

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

REVISED MONITORING AND REPORTING ORDER NO. R5-2011-0808

CALIFORNIA WATER CODE SECTION 13267
FOR
CITY OF MERCED MUNICIPAL AIRPORT
MERCED COUNTY

This Order is issued to the City of Merced (hereafter Discharger) pursuant to California Water Code section 13267, which authorizes the Executive Officer of the California Regional Water Quality Control Board, Central Valley Region (hereafter Central Valley Water Board) to issue a Monitoring and Reporting Order (Order).

The Executive Officer finds:

INTRODUCTION

1. The City of Merced Municipal Airport site is located in the southeast corner of the airport near the intersection of S. West Avenue and Riggs Avenue in Merced, Merced County (Site). From the 1950's to about 1981 the Merced Fire Department conducted fire training exercises at the Site during which flammable substances were ignited and extinguished. Investigations have shown that discharges of waste resulting from the fire training exercises have adversely affected Site groundwater
2. Investigations have shown that elevated levels of volatile organic compounds (VOCs) including perchloroethylene (PCE) are present in groundwater at the Site. Groundwater flows generally to the northwest and is approximately 15 feet below ground surface. This pollution has impaired the beneficial use of groundwater resources at the Site.
3. The Discharger implemented a corrective action measure in 2004, injecting Hydrogen Releasing Compound across the width of the VOC plume to enhance bioremediation. A sentry well installed downgradient of the known VOC plume detected PCE. The City subsequently conducted further site characterization to define the extent of the plume.
4. This Monitoring and Reporting Program (MRP) is issued by the Central Valley Water Board, pursuant to California Water Code (CWC) section 13267 and is necessary to delineate the groundwater pollutant plume.
5. Existing data and information about the Site show the presence of various chemicals, including PCE, emanating from the property under the control of the Discharger. The Discharger is responsible for the discharge because the Discharger conducted fire training exercises on the Site.
6. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer. This MRP replaces the requirements listed in MRP No. R5-2008-0807, which was issued on 21 April 2008.

7. 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 Central Valley 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.

LEGAL PROVISIONS

8. CWC section 13267 states, in part:

(b)(1) In conducting an investigation, the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or, discharging, or who proposes to discharge waste within its region . . . shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

The reports required herein are necessary for the reasons described in this Order, to assure protection of waters of the state, and to protect public health and the environment.

9. CWC section 13268 states, in part:

(a)(1) Any person failing or refusing to furnish technical or monitoring program reports as required by subdivision (b) of Section 13267 . . . or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in accordance with subdivision (b).

(b)(1) Civil liability may be administratively imposed by a regional board in accordance with Article 2.5 (commencing with Section 13323) of Chapter 5 for a violation of subdivision (a) in an amount which shall not exceed one thousand dollars (\$1,000) for each day in which the violation occurs.

Failure to submit the required reports to the Central Valley Water Board according to the schedule detailed herein may result in enforcement action(s) being taken against you, which may include the imposition of administrative civil liability pursuant to CWC section 13268. Administrative civil liability of up to \$1,000 per violation per day may be imposed for non-compliance with the directives contained herein.

REQUIRED ACTIONS

IT IS HEREBY ORDERED that, pursuant to California Water Code section 13267, the City of Merced shall:

1. Conduct monitoring and reporting in compliance with the following specifications.
2. As shown in Figure 1, there are 24 monitoring wells associated with the site. Monitoring wells MW-8, MW-9, MW-10, MW-11, MW-13, MW-15, MW-16, MW-17, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23 and MW-24 monitor the shallow aquifer. Monitoring wells BZW-1, BZW-2, BZW-3, BZW-4, BZW-5, BZW-6 monitor the B aquifer zone approximately 50- to 60-feet below ground surface (bgs). Monitoring wells CZW-2, CZW-3 and CZW-4 monitor the C aquifer zone approximately 85- to 105-feet bgs. The Monitoring Program for these 24 wells and any wells installed subsequent to the issuance of this Order shall comply with the schedule and analytes in Table 1 and Table 2 below.

Sampling Schedule				
	Quarterly	Semi-annually ²	Annually ³	Not Sampled ⁴
Wells	New Wells	MW-13, MW-20, MW-21, MW-22, MW-23, MW-24, BZW-2, BZW-5, BZW-6	MW-9, MW-10, MW-17, BZW-1, BZW-2, BZW-4, CZW-3, CZW-4	MW-8, MW-11, MW-15, MW-16, MW-18, BZW-3, CZW-2.

¹ All wells shall be monitored semi-annually for Depth to Groundwater.

² Wells that must be sampled semi-annually shall be sampled during the first and third quarters.

³ Wells that must be sampled annually shall be sampled during the third quarter.

⁴ Wells not sampled shall be measured for depth to groundwater.

TABLE 2: ANALYTICAL METHODS		
Constituents	EPA Analytical Method	Maximum Practical Quantitation Limit ¹
Depth to Groundwater	---	---
Electrical Conductance	Field Meter	0.001 mmhos/cm
pH	Field Meter	0.01 units
Temperature	Field Meter	0.1 °C
ORP	Field Meter	1 mV
Dissolved Oxygen	Field Meter	0.01 mg/l
Total Petroleum Hydrocarbons ²	8015B	50
VOCs	8260B	0.5 µg/l

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

² MW-13 only

3. Monitoring wells with free product or a visible sheen shall be monitored at a minimum for product thickness and depth to water.

REPORTING

4. When reporting 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.
5. 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.
6. **Semi-annual** electronic 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 **1 May and 1 November**, until such time as the Executive Officer determines that the reports are no longer necessary.
7. **Semi-annual** paper copy reports shall be submitted to this Central Valley Water Board office by **1 May and 1 November** until such time as the Executive Officer determines that the reports are no longer necessary. Each 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., provided on a CD or DVD and attached to the report.
 - (c) Groundwater contour maps for all groundwater zones, if applicable.
 - (d) Isocontour pollutant concentration maps for all major constituents of concern 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 for all major constituents of concern containing the water quality analytical results and depth to groundwater for all monitoring wells, provided on CD or DVD and attached to the report. The data tables for the past five years shall be printed in the report. The Central Valley Water Board may request additional data as necessary.
 - (h) A copy of the laboratory analytical data report provided on CD or DVD and attached to the 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.
8. An Annual Report shall be submitted to the Central Valley Water Board by **1 November** 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 second semi-annual monitoring report, provided that all information that must be submitted in the fourth quarter or semi-annual report is included along with 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 applicable, a proposal and rationale for any revisions to the groundwater sampling plan frequency and/or list of analytes.
9. The results of any monitoring done more frequently than required at the locations specified in the MRP also shall be reported to the Central Valley Water Board.
10. The Discharger shall implement the above monitoring program as of the effective date of the Order.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with CWC section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday (including mandatory furlough days), the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

This Order is effective upon the date of signature.

Ordered by:

Fredrick L. Moss
for PAMELA C. CREEDON, Executive Officer

9 June 2011
(Date)



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FIGURE 1

SITE MAP

SOURCE: GOOGLE EARTH, CITY OF MERCED DEVELOPMENT SERVICES