

EDMUND G. BROWN JR.  
GOVERNOR

MATTHEW RODRIGUEZ  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

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## Central Valley Regional Water Quality Control Board

7 May 2015

Mr. Michael Gaudette  
Univar USA Inc.  
1804 N. 20th Street  
Nampa, ID 83687

### **NOTICE OF APPLICABILITY FOR WASTE DISCHARGE REQUIREMENTS GENERAL ORDER FOR IN-SITU REMEDIATION AND DISCHARGE OF TREATED GROUNDWATER TO LAND, R5-2015-0012, UNIVAR USA INC., 1152 G STREET, FRESNO, FRESNO COUNTY**

Univar USA Inc. (Discharger) submitted a Notice of Intent dated 26 February 2015 requesting coverage under Waste Discharge Requirements General Order For In-situ Remediation And Discharge Of Treated Groundwater To Land, R5-2015-0012.

#### **Project Location:**

The project is at and in the vicinity of 1152 G Street, Fresno, Fresno County.

#### **Project Description:**

Tetrachloroethylene was released from a former aboveground storage tank at the subject site that has degraded soil and groundwater at the site. In addition, groundwater has been degraded a significant distance downgradient of the site. Degraded soil is currently being treated using soil vapor extraction. Univar is proposing to inject potassium permanganate into groundwater in the vicinity of the source area. The potassium permanganate will be injected into eight injection wells east of the Union Pacific railroad tracks and allowed to migrate downgradient until it is consumed. Monitoring wells located to the west and downgradient of the injection wells will be monitored for the presence of potassium permanganate and volatile organic constituents.

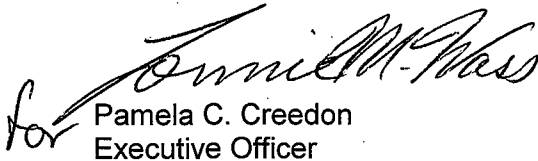
As part of the proposed remediation work plan, the Discharger submitted a Contingency Plan. In the event that potassium permanganate is detected in any of the transition or compliance wells, a temporary groundwater extraction system will be installed. Extracted groundwater will be treated and discharged to the sanitary sewer system under permit with the City of Fresno.

The Discharger will also conduct groundwater sampling and report the results in accordance with the attached Monitoring and Reporting Program R5-2015-0012-002. If the Discharger desires to substantially modify the proposed injection project, a revised Notice of Intent must be submitted and a new Notice of Applicability received prior to proceeding with any addition or modification to the proposed injection project.

**General Information:**

1. The project shall be operated in accordance with the requirements contained in the General Order and in accordance with the information submitted in the Notice of Intent.
2. The required annual fee (as specified in the annual billing you will receive from the State Water Resources Control Board) shall be submitted until this Notice of Applicability is officially revoked.
3. The Discharger shall comply with the attached Waste Discharge Requirements General Order for In-situ Remediation and Discharge of Treated Groundwater to Land, R5-2015-0012.
4. Injection of any material other than potassium permanganate into the proposed injection wells is prohibited.
5. Failure to abide by the conditions of the General Order could result in an enforcement action as authorized by provisions of the California Water Code.
6. The Discharger will implement the final contingency plan included as part of the Notice of Intent with 30 days of it being triggered.
7. The Discharger shall comply with the attached Monitoring and Reporting Program R5-2015-0012-002 and any revisions thereto as ordered by the Executive Officer.

If you have any questions regarding this matter, please telephone Jan Alfson at (559) 488-4345 or contact him by email at [jalfson@waterboards.ca.gov](mailto:jalfson@waterboards.ca.gov).

  
for Pamela C. Creedon  
Executive Officer

Attachment: Figure 1  
General Order R5-2015-0012  
Monitoring and Reporting Program R5-2015-0012-002  
Standard Provisions dated 1 March 1991

cc: Ms. Della Kramer, Regional Water Quality Control Board, Rancho Cordova  
Gregory Murphy, ERM, 1277 Treat Blvd, Suite 500, Walnut Creek, CA 94597  
Fresno County Environmental Health Department, Fresno  
Bob Little, City of Fresno Water Division, Fresno  
Diana Gomez, California High Speed Rail Authority, 2550 Mariposa Mall,  
Ste. 3015, Fresno, CA 93721 Attn. Stephani Fuentes  
Don Grebe, California High Speed Rail Authority, 770 L Street, Ste. 800,  
Sacramento, CA 95814  
Marissa Nishikawa, California High Speed Rail Authority, 1401 Fulton Street,  
Suite 300, Fresno, CA 93721

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2015-0012-002

FOR

IN-SITU GROUNDWATER REMEDIATION  
AND DISCHARGE OF TREATED GROUNDWATER TO LAND  
UNIVAR USA INC.  
1152 G STREET, FRESNO  
FRESNO COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring a groundwater remediation system for Univar USA Inc., 1152 G Street, Fresno, Fresno County. This MRP is issued pursuant to Water Code section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

All samples should be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form.

**GROUNDWATER MONITORING**

As shown on Figure 1, there are 48 monitor wells, 11 vapor extraction wells, 8 injection wells, and 3 contingency injection well locations associated with this site. The groundwater monitoring program for these wells and any wells installed subsequent to the issuance of this MRP shall follow the schedule below. The volume of extracted groundwater, if applicable, shall also be provided in quarterly monitoring reports. Sample collection and analysis shall follow standard EPA protocols.

The monitor wells, extraction wells, and/or injection wells shall be sampled according to the schedule in Table 1 and the samples analyzed by the methods in Table 2, as follows:

**Table 1: Sampling Frequency and Constituent Suite**

Well Number <sup>1</sup>	Constituent <sup>2</sup>	Frequency <sup>3</sup>	Monitoring Objective
IW-1 through IW-8, MW-14S, MW-14D, MW-21S, MW-23	Suite A, Suite C	Quarterly	Treatment Zone <sup>4</sup>
	Suite B	Semi-Annually	
	Suite D	Monthly	
VW-01B, VW-03B, VW-04B, VW-5, VW-6, VW-7	Suite A, Suite C	Quarterly	Transition Zone <sup>5</sup>
	Suite B	Semi-Annually	
	Suite D	Monthly	
MW-5, MW-6, MW-18S, MW-18D, VW-02B, IW-9, IW-10, IW-11	Suite A, Suite C	Quarterly	Compliance Group A <sup>6</sup>
	Suite B	Semi-Annually	

MW-01D, MW-05D, MW-07, MW-08, MW-09, MW-11, MW-12, MW-13, MW-15S, MW-15D, MW-15D1, MW-16D, MW-17S, MW-17D, MW-19S, MW-19D, MW-20S, MW-20D, MW-21D, T01-01, T01-02, T01-03, T02-01, T02-02-D, T02-03, TT03-01, OB-07, OB-08	Suite A	Semi-Annually	Compliance Group B
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- <sup>1</sup> Well numbers and locations as shown on Figure 1 (except for wells T02-02-D, T02-03, and TT03-01).
- <sup>2</sup> Constituent analytical methods are listed in Table 2.
- <sup>3</sup> Semi-annual sampling occurs 2<sup>nd</sup> and 4<sup>th</sup> quarters.
- <sup>4</sup> Wells sampled to evaluate in-situ bioremediation progress inside the treatment zone.
- <sup>5</sup> Wells sampled to evaluate migration of pollutants within the treatment zone.
- <sup>6</sup> Wells used to determine compliance with water groundwater limitations.

**Table 2: Analytical Methods**

Suite	Constituent	Method <sup>1</sup>	Maximum Practical Quantitation Limit (µg/L) <sup>2</sup>
Suite A	Volatile Organic Compounds	EPA 8260B	0.5
Suite B	Chloride	EPA 300	1,000
	Nitrate	EPA 353.2	1,000
	Sodium	EPA 200.7	1,000
	Potassium	EPA Method 300	1,000
	Total Alkalinity	EPA 310.1	1,000
	Total Dissolved Solids	EPA 160.1	10,000
Suite C	Hexavalent Chromium	EPA 7199	1
	Metals, Total and Dissolved <sup>3</sup>	EPA 200.7, 200.8	Various
Suite D	Potassium Permanganate	Colorimetric	

- <sup>1</sup> Or an equivalent EPA Method that achieves the maximum Practical Quantitation Limit.
- <sup>2</sup> All concentrations between the Method Detection Limit and the Practical Quantitation Limit shall be reported as an estimated value.
- <sup>3</sup> Metals include aluminum, arsenic, barium, cadmium, calcium, total chromium, copper, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, potassium, sodium, and zinc.

**FIELD SAMPLING**

In addition to the above sampling and laboratory analyses, field sampling and analysis shall be conducted each time a monitor well or injection well is sampled. The sampling and analysis of field parameters shall be as specified in Table 3.

**Table 3: Field Sampling Requirements**

Parameters	Units	Practical Quantitation Limit	Analytical Method
Groundwater Elevation	Feet, Mean Sea Level	0.01 feet	Measurement
Oxidation-Reduction Potential	Millivolts	10 millivolts	Field Meter
Electrical Conductivity	uhmos/cm	50 $\mu\text{S}/\text{cm}^2$	Field Meter
Dissolved Oxygen	mg/L	0.2 mg/L	Field Meter
pH	pH Units (to 0.1 units)	0.1 units	Field Meter
Temperature	$^{\circ}\text{F}/^{\circ}\text{C}$	0.1 $^{\circ}\text{F}/^{\circ}\text{C}$	Field Meter

All wells that are purged shall be purged until pH, temperature, conductivity and dissolved oxygen are within 10% of the previous value.

Field test instruments (such as those used to test pH and dissolved oxygen) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are calibrated prior to each monitoring event;
3. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are submitted as described in item (b) of the "Reporting" section of this MRP.

### IN-SITU DISCHARGE MONITORING

The Discharger shall monitor daily the discharge of water and amendments that are injected into the groundwater according to the requirements specified in Table 5. Each amendment addition shall be recorded individually, along with information regarding the time period over which the amendment was injected into the aquifer.

**Table 5: Discharge Monitoring Requirements**

Parameters	Units	Type of Sample
Injected Volume	gallons per day	Meter
Amendment(s) Added	pounds per day	Measured

### AMENDMENT ANALYSIS

Prior to use, amendments shall be analyzed for the constituents listed in Table 6. The analysis should be done on a mixture of the amendment and deionized water at the estimated concentration that would be injected during the pilot project.

**Table 6: Amendment Analytical Requirements**

Constituent	Method <sup>1</sup>	Maximum Practical Quantitation Limit (µg/L) <sup>2</sup>
Volatile Organic Compounds	8260B	0.5
General Minerals <sup>3</sup>		
Metals, Total and Dissolved <sup>4</sup>	EPA 200.7, 200.8	Various
Total Dissolved Solids	EPA 160.1	10,000
pH	meter	NA
Electrical Conductivity	meter	NA

<sup>1</sup> Or an equivalent EPA Method that achieves the maximum Practical Quantitation Limit.

<sup>2</sup> All concentrations between the Method Detection Limit and the Practical Quantitation Limit shall be reported as an estimated value.

<sup>3</sup> General Minerals include: alkalinity, bicarbonate, potassium, sodium, chloride, sulfate, total hardness, nitrate, nitrite, ammonia, and zinc.

<sup>4</sup> Metals include arsenic, aluminum, barium, cadmium, calcium, total chromium, copper, iron, lead, manganese, magnesium, mercury, molybdenum, nickel, selenium; sodium, and silica.

### ESTABLISHMENT OF BACKGROUND CONCENTRATION VALUES

The Discharger shall develop background values for concentrations of constituents such as metals (see Table 2), chloride, total dissolved solids, electrical conductivity, and other constituents of concern in groundwater following the procedures found in CCR Section 20415(e)(10) prior to beginning injection. The Discharger shall submit an evaluation of background groundwater concentrations **by 1 July 2015**.

### 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 Central Valley Water Board within 48 hours of any unscheduled shutdown or mechanical issues with any soil vapor and/or other remediation system. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall also be reported to the Central Valley Water Board.

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

The Discharger shall submit quarterly electronic data reports, which conform to the requirements of the California Code of Regulations, Title 23, Division 3, Chapter 30. The quarterly reports shall be submitted electronically over the internet to the Geotracker database system by the 1st day of the second month following the end of each calendar quarter 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) 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) the status of any ongoing remediation, including an estimate of the cumulative mass of pollutant removed from the subsurface, system operating time, dates and volumes of potassium permanganate injected, the effectiveness of the remediation system, and any field notes pertaining to the operation and maintenance of the system; and
- (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 Central Valley Water Board by **1 February** of each year. This report shall contain an evaluation of the effectiveness and progress of the investigation and remediation. The Annual Report may be substituted for the fourth quarter monitoring report as long as it contains all of the information required for that report plus that required for the Annual 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 effectively treated;
- (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; and
- (g) if desired, a proposal and rationale for any revisions to the groundwater sampling plan frequency and/or list of analytes.

A letter transmitting the monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions General Reporting Requirements Section B.3.

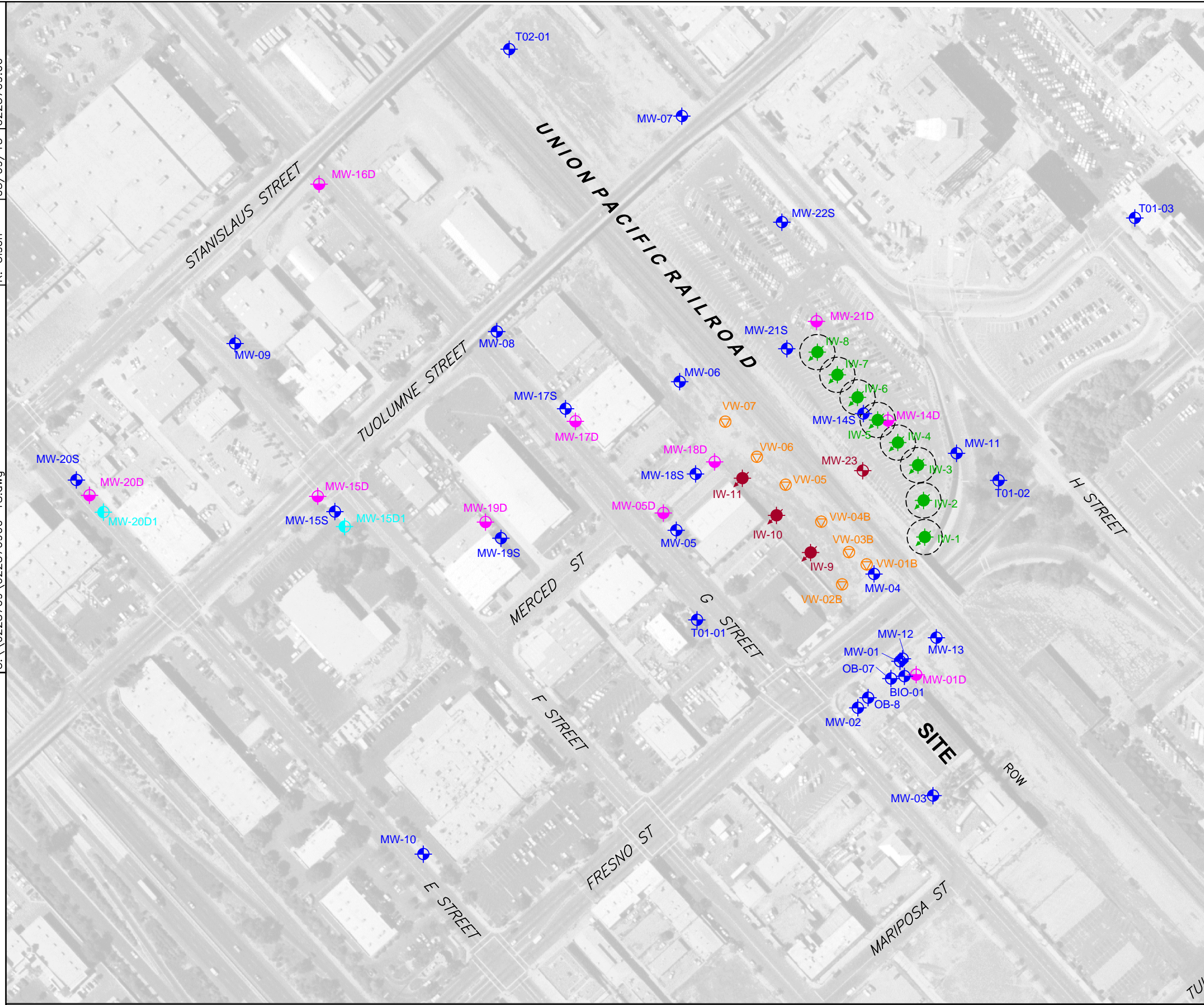
The Discharger shall implement the above monitoring program on the first day of the month following adoption of this Order.

Ordered by:

  
PAMELA C. CREEDON, Executive Officer

5/7/15  
(Date)





**LEGEND**

- Shallow Groundwater Monitoring Well
- Deep Groundwater Monitoring Well
- D1 Deep Groundwater Monitoring Well
- Vapor Extraction Well
- Proposed ISCO Injection Locations
- Proposed Contingency Well
- Proposed Additional Monitoring Well
- Expected Radius of Influence

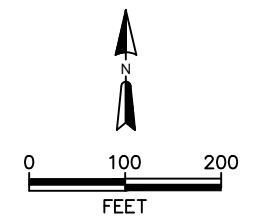


Figure 1  
 Site Detail Map  
 Former VW&R Inc. Facility  
 1152 G Street  
 Fresno, California