoring events in the first and third quarters. If results are nondetectable for both sampling events, no further monitoring for oxygenates will be required in that well. If a fuel oxygenate is detected, it shall be added to the quarterly monitoring program for the well in which it was detected.

⁴ Dissolved lead shall be analyzed in all new and existing site wells. If dissolved lead is detected, the Discharger shall perform verification sampling within 30 days of submittal of the monitoring report. If lead pollution is verified, the Discharger shall continue quarterly monitoring for dissolved lead. If the presence of dissolved lead is not confirmed, no further test is required.

REPORTING

When reporting the data, the Discharger shall arrange the information in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner as to illustrate clearly the compliance with this Order. In addition, the Discharger shall notify the Board within 48 hours of any unscheduled shutdown of any soil vapor and/or groundwater extraction system.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all reports shall be prepared by a registered professional or their subordinate and signed by the registered professional.

Quarterly electronic data reports, which conform to the requirements of the California Code of Regulations, Title 23, Division 3, Chapter 30, shall be submitted electronically over the internet to the State Water Board Geotracker database system by the **1st day of the second month following the end of each calendar quarter (i.e., by 1 February, 1 May, 1 August, and 1 November)**, until such time as the Executive Officer determines that the reports are no longer necessary.

Quarterly reports shall be submitted to the Regional Water Board by the **1st day of the second month following the end of each calendar quarter (i.e., by 1 February, 1 May, 1 August, and 1 November)** until such time as the Executive Officer determines that the reports are no longer necessary. Each quarterly report shall include the following minimum information:

- (a) A description and discussion of the groundwater sampling event and results, including trends in the concentrations of pollutants and groundwater elevations in the wells, how and when samples were collected, and whether the pollutant plume(s) is delineated.
- (b) Field logs that contain, at a minimum, water quality parameters measured before, during, and after purging, method of purging, depth of water, volume of water purged, etc.
- (c) Groundwater contour maps for all groundwater zones, if applicable.
- (d) Isocontour pollutant concentration maps for all groundwater zones, if applicable.
- (e) A table showing well construction details such as well number, groundwater zone being monitored, coordinates (longitude and latitude), ground surface elevation, reference elevation, elevation of screen, elevation of bentonite, elevation of filter pack, and elevation of well bottom.
- (f) A table showing historical lateral and vertical (if applicable) flow directions and gradients.
- (g) Cumulative data tables containing the water quality analytical results and depth to groundwater.
- (h) A copy of the laboratory analytical data report.
- (i) If applicable, the status of any ongoing remediation, including cumulative information on the mass of pollutant removed from the subsurface, system operating

time, the effectiveness of the remediation system, and any field notes pertaining to the operation and maintenance of the system.

- (j) If applicable, the reasons for and duration of all interruptions in the operation of any remediation system, and actions planned or taken to correct and prevent interruptions.

An Annual Report shall be submitted to the Regional Water Board by **1 February** of each year. This report shall contain an evaluation of the effectiveness and progress of the investigation and remediation, and may be substituted for the fourth quarter monitoring report. The Annual Report shall contain the following minimum information:

- (a) Both tabular and graphical summaries of all data obtained during the year.
- (b) Groundwater contour maps and pollutant concentration maps containing all data obtained during the previous year.
- (c) A discussion of the long-term trends in the concentrations of the pollutants in the groundwater monitoring wells.
- (d) An analysis of whether the pollutant plume is being captured by an extraction system or is continuing to spread.
- (e) A description of all remedial activities conducted during the year, an analysis of their effectiveness in removing the pollutants, and plans to improve remediation system effectiveness.
- (f) An identification of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.
- (g) If desired, a proposal and rationale for any revisions to the groundwater sampling plan frequency and/or list of analytes.

The results of any monitoring done more frequently than required at the locations specified in the MRP also shall be reported to the Regional Water Board. The Discharger shall implement the above monitoring program as of the date of the Order.

Ordered by: _____
PAMELA C. CREEDON, Executive Officer

(Date)