

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION**

**MONITORING AND REPORTING PROGRAM NO. R5-2009-0815
ISSUED PURSUANT TO CALIFORNIA WATER CODE SECTION 13267**

**FOR
MR. HILLARD FAHN
FORMER CIRCLE K
6625 VALLEY HI DRIVE, SACRAMENTO
SACRAMENTO COUNTY**

This Order is issued to Mr. Hillard Fahn (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 Former Circle K, at 6625 Valley Hi Drive in Sacramento, Sacramento County (Site), is currently occupied by a market, a donut shop, and a restaurant. The underground storage tank (UST) system operated from at least 1987 until removal in August 1992.
2. Depth to groundwater has ranged from approximately 47 to 55 feet below ground surface (bgs). Groundwater samples have contained petroleum hydrocarbon constituents at maximum concentrations of: total petroleum hydrocarbons as gasoline (TPH-G) 192,000 micrograms per liter (ug/l), benzene 10,500 ug/l, toluene 41,400 ug/l, ethylbenzene 6,450 ug/l, xylenes 25,800 ug/l, methyl tert butyl ether (MTBE) 518 ug/l, di-isopropyl ether (DIPE) 1.6 ug/l, and tert amyl methyl ether (TAME) 204 ug/l, tert butyl alcohol (TBA) 119 ug/l, and 1,2-dichloroethane (1,2-DCA) 288 ug/l.
3. During the third quarter 2008 groundwater monitoring event, concentrations of petroleum constituents were detected at maximum concentrations of: TPH-G 129,000 ug/l, benzene 7,680 ug/l, toluene 35,300 ug/l, ethylbenzene 4,630 ug/l, xylenes 25,800 ug/l, and MTBE 228 ug/l. This pollution has impaired the beneficial uses of the groundwater resource.
4. A soil vapor extraction (SVE) pilot test was conducted in September 2006, and a dual phase extraction (DPE) pilot test was conducted in October 2006. SVE and DPE pilot testing removed a combined total of approximately 849 pounds of petroleum hydrocarbons.
5. A DPE system was installed and began operation on 8 October 2008.
6. 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 groundwater pollutant plumes and determine whether remediation efforts are effective.

7. Existing data and information about the site show the presence of various chemicals, including TPH-G, benzene, and MTBE, emanating from the property under the control of the Discharger, and resulting from the past operations at the Site. Based on the available data the Discharger is responsible for the discharge because he owned the property at the time petroleum hydrocarbons were discharged/released, and because he is the current owner of the property.
8. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.
9. 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 California Regional Water Quality Control Board, Central Valley Region (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

10. 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.

11. 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.

12. 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.

REQUIRED ACTIONS

IT IS HEREBY ORDERED by the Executive Officer, that the **Discharger** shall:

13. Conduct monitoring and reporting in compliance with the following specifications.
14. As shown on Figure 1, there are 14 groundwater monitoring wells, MW-1, MW1R, MW-2, MW-2R, MW-3R, MW-4 through MW-10, MW-10D, and MW-11D, and one groundwater extraction, well EW-1, associated with the Site. In addition, there are 2 nested soil vapor extraction wells, SV-1A/B, and SV-2A/B, associated with the Site; the screen interval in well SV-2B extends below the current groundwater table. The groundwater monitoring program for the 14 monitoring wells, 1 extraction well, well SV-2B, and any wells installed subsequent to the issuance of this MRP, shall follow the schedule in the table below.
15. Sample collection and analysis shall follow standard Environmental Protection Agency (EPA) protocol. All wells shall be monitored semi-annually for water levels and the presence and thickness of free product. The volume of extracted groundwater also shall be provided in monitoring reports.
16. Monitoring wells with free phase petroleum product or visible sheen shall be monitored, at a minimum, for product thickness and depth to water.

		SAMPLING FREQUENCY										
		Semi-Annually¹				Annually²						
Wells		MW-1R	MW-2R	MW-3R	MW-5	MW-8	MW-9	MW-10	MW-1	MW-2	MW-4	MW-6
		MW-10D	MW-11D	SV-2B	New Wells				MW-7	EW-1		

¹ Wells shall be sampled semi-annually during the first and third quarter
² Wells shall be sampled annually during the third quarter.

Constituents ²	EPA Analytical Method	Maximum Practical Quantitation Limit (ug/l) ³
Depth to Groundwater	---	+/- 0.01 ft
TPH-G	8015M or 8260B	50
Benzene	8020 or 8260B	0.5
Toluene	8020 or 8260B	0.5
Ethylbenzene	8020 or 8260B	0.5
Xylenes	8020 or 8260B	0.5
MTBE	8260B	0.5
TBA	8260B	5
TAME	8260B	0.5
DIPE	8260B	0.5
ETBE	8260B	0.5
1,2-Dichloroethane	8260B	0.5
Ethanol ^{4, 5}	8260B	50
Methanol ^{4, 5}	8260B	100
VOCs ^{4, 5}	8260B	--
Naphthalene ^{4, 5}	8260B	0.5
Total Lead ^{4, 5}	7421 or 6010B	0.5

2 Report all discrete peaks identified during the normal course of analysis for chemicals of concern.

3 All concentrations between the Method Detection Limit and the Practical Quantitation Limit shall be reported as trace.

4 Sample wells MW-1R, MW-2R, MW-3R, and MW-4, for 2 events. If the constituent is detected, analyze all wells. If the constituent is not detected in wells MW-1R, MW-2R, MW-4R, and MW-5 for 2 sampling events, the constituent may be removed from the list of analytes.

5 Analysis may be discontinued with Central Valley Water Board staff concurrence, after 4 consecutive monitoring events with non-detectable results.

REPORTING

17. When reporting data, the Discharger shall arrange the information in tabular form so that the sampling date, the analyzed constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner as to illustrate clearly compliance with this Order.
18. The Dischargers shall notify the Regional Water Board staff within 48 hours of any unscheduled shutdown of any remedial system.
19. 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.
20. The Discharger shall submit a paper copy of each monitoring report to this Central Valley Water Board office and submit an electronic data report, which conform to the requirements of the California Code of Regulations, Title 23, Division 3, Chapter 30, electronically over the internet to the State Water Board's Geotracker database system. Both the paper copy and the electronic submittal are due by the 1st day of the second month following the end of each half of the year; **1 August** (1st half of the year), **and 1 February** (2nd half of the year). Semi-annually reports shall be submitted until such time as the Executive Officer determines that these reports are no longer necessary. Each semi-annual report shall include the following information, at a minimum:

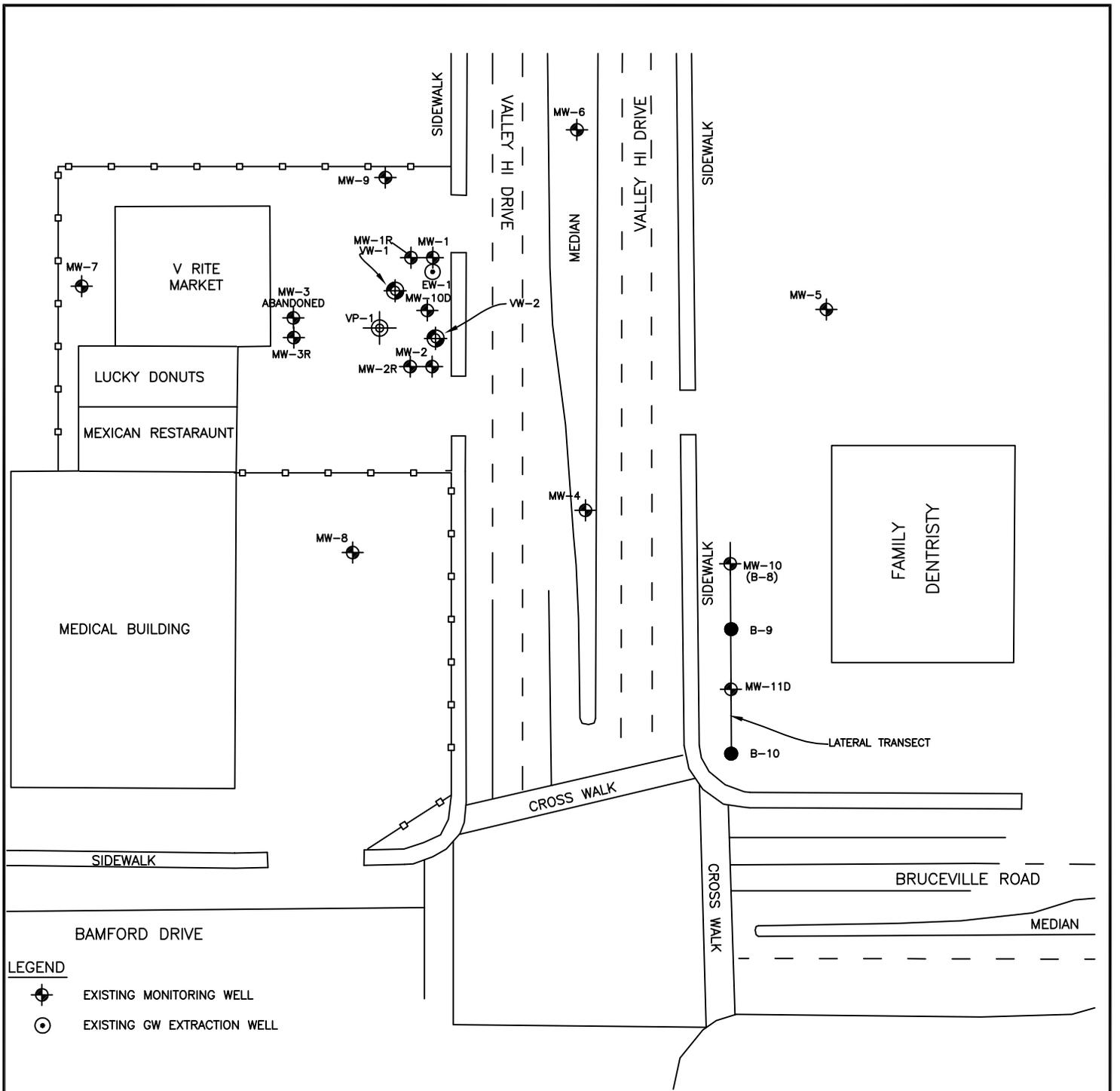
- (a) A description and discussion of the groundwater sampling event and results, including trends in the concentrations of pollutants and groundwater elevations in the wells, how and when samples were collected, and whether the pollutant plume(s) is delineated.
 - (b) Field logs that contain, at a minimum, water quality parameters measured before, during, and after purging, method of purging, depth of water, volume of water purged, depth of pump placement, etc.
 - (c) Groundwater contour maps for all groundwater zones.
 - (d) Concentration contour maps for all groundwater zones for TPH-G, benzene, and MTBE.
 - (e) A table showing well construction details including at a minimum: well number, groundwater zone being monitored, ground surface elevation, screen interval, bentonite interval, filter pack interval, and total depth of the well.
 - (f) A table describing historical lateral and vertical gradient direction and magnitude.
 - (g) Cumulative data tables containing the water quality analytical results and depth to groundwater for all analytes.
 - (h) A copy of the laboratory analytical data report, this may be submitted on a CD.
 - (i) The status of any ongoing remediation, including:
 - a. Site maps indicating the capture zone and lateral and vertical extent of waste plumes.
 - b. Average extraction rates of all treatment systems.
 - c. Influent and effluent concentrations of TPH-G, BTEX, MTBE, di-isopropyl ether (DIPE), ethyl tert butyl ether (ETBE), tert amyl methyl ether (TAME), and tert butyl alcohol (TBA), and disposal location.
 - d. Mass of hydrocarbons treated during the reporting period and cumulative to date.
 - e. The effectiveness of the remediation system, including estimated mass of wastes remaining and predicted time frame for meeting cleanup objectives.
 - f. System operating time, including running and down time for the remediation system(s).
 - g. Any field notes pertaining to the operation and maintenance of the system, and a summary of consultant visits to the site.
 - h. Evaluation of the overall remediation program and recommendations to correct deficiencies or increase efficiency.
 - (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.
21. The Second Semi-Annual Groundwater Monitoring Report, due **1 February** of each year shall be an expanded report and will include the following additional information/items:

- (a) Tabular summaries of all data obtained during the last 5 years.
 - (b) Graphical summaries of TPH-G and MTBE concentrations with groundwater elevation data, and remediation system operation, versus time for key site wells.
 - (c) A rose diagram presenting groundwater flow direction and magnitude.
 - (d) Contaminant concentration contour maps for TPH-G, benzene, and MTBE, as applicable, for each monitoring event from the previous year, if contaminants were detected.
 - (e) A discussion of the long-term trends in the concentrations of the pollutants in all groundwater monitoring wells.
 - (f) An analysis of whether the pollutant plume is being captured by an extraction system or is continuing to migrate.
 - (g) 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.
 - (h) An identification of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.
 - (i) If desired, a proposal and rationale for any revisions to the groundwater sampling plan frequency and/or list of analytes.
22. The results of any monitoring done more frequently than required in this MRP also shall be reported to the Central Valley Water Board.

The Discharger shall implement the above monitoring program as of the date of this Order.

Ordered by: _____ *original signed by* _____
PAMELA C. CREEDON,
Executive Officer

_____ 19 May 2009 _____
(Date)



LEGEND

- EXISTING MONITORING WELL
- EXISTING GW EXTRACTION WELL
- SOIL BORING LOCATION 11/2007
- NESTED SVE WELL
- NESTED VAPOR MONITORING WELL



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Date Prepared 1/23/08_rds	Drawing Number VH_F3_4qtr07
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FIGURE 1
 EXPANDED SITE PLAN

V RITE MARKET
 6625 VALLEY HI DRIVE
 SACRAMENTO, CALIFORNIA