



EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

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

28 August 2015

**NOTICE
TENTATIVE WASTE DISCHARGE REQUIREMENTS R5-2015-XXXX
AND PUBLIC HEARING**

**ISSUANCE OF WASTE DISCHARGE REQUIREMENTS FOR UNIVAR USA INC.
GROUNDWATER CLEANUP IN THE VICINITY OF 1152 G STREET, FRESNO, FRESNO
COUNTY**

Enclosed for review are tentative waste discharge requirements for Univar USA Inc. for in-situ remediation of groundwater impacted by tetrachloroethene, a dry cleaning solvent, and associated volatile organic compounds. Also enclosed is a notice of public hearing (NOPH) to interested parties. The enclosed NOPH describes the date, time, and place that the Central Valley Regional Water Quality Control Board (Central Valley Water Board) is scheduled to have a hearing to consider the adoption of the tentative waste discharge requirements.

The tentative waste discharge requirements may be viewed from the Central Valley Water Board's Internet website at
http://www.waterboards.ca.gov/centralvalley/board_decisions/tentative_orders/

Any comments or recommendations you may have concerning the tentative waste discharge requirements should be submitted in writing to this office by **5:00 pm on 30 September 2015** in order that consideration may be given prior to the meeting of the Central Valley Water Board.

If you have any questions, please contact Jan Alfson at (559) 488-4345, jalfson@waterboards.ca.gov, or at the address at the bottom of the page.

RUSSELL W. WALLS
Senior Engineer
RCE No. 43140

Enclosures: Tentative Waste Discharge Requirements, Exhibits, and Attachments
NOPH

cc: see next page

KARL E. LONGLEY ScD, P.E., CHAIR | PAMELA C. CREEDON P.E., BCEE, EXECUTIVE OFFICER

1685 E Street, Fresno, CA 93706 | www.waterboards.ca.gov/centralvalley

cc: *(NOPH only)*

Patrick Pulupa, State Water Resources Control Board, OCC, Sacramento (via email)

Fresno County Environmental Health Department, Fresno

Bob Little, City of Fresno Water Division, Fresno

Greg Murphy, ERM, 1277 Treat Blvd, Suite 500, Walnut Creek, CA 94597

Diana Gomez, California High Speed Rail Authority, 2550 Mariposa Mall, suite 3015,
Fresno CA 93721 Attn: Stephani Rendon Fuentes

Marissa Nishikawa, California High Speed Rail Authority, 1401 Fulton Street, Suite 300,
Fresno, CA 93721

Don Grebe, California High Speed Rail Authority, 770 L Street, Suite 800,
Sacramento, CA 95814

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION
1685 E Street, Fresno, California 93706

NOTICE OF PUBLIC HEARING
concerning

ISSUANCE OF WASTE DISCHARGE REQUIREMENTS FOR UNIVAR USA INC. GROUNDWATER
CLEANUP IN THE VICINITY OF 1152 G STREET, FRESNO, FRESNO COUNTY

Groundwater at and downgradient of 1152 G Street, Fresno, Fresno County (the "Property") has been degraded by tetrachloroethene (PCE) formerly stored in an aboveground storage tank at the subject property. Univar is proposing to inject potassium permanganate into groundwater to facilitate in-situ breakdown of PCE and associated volatile organic compounds. The proposed groundwater treatment should reduce the concentration of volatile organic compounds to drinking water standards and restore the beneficial use of groundwater. Groundwater surrounding the proposed injection area will be monitored to insure that the beneficial use of surrounding groundwater is not impacted.

A public hearing concerning this matter will be conducted during the Central Valley Water Board meeting scheduled for:

DATE: 10/11 December 2015
TIME: 8:30 a.m.
PLACE: Central Valley Regional Water Quality Control Board
11020 Sun Center Drive #200
Rancho Cordova, CA 95670-6114

Persons wishing to comment on this item must submit testimony, evidence, if any, and/or comments in writing to the Central Valley Water Board no later than **5:00 p.m. on 30 September 2015**. Written materials submitted after this date and time will not be accepted and will not be incorporated into the administrative record if doing so would prejudice any party.

All parties may speak at the Central Valley Water Board meeting, and are expected to orally summarize their written submittals. Oral testimony and cross examination will be limited in time by the Board Chair. All parties may be asked to respond to clarifying questions from Board members, counsel, staff, or others, at the discretion of the Board Chair.

Anyone having questions on the tentative Waste Discharge Requirements should contact Jan Alfson at (559) 488-4345, or at jalfson@waterboards.ca.gov. Interested parties may download the proposed Order and related documents from the Central Valley Water Board's Internet website at: http://www.waterboards.ca.gov/centralvalley/board_decisions/tentative_orders/

Copies of these documents can also be obtained by contacting or visiting the Central Valley Water Board's office at 1685 E Street, Fresno, CA 93706 weekdays between 8:00 a.m. and 5:00 p.m., or by contacting the person above.

The final meeting agenda will be available at: http://www.waterboards.ca.gov/centralvalley/board_info/meetings/ at least ten days before the meeting. The agenda will provide the dates the Board meeting will be held, indicate the anticipated order of agenda items, and may include staff revisions to the proposed order(s).

NOTICE OF PUBLIC HEARING
TENTATIVE WASTE DISCHARGE REQUIREMENTS
UNIVAR USA INC., 1152 G STREET
FRESNO, FRESNO COUNTY

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The procedures governing Central Valley Water Board meetings may be found at California Code of Regulations, title 23, section 647 et seq. and are available upon request. The procedures may also be obtained by accessing:

http://www.waterboards.ca.gov/laws_regulations/

Information on meeting and hearing procedures is also available on the Board's website at:

http://www.waterboards.ca.gov/centralvalley/board_info/meetings/mtgprocd.shtml

or by contacting any one of the Board's offices. Questions regarding such procedures should be directed to Ms. Kiran Lanfranchi-Rizzardi at (916) 464-4839.

The hearing facilities will be accessible to persons with disabilities. Individuals requiring special accommodations are requested to contact Ms. Kiran Lanfranchi-Rizzardi at (916) 464-4839 at least 5 working days prior to the meeting. TTY users may contact the California Relay Service at 1-800-735-2929 or voice line at 1-800-735-2922.

Please bring the above information to the attention of anyone you know who would be interested in this matter.



DOUGLAS K. PATTESON, SUPERVISING ENGINEER

28 August 2015

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

WASTE DISCHARGE REQUIREMENTS ORDER R5-2015-XXXX
FOR
UNIVAR USA INC.
IN-SITU CHEMICAL OXIDATION GROUNDWATER REMEDIATION PROJECT
1152 G STREET, FRESNO
FRESNO COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Central Valley Water Board), finds that:

1. Univar USA Inc. (Discharger) submitted a Report of Waste Discharge (ROWD) on 16 February 2015 for an in-situ groundwater treatment system to treat tetrachloroethene-contaminated groundwater at and downgradient of the former Van Waters and Rogers site at Fresno and G Streets, Fresno, Fresno County. The Discharger submitted the document *Full Scale ISCO Workplan* dated February 2015. Univar will be constructing and operating the remediation systems. The Union Pacific Railroad, the City of Fresno, and the California High Speed Rail Authority are the owners of the land on which the system will be constructed.
2. The project will be constructed at 1152 G Street in Fresno, on Union Pacific Railroad and California High Speed Rail property to the northwest of 1152 G Street, on City of Fresno property to the northeast of the railroad tracks, and on City of Fresno right-of-ways downgradient of 1152 G Street (collectively referred to as the "Site"). The project site plan is shown on Attachment A, which is attached hereto and made part of this Order by reference.

BACKGROUND

3. Univar leased the property at 1152 G Street from approximately 1965 to 1986. An aboveground storage tank located at the northeast corner of the was used for storing tetrachloroethene. The tank was removed in the mid 1980's.
4. The 1152 G Street property was occupied by a chemical supply company known as United Agri-Products (UAP) from 1987 to 1989. The property was not used for chemical mixing or repackaging. Beginning in 1989, the property was leased to the Good Guys Tire Center for use as a warehouse for storage of tires. Currently the property is unoccupied but will be developed by the California High Speed Rail Authority in the near future.
5. Numerous assessments have been conducted at the Site. Tetrachloroethene was detected at high concentrations in soil and groundwater at the Site. A soil vapor extraction system (SVE) was operated at the Site from 1998 to 2003. During operation of the SVE system, the concentration of PCE in on-site groundwater declined from 14,000 micrograms per liter (ug/L) in 1998 to 280 ug/L in 2005.
6. The SVE system was upgraded and moved off-site in 2009 to the vicinity of monitoring well MW-4, where it is currently operating. Vapors are extracted from up to nine wells, extending northwest from well MW-4.

7. Groundwater assessments indicate that impacted groundwater has migrated approximately 1,500 feet to the north and 1,800 feet to the west. The maximum concentration of tetrachloroethene in November 2014 was 940 micrograms per liter in well VW-05. Tetrachloroethene has been detected as deep as 250 feet below ground surface (bgs). Tetrachloroethene concentrations below the State of California maximum contaminant level for drinking water of five micrograms per liter have been detected in City of Fresno well 22A, 1,800 feet west of the Site.

HYDROLOGY, GEOLOGY, AND LAND USE

8. Groundwater beneath the Site is encountered at depths of 100 to 110 feet bgs. Groundwater in the vicinity of the Site is of good inorganic constituent quality, with water from nearby City of Fresno well 22A having a total dissolved solids concentration of approximately 330 milligrams per liter (mg/L), a chloride concentration of 22 mg/L, and a sodium concentration of 27 mg/L.
9. Boring logs from site investigations indicate that soils encountered at the Site consist predominantly of silt and clay from the surface to a depth of approximately 20 feet bgs, and alternating layers of poorly graded sand, silty sand, and clay to a depth of approximately 50 feet bgs. Soils encountered below 50 feet bgs to about 80 feet bgs consists of alternating layers of silt and sandy silts and, below 80 feet bgs to 90 feet bgs, the soil becomes more permeable and consists predominantly of sand.
10. Historical groundwater flow near the Site was predominantly to the north-northwest. More recent groundwater elevation data have indicated a shift towards the west. The apparent westerly shift in the groundwater flow direction appears to be influenced by the operation of City well 22A, located northwest of the Site. Shallow groundwater flow at the Site was to the west/southwest in November 2014 and the downward gradient ranged from 0.002 ft/ft to 0.05 ft/ft.

PROPOSED REMEDIATION SYSTEM

11. The Discharger proposes to remediate groundwater by in-situ chemical oxidation. Potassium permanganate will be injected directly into groundwater. Potassium permanganate breaks the bonds between the carbon atoms in tetrachloroethene and dechlorinates the individual molecules, resulting in the production of carbon dioxide.
12. The proposed groundwater remediation system is composed of three zones, a treatment zone, a transition zone, and a compliance zone. The proposed remediation system locations are shown on Attachment A. An estimated minimum of fifteen injection wells will be installed in the treatment zone. Potassium permanganate will be injected in the wells and allowed to move downgradient until it is consumed. The California High Speed Rail line is projected to be built on at least a portion of the Site. If that project proceeds, locations of wells and equipment may need to be adjusted. If adjustments in locations of wells and/or equipment within 300 feet of currently proposed locations are needed, a report needs to be submitted to the Executive Officer proposing the new location(s) and including justification for the requested change(s).
13. The potassium permanganate solution will be mixed onsite using water and dry, bulk, solid potassium permanganate. It is anticipated that RemOxS, a proprietary potassium permanganate will be used. Approximately 30,400 pounds of potassium permanganate will be

required to treat the target area. It will be injected in a solution no stronger than 2.5 percent potassium permanganate by weight. It is anticipated that approximately 14,500 gallons of 2.5 percent potassium permanganate solution will be injected into each of the wells.

14. The majority of potassium permanganate is expected to be consumed prior to migration to the transition zone. Some residual oxidant may migrate into this zone but it is anticipated that all oxidant will be consumed prior to migration to the compliance zone.
15. The upgradient portion of the compliance zone is approximately 1,600 feet from the nearest City of Fresno supply well. Numerous monitoring wells are located throughout the compliance zone between the area to be treated and the City of Fresno supply well. If potassium permanganate is detected in any compliance well, the data will be analyzed and an effective method of arresting further downgradient oxidant migration instigated. It is noted that the estimated time required for groundwater to migrate from the treatment zone to the City of Fresno well is 20 or more years.

REGULATORY CONSIDERATIONS

16. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition, revised January 2004* ("Basin Plan") designates beneficial uses, establishes narrative and numerical water quality objectives, contains implementation plans and policies for protecting all waters of the Basin, and incorporates, by reference, plans and policies of the State Water Board. In accordance with section 13263(a) of the Water Code, these requirements implement the Basin Plan.
17. The Site is in Detailed Analysis Unit (DAU) 233, within the Kings Basin hydrologic unit. The Basin Plan identifies the beneficial uses of groundwater as municipal and domestic supply, agricultural supply, industrial service supply, industrial process supply, and water contact and non-contact water recreation.
18. The Basin Plan establishes numerical and narrative water quality objectives for surface water and groundwater within the basin, and recognizes that water quality objectives are achieved primarily through the Board's adoption of waste discharge requirements and enforcement orders. Where numerical water quality objectives are listed, these are limits necessary for the reasonable protection of beneficial uses of the water. Where compliance with narrative water quality objectives is required, the Board will, on a case-by-case basis, adopt numerical limits in orders which will implement the narrative objectives to protect beneficial uses of the waters of the state.
19. The Basin Plan identifies numerical water quality objectives for waters designated as municipal supply. These are the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of section 64431, Table 64444-A (Organic Chemicals) of section 64444, and Table 64449-A (Secondary Maximum Contaminant Levels- Consumer Acceptance Limits) of section 64449. The Basin Plan's incorporation of these provisions by reference is prospective, and includes future changes to the incorporated provisions as the changes take effect. The Basin Plan recognizes that the Board may apply limits more stringent than MCLs to ensure that

waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.

20. The Basin Plan contains narrative water quality objectives for chemical constituents, tastes and odors, and toxicity. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants or animals. The chemical constituent objective requires that groundwater shall not contain chemical constituents in concentrations that adversely affect beneficial uses. The tastes and odors objective requires that groundwater shall not contain tastes or odors producing substances in concentrations that cause nuisance or adversely affect beneficial uses.
21. This Order addresses water quality as it relates to the chemicals being injected, as well as the byproducts and breakdown products produced by the reactions of the injectants, chemicals being treated and geological materials. As discussed above, chemicals are injected to stimulate reduction in concentrations of the target waste constituent and the target waste constituent may undergo a series of transformations to other constituents as it degrades. The injected chemical itself may leave residuals of its components, as well as cause changes in groundwater chemistry that liberate metals found in the formation materials.

Background/baseline concentrations of metals and total dissolved solids will be established pursuant to the attached Monitoring and Reporting Program. The applicable WQOs are the narrative toxicity objective, Primary and Secondary Maximum Contaminant Levels, and the narrative taste and odor objective as found in the Basin Plan. The following Table presents numerical WQOs and numerical limits that implement narrative WQOs for waste constituents of concern at the Site:

Constituent	WQO/Limit	Reference
trichloroethene	5 µg/L	Primary Maximum Contaminant Level
tetrachloroethene	5 µg/L	Primary Maximum Contaminant Level
vinyl chloride	2 µg/L	Primary Maximum Contaminant Level
cis 1,2-dichloroethene	6 µg/L	Primary Maximum Contaminant Level
1,2-dichloroethene	10 µg/L	Primary Maximum Contaminant Level
1,2-dichloroethane	0.5 µg/L	Primary Maximum Contaminant Level
1,1-dichloroethene	6 µg/L	Primary Maximum Contaminant Level
1,1-dichloroethane	5 µg/L	California Public Health Goal
1,2,3-trichloropropane	0.0007 µg/L	California Public Health Goal
1,2-dichloropropane	5 µg/L	Primary Maximum Contaminant Level
1-chloropropane	280 µg/L	IRIS
propene	28 µg/L	Taste and Odor
iron	300 µg/L	Secondary Maximum Contaminant Level
ethane	7500 µg/L	Taste and Odor
manganese	50 µg/L	Secondary Maximum Contaminant Level
hexavalent chromium	10 µg/L	Primary Maximum Contaminant Level
total chromium	50 µg/L	Primary Maximum Contaminant Level
total dissolved solids	500 mg/L	Secondary Maximum Contaminant Level

sulfate	250 mg/L	Secondary Maximum Contaminant Level
bromate	10 µg/L	Primary Maximum Contaminant Level
chloride	250 mg/L	Secondary Maximum Contaminant Level

22. The action to adopt these Waste Discharge Requirements is exempt from the provisions of the California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.) because it: (1) authorizes activity that will result in a minor modification to land (Cal. Code Regs., tit. 14, §15304); (2) consists of an action by a regulatory agency authorizing actions for the protection of the environment (Cal. Code Regs., tit. 14, §15308); and (3) authorizes a small or medium action costing \$1 million or less that is taken to prevent, minimize, stabilize, mitigate, or eliminate the release or threat of release of a hazardous waste or substance (Cal. Code Regs., tit. 14, §15330).

23. The discharge is exempt from the requirements of *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, set forth in the Title 27 of the California Code of Regulations (hereafter "Title 27") pursuant to Subsections 20090(b) and 20090(d) of Title 27.

The discharge authorized by these WDRs is exempt from Title 27 pursuant to Subsection 20090(b) because:

- a. The Central Valley Water Board is issuing these waste discharge requirements;
- b. The discharge is in compliance with the applicable Basin Plan; and
- c. The wastewater does not need to be managed as a hazardous waste, as defined by California Code of Regulations, title 22, sections 66261.1 et seq.

The discharge authorized by these WDRs is exempt from Title 27 pursuant to Subsection 20090(d) because:

- a. The application of amendments to groundwater is at the direction of the Regional Water Board to cleanup and abate conditions of pollution or nuisance resulting from the unauthorized discharge of waste.
- b. Wastes removed from the immediate place of release must be discharged according to the Title 27 regulations; and
- c. The cleanup actions intended to contain wastes at the place of release shall implement the Title 27 regulations to the extent feasible.

24. Water Code section 13267(b) provides that:

"In conducting an investigation specified in subdivision (a), 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 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 reports and the benefits to be obtained from the reports. In requiring these 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 technical reports required by this Order and the attached Monitoring and Reporting Program are necessary to assure compliance with this Order.

25. The California Department of Water Resources sets standards for the construction and destruction of groundwater wells, as described in *California Well Standards Bulletin 74-90* (June 1991) and *Water Well Standards: State of California Bulletin 94-81* (December 1981). These standards, and any more stringent standards implemented by the Regional Water Board or adopted by the local county where the Site is located pursuant to Water Code section 13801 apply to all monitoring and injection wells.
26. Section 3020(b)(2) of the Resource Conservation and Recovery Act (RCRA) states that, prior to injection into or above an underground source of drinking water, contaminated groundwater shall be "...treated to substantially reduce hazardous constituents prior to such injection." In a letter dated 10 December 1999, the United States Environmental Protection Agency, Office of Solid Waste and Emergency Response (OSWER) states, "if extracted groundwater is amended at the surface (i.e., "treated") before reinjection, and the subsequent in-situ bioremediation achieves a substantial reduction of hazardous constituents the remedy would satisfy section 3020(b)(2)." The injection of groundwater within the treatment zone in compliance with this Order, with or without the treatment for the constituents of concern, complies with section 3020(2)(b) of RCRA.
27. Water Code section 13307.5 prescribes specific public participation requirements that the Board must follow when the Board approves a cleanup proposal submitted by a primary or active discharger who has been issued an order pursuant to Water Code section 13304. Although these WDRs do not exactly constitute such a cleanup proposal, the Board's process for issuing WDRs substantively complies with the requirements of Water Code section 13307.5 because these WDRs will be circulated to affected or potentially affected property owners, local government entities will be apprised of the Board's intention to issue these WDRs, a comment period of at least 30 days will be provided, and the Board will approve these WDRs in a public meeting after considering all relevant comments.

Antidegradation Analysis

28. State Water Board Resolution 68-16 requires the Board, in regulating discharges, to maintain high quality waters of the State until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and potential beneficial uses, and will not result in water quality less than that described in plans and policies, (e.g. quality that exceeds WQOs). The Central Valley Water Board finds that these WDRs authorize limited temporal groundwater degradation, but that such degradation is consistent with Resolution 68-16 since: (1) the purpose of the discharge is to accelerate and enhance remediation of the existing groundwater pollution, and such remediation is consistent with the maximum benefit to the people of California; (2) the degradation is limited in scope and duration; (3) this Order requires use of best practicable treatment or control of the wastes to be discharged, including adequate monitoring and contingency plans to assure protection of water quality; and (4) this Order does not allow discharges of waste to exceed water quality objectives, other than the temporary exceedances that will occur as a result of the treatment process. If the monitoring conducted pursuant to the MRP shows that the discharge causes or threatens to cause degradation of water quality (other than those temporarily permitted by these WDRs), then the Discharger will be required to cease the discharge, implement source control, change the method of discharge, or take other action. A slight residual increase in salts may occur, but will be limited to a maximum 20 percent increase over background and less than the WQO/Limit listed above in Finding 21.

General Findings

29. Pursuant to Water Code section 13263(g), the discharge of waste is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.
30. All the above and the supplemental data and information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.
31. The Discharger and interested agencies and persons were notified of the Board's intent to prescribe waste discharge requirements for this discharge and were provided with an opportunity for a public hearing and an opportunity to submit written comments.
32. In a public meeting, all comments pertaining to this Order were heard and considered.

IT IS HEREBY ORDERED that pursuant to Water Code sections 13263 and 13267, Univar USA Inc. and its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted thereunder, shall comply with the following:

A. Prohibitions

1. Discharge of waste or pollutants to surface waters or surface water drainage courses is prohibited.
2. Discharge of amendments or other materials at locations or in manner different from that described in this order is prohibited.
3. Discharge of waste classified as 'hazardous' as defined in California Code of Regulations, title 22, sections 66261.1 et seq, is prohibited. Discharge of waste classified as 'designated', as defined in Water Code section 13173, in a manner that causes violation of groundwater limitations, is prohibited.
4. Neither the treatment nor the discharge shall cause a nuisance or a condition of pollution, as defined by Water Code section 13050, outside of the treatment and transition zones.

B. Discharge Specifications

1. Monitoring wells MW-5, MW-5D, MW-6, MW-7, MW-8, MW-9, MW-10, MW-14S, MW-14D, MW-15S, MW-15D, MW-15D1, MW-16D, MW-17S, MW-17D, MW-18S, MW-18D, MW-19S, MW-19D, MW-20S, MW-20D, MW-20D1, and T01-01 shall comprise the compliance monitoring well network.
2. No waste constituent shall be released or discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations in groundwater outside of the treatment and transition zones.
3. Groundwater shall not be amended with materials other than those listed in Findings 11 through 13.

C. Groundwater Limitations

1. The release, injection, discharge or addition of constituents from the remediation system shall not cause the groundwater at the compliance wells listed in B.1 to contain concentrations of constituents added as amendments, or by-products of the in-situ treatment process, in amounts that exceed the Water Quality Objectives listed in Finding 21, or above background concentrations.
2. The release, injection, discharge or addition of constituents from a remediation system shall not cause the groundwater at the compliance wells to contain concentrations of metals, total dissolved solids, or electrical conductivity that are more than 20% greater than their respective background concentrations, as established by the Monitoring and Reporting Program.
3. The discharge shall not cause the pH of the groundwater at the compliance points to be less than 6.5 or greater than 8.5.
4. The release, injection, discharge or addition of constituents from the remediation system shall not cause the groundwater to contain taste or odor producing substances that cause nuisance or adversely affect beneficial uses at the compliance wells.

H. Provisions

1. The Discharger shall comply with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991 (Standard Provisions), which are part of this Order.
2. The Discharger shall comply with MRP R5-2015-XXXX, which is part of this Order, and any revisions thereto as adopted by the Central Valley Water Board or approved by the Executive Officer. The submittal date of Discharger self-monitoring reports shall be no later than submittal dates specified in the MRP.
3. The Discharger may be required to submit technical reports pursuant to CWC section 13267, as directed by the Executive Officer. The technical reports required by this Order are necessary to assure compliance with this Order.
4. A report needs to be submitted proposing any needed changes in injectants or the location of wells, and justification for the changes. Changes to the proposed remediation system, as described in the above findings, shall not be made until approved by the Executive Officer.
5. All technical reports and work plans required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1. As required by these laws, completed technical reports and work plans must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work. All reports required herein are required pursuant to CWC section 13267.

6. A copy of this Order shall be maintained at the project site and be available at all times to operating personnel.
7. Provisions of this Order are severable. If any provision of these requirements is found invalid, the remainder of this Order shall not be affected.
8. The Discharger shall maintain in good working order and operate as efficiently as possible any facility or control system installed by the Discharger to achieve compliance with this Order.
9. In the event of a violation of the order, or any material change in the character, location, or volume of the discharge, or if the Discharger is unable to comply with any of the conditions of this Order due to:
 - a. breakdown of any facility or control system or monitoring equipment installed by the Discharger to achieve compliance with this Order;
 - b. migration or application of amendments, pollutants or byproducts outside the specified treatment area;
 - c. accidents caused by human error or negligence; or
 - d. other causes such as acts of nature;

The Discharger shall notify the Central Valley Water Board by telephone with 24 hours after it or its agents have knowledge of the incident and confirm this notification in writing within two weeks of the telephone notification. The written notification shall include pertinent information explaining reasons for the noncompliance and shall indicate the steps taken to correct the problem from recurring. The reporting of migration or application of amendments, waste constituents or byproducts outside the specified treatment area shall include an assessment of and schedule for implementation of contingency plans required to bring the discharge into compliance with the Order.

10. The Discharger shall report within 48 hours to the Central Valley Water Board any violation of this Order, and any material change in the character, location, or volume of the discharge.
11. In the event of any change in control or ownership of land or waste treatment and storage facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.
12. To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the address and telephone number of the persons responsible for contact with the Central Valley Water Board and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and shall state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request may be considered a discharge without requirements, a violation of the Water Code. If the request is tentatively approved by

the Executive Officer, the Central Valley Water Board will complete the transfer by issuing a name-change Order at one of its regularly scheduled meetings.

13. This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, nor protect the discharger from his liability under Federal, State, or Local laws, nor create a vested right for the discharger to continue the waste discharge.
14. Chemical, bacteriological, and bioassay analyses must be conducted at a laboratory certified for such analyses by the State Water Resources Control Board Division of Drinking Water. For specialized analysis where no certification exists, the laboratory and analytical method must be approved by the Executive Officer.
15. All reports or other documents required by this Order, and other information requested by the Central Valley Water Board, shall be signed by a person described below or by a duly authorized representative of that person.
 - a. for a corporation: by a responsible corporate officer such as (a) a president, secretary, treasurer, or vice president of the corporation in charge of principal business function; (b) any other person who performs similar policy or decision making functions for the corporation; or (c) the manager of one or more manufacturing, production, or operating facilities if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures
 - b. Reports required by this Order and other information requested by the Central Valley Water Board may be signed by a duly authorized representative provided:
 - i. the authorization is made in writing by a person described in paragraph (a) of this provision
 - ii. the authorization specifies either an individual or a position having responsibility for the overall operation for the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company; and
 - iii. written authorization is submitted to the Central Valley Water Board prior to or together with any reports, information, or applications signed by the authorized representative.
 - c. Any person signing a document under paragraph (a) or (b) of this provision shall make the following certification: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

16. The Central Valley Water Board is currently implementing the CV-SALTS initiative to develop a Basin Plan amendment that will establish a salt and nitrate management plan for the Central Valley. Through this effort the Basin Plan will be amended to define how the narrative water quality objectives are to be interpreted for the protection of agricultural use. If new information or evidence indicates that groundwater limitations different than those prescribed herein are appropriate, this Order will be reopened to incorporate such limits.
17. The Central Valley Water Board may review this Order periodically and may revise requirements when necessary. In addition, the discharger shall file a report of waste discharge with the Executive Officer at least 120 days before making any material change or proposed change in the character, location, or volume of the discharge.
18. This Order is in effect until terminated by the Central Valley Water Board.

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order or with the WDRs may result in the imposition of administrative civil liability of up to \$10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

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 Water Code 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, 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.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on XX October 2015.

PAMELA C. CREEDON, Executive Officer

Order Attachments:

Attachment A - Project Site Plan

Monitoring and Reporting Program R5-2015-XXXX

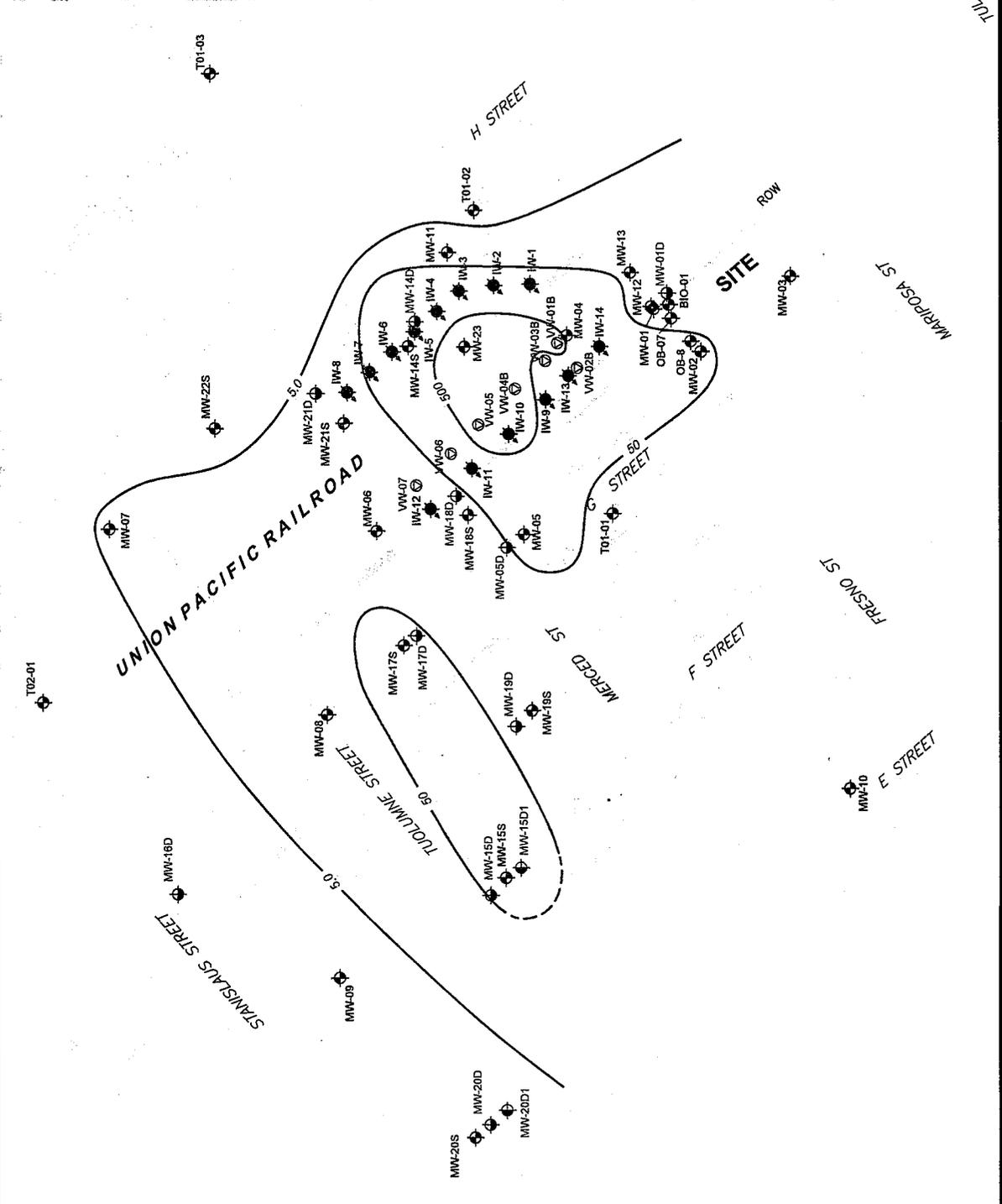
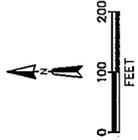
Information Sheet

Standard Provisions (1 March 1991) (separate attachment to Discharger only)

LEGEND

- ◆ Shallow Groundwater Monitoring Well
- ◆ Deep Groundwater Monitoring Well
- ◆ D1 Deep Groundwater Monitoring Well
- ⊖ Vapor Extraction Well
- ◆ ISCO Injection Locations
- ◆ Proposed ISCO Injection Locations
- PCE Concentration Contour in Shallow Groundwater (µg/L); Dashed Where Inferred. Sampled in May 2014.

5.0'



Attachment A
 Former MW&R Inc. Facility
 1152 G Street
 Fresno, California
 ERM 08/15

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2015-XXXX
FOR
UNIVAR USA INC.
IN-SITU CHEMICAL OXIDATION GROUNDWATER REMEDIATION PROJECT
1152 G STREET, FRESNO
FRESNO COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring an in-situ groundwater treatment system. 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. As appropriate, Central Valley Water Board staff shall approve specific sample station locations prior to implementation of sampling activities.

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's chain of custody form.

GROUNDWATER MONITORING

Existing and proposed wells for the site are shown on Attachment A. The groundwater monitoring program for these wells and any wells installed subsequent to the issuance of this MRP shall follow the schedule in Table 1. The volume of injected and/or extracted groundwater, if applicable, shall be provided in quarterly monitoring reports. Sample collection and analysis shall follow standard EPA protocol.

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.

Table 1: Sampling Frequency and Constituent Suite

Well Number	Constituent ²	Frequency ³	Monitoring Objective
IW-1 through IW-8, MW-14S, MW-14D, MW-21S, MW-23	Suite A, Suite C	Quarterly	Treatment Zone ⁴
	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 ⁵
	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
	Suite B	Semi-Annually	
	Suite D	Monthly	

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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- ¹ Well numbers and locations as shown on Attachment A (except for wells T02-02-D, T02-03, and TT03-01).
- ² Constituent analytical methods are listed in Table 2.
- ³ Semi-annual sampling occurs 2nd and 4th quarters.
- ⁴ Wells sampled to evaluate in-situ remediation progress inside the treatment zone.
- ⁵ Wells sampled to evaluate migration of pollutants within the treatment zone.

Table 2: Analytical Methods

Suite	Constituent	Method ¹	Maximum Practical Quantitation Limit (µg/L) ²
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 ³	EPA 200.7, 200.8	Various
Suite D	Potassium Permanganate	Colorimetric	

- ¹ Or an equivalent EPA Method that achieves the maximum Practical Quantitation Limit.
- ² All concentrations between the Method Detection Limit and the Practical Quantitation Limit shall be reported as an estimated value.
- ³ 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 analysis, field sampling and analysis shall be conducted each time a monitor well or extraction well is sampled. The sampling and analysis of field parameters shall be as specified in Table 3.

Table 3: Field Sampling Requirements

Parameters	Units	Type of Sample
Groundwater Elevation	Feet, Mean Sea Level	Measurement
Oxidation-Reduction Potential	Millivolts	Grab
Electrical Conductivity	uhmos/cm	Grab

Dissolved Oxygen	mg/L	Grab
Temperature	Degrees C	Grab
pH	pH Units (to 0.1 units)	Grab

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.

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 4. Each amendment addition shall be recorded individually, along with information regarding the time period over which the amendment was injected into the aquifer.

Table 4: Discharge Monitoring Requirements

Parameters	Units	Type of Sample
Injected Volume	gallons per event	Measured
Amendment(s) Added	kilograms per event	Measured

AMENDMENT ANALYSIS

Prior to use, amendments shall be analyzed for the constituents listed in Table 4. The analysis should be done on the pure amendment (if possible) and on a mixture of the amendment and deionized water at the estimated concentration that would be injected during the project.

Table 4: Amendment Analytical Requirements

Constituent	Method ¹	Maximum Practical Quantitation Limit (µg/L) ²
Volatile Organic Compounds	EPA 8260B	0.5
General Minerals ³		
Metals, Total and Dissolved ⁴	EPA 200.7, 200.8	Various
Hexavalent Chromium	EPA 218.6	0.5
pH	meter	NA
Electrical Conductivity	meter	NA

¹ Or an equivalent EPA Method that achieves the maximum Practical Quantitation Limit.

² All concentrations between the Method Detection Limit and the Practical Quantitation Limit shall be reported, and reported as an estimated value.

³ Alkalinity, bicarbonate, sodium, calcium, magnesium, potassium, chloride, sulfate, total hardness, nitrate, nitrite, ammonia, total dissolved solids.

- ⁴ Metals include arsenic, barium, cadmium, total chromium, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium and silica.

ESTABLISHMENT OF BACKGROUND CONCENTRATION VALUES

The Discharger shall develop background values for concentrations of general minerals, metals, and electrical conductivity in groundwater following the procedures found in California Code of Regulations section 20415(e)(10). The Discharger shall sample each compliance well and analyze the samples for the constituents above a minimum of two times prior to startup of the injection system.

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 of any soil vapor and/or groundwater extraction/injection 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 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), reference elevation, screened interval, depth of seal, depth of well;

- (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, which may be submitted in an electronic format with the report;
- (i) the status of any ongoing remediation, including an estimate of the cumulative mass of pollutant removed from the subsurface, system operating time, the effectiveness of the remediation system, analytical results of sampling, and any field notes pertaining to the operation and maintenance of the system;
- (j) a table showing the dates on which potassium permanganate was injected, and the location and amount of potassium permanganate injected at each location; and
- (k) 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 (1 November for semi-annual monitoring)** 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 effectively treated;
- (e) a description of all remedial activities conducted during the year, graphs showing trends of constituents of concern, 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

XX XXXXXX XX00

(Date)

Tentative

INFORMATION SHEET

ORDER R5-2015-XXXX
UNIVAR USA INC.
IN-SITU CHEMICAL OXIDATION GROUNDWATER REMEDIATION PROJECT
1152 G STREET, FRESNO
FRESNO COUNTY

____ Univar USA Inc. (Univar) is proposing in-situ chemical oxidation remediation for groundwater impacted by tetrachloroethene and its breakdown products. Oxidizing agents will be injected into groundwater to break carbon bonds in tetrachloroethene resulting in the creation of carbon dioxide gas and chloride.

Background

Univar leased property at 1152 G Street, Fresno from 1965 to 1986. An aboveground storage tank (AST) was located in the northeast corner and was used to store tetrachloroethene (PCE). The AST has since been removed. PCE was initially detected in soil samples during a 1994 assessment. Numerous assessments of soil, soil gas, and groundwater have been conducted since that time to delineate the extent of PCE in soil and groundwater.

PCE impacted groundwater forms a plume extending approximately 1,500 feet to the north and 1,800 feet to the northwest, toward City of Fresno well 22A. PCE has been detected at depths up to 250 below ground surface in the vicinity of City well 22A. Concentrations of PCE detected in City well 22A are well below State of California drinking water standards.

Univar's clean-up remedy is to inject potassium permanganate into a series of injection wells located in the area of highest concentrations of tetrachloroethene in groundwater. The potassium permanganate will break the carbon to carbon bonds and dechlorinate tetrachloroethene in groundwater. The reaction will create carbon dioxide gas and release chloride and potassium ions into groundwater. The potassium permanganate will migrate with the flow of groundwater and be consumed in reactions with volatile organic compounds and other organic compounds in the aquifer. It is anticipated that all or most of the potassium permanganate will be consumed by the time it reaches the transition zone.

A test evaluation was conducted to assess the effectiveness of using potassium permanganate at the site. Three representative formation samples were collected at depth from the site for the evaluation. The amount of potassium permanganate that was consumed by organic materials in the samples was determined during the test. The results of the evaluation indicate that potassium permanganate injection will work well at the site. Data collected during the evaluation allows the consultant to estimate the amount of potassium permanganate required.

Groundwater Conditions

Groundwater monitoring has been ongoing since at least 1996. Groundwater occurs at a depth of approximately 100 to 110 feet below ground surface. More than 45 monitoring wells are currently gauged and sampled semi-annually. The monitoring and reporting program requires sampling of the existing wells on a quarterly, semi-annual, or annual basis, depending on the specific well. Groundwater samples will be analyzed for general mineral, metal, and volatile organic constituents, along with constituents associated with the amendments to be injected.

Twenty monitoring wells outside of the treatment and transition zones or on the outside edges of the transition zone have been selected as compliance wells. Several of the compliance wells are located upgradient of Fresno City well 22A to ensure that the remediation systems do not cause impacts to that well. The compliance wells will be monitored to ensure that injected materials do not affect the beneficial uses of groundwater outside of the treatment and transition zones.

Basin Plan, Beneficial Uses, and Regulatory Considerations

The Water Quality Control Plan for the Tulare Lake Basin (second edition) (the "Basin Plan") designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the basin. The receiving water is groundwater. Beneficial uses include municipal and domestic water supply, agricultural supply, industrial service supply, industrial process supply, and water contact and non-contact water recreation. Discharges shall not cause groundwater at the compliance points to exceed drinking water primary or secondary standards unless background concentrations already exceed the primary or secondary standards. Discharges shall not cause concentrations of metals, total dissolved solids, or electrical conductivity to increase more than 20% over their background concentrations.

Antidegradation

State Water Resources Control Board Resolution 68-16 (hereafter Resolution 68-16) requires the Regional Water Board to maintain high quality waters of the State until it is demonstrated that any change in quality will be consistent with the maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in State and Regional Water Board policies (e.g., quality that exceeds water quality objectives).

The Central Valley Water Board finds that these WDRs authorize limited temporal groundwater degradation, but that such degradation is consistent with Resolution 68-16 since: (1) the purpose of the discharge is to accelerate and enhance remediation of the existing groundwater pollution, and such remediation is consistent with the maximum benefit to the people of California; (2) the degradation is limited in scope and duration; (3) this Order requires use of best practicable treatment or control of the wastes to be discharged, including adequate monitoring and contingency plans to assure protection of water quality; and (4) this Order does not allow discharges of waste to exceed water quality objectives, other than the temporary exceedances that will occur as a result of the treatment process. If the monitoring conducted pursuant to the MRP shows that the discharge causes or threatens to cause degradation of water quality (other than those temporarily permitted by these WDRs), then the Discharger will be required to cease the discharge, implement source control, change the method of discharge, or take other action. A slight residual increase in salts may occur, but will be limited to a maximum 20 percent increase over background and will not be permitted to impact beneficial uses.

Proposed Order Terms and Conditions

Discharge Prohibitions, Discharge Specifications, and Provisions

The proposed Order would prohibit discharge to surface waters and water drainage courses.

Injection of substances other than those specifically allowed in the Order is prohibited.

Neither the treatment nor the discharge shall cause a nuisance or condition of pollution as defined by Water Code section 13050, outside of the treatment and transition zones.

The release, injection, discharge or addition of constituents from the remediation system shall not cause the groundwater at the compliance wells listed in B.1 to contain concentrations of constituents added as amendments, and by-products of the in-situ treatment process, in amounts that exceed the limits specified in the WDRs.

The release, injection, discharge or addition of constituents from a remediation system shall not cause the groundwater at the compliance wells to contain concentrations of metals, total dissolved solids, or

electrical conductivity that are more than 20% greater than their respective background concentrations, as established by the Monitoring and Reporting Program.

Monitoring Requirements

Water Code section 13267 authorizes the Central Valley Water Board to require monitoring and technical reports as necessary to investigate the impact of a waste discharge on waters of the State. Water Code section 13268 authorizes assessment of civil administrative liability where appropriate.

The proposed Order includes discharge and groundwater monitoring. The monitoring is necessary to ensure that any potential degradation from the discharge is minimized.