Central Valley Regional Water Quality Control Board

6 May 2025

Mark Scheuer
Vice President, Environmental, Health & Safety
AMETEK, Inc.
1100 Cassatt Road
P.O. Box 1764
Berwyn, Pennsylvania 19312-1177

NOTICE OF APPLICABILITY FOR WASTE DISCHARGE REQUIREMENTS GENERAL ORDER FOR IN-SITU REMEDIATION AND DISCHARGE OF TREATED GROUNDWATER TO LAND, R5-2015-0012, AMETEK VALLEY FOUNDRY, 2510 SOUTH EAST AVENUE, FRESNO COUNTY (GLOBAL ID SL0601972778)

AMETEK Inc. (hereafter Discharger) submitted a *Revised Notice of Intent Application* dated 7 November 2024 and prepared by ERM. A pilot test is proposed to assess the feasibility of remediation of chemicals in groundwater by in-situ bioremediation (ISBR) injections. Implementation of ISBR will involve injecting a reagent (soluble sulfate, ferrous iron, and carbon substrate) and an emulsified organic carbon substrate into groundwater along with microbes. Based on information in the submittal, it is the Central Valley Regional Water Quality Control Board (Central Valley Water Board) staff determination that the project meets the requirements for implementation under Order No. R5-2015-0012, subject also to the conditions specified below. All of the requirements contained in the General Order are applicable to the project. The project is assigned Order No. **R5-2015-0012-087**.

Project Location:
The project is to be implemented at 2510 S. East Avenue in Fresno, Fresno County (Site). The proposed remedial activities are to be implemented near the source zone of the Site.

Project Description:
The Site is in an industrial/commercial area in the city of Fresno, California and is approximately 47 acres in size, subdivided into 14 parcels used for commercial and light manufacturing. The Site was developed in 1949 by Valley Foundry for use in manufacturing and repairing winemaking equipment and was acquired by the Discharger in 1969. The Discharger initially used the Site to produce winemaking equipment. Operations shifted to production of polypropylene foam packaging materials

in 1986 and shifted again to the handling of packaging materials from 1991 through 1995. Investigations at the Site have identified trichlorofluoromethane (Freon-11) as the constituent of concern (COC) in groundwater beneath the Site.

The proposed pilot study involves using a reagent mixture of GeoForm Soluble™ (a combination of sulfate, ferrous iron, and carbon substrate) and ELS (emulsified organic carbon) with a concentration of approximately 3,300 milligrams per liter. This will be injected utilizing an injection well, IW-1, installed in the former manufacturing area (source area) in 2023. To enhance microbial degradation of Freon-11, Dehalococcoides bacteria (SDC-9®) will be added to the reagent mixture. A water conditioning agent, consisting of sodium ascorbate and ferrous chloride, will be used to remove chloramines and dissolved oxygen before mixing the reagent. Fluorescein dye will be added to track distribution. The reagents and concentrations may be adjusted based on monitoring data or permit feedback. The target is to achieve a 20-foot radius of influence at injection well IW-1, requiring up to 9,400 gallons of fluid. The reagent will initially be injected via gravity feeding. However, if adequate injection rates are not feasible, the mixture will be injected under pressure. To evaluate the distribution of the injections, groundwater parameters in MW-7R will be monitored. In addition, five new wells (MW-14 through MW-18) are proposed to be installed to monitor groundwater conditions near the pilot test area and will be included in the Monitoring and Reporting Program.

A contingency plan has been submitted to address potential adverse effects. If chemical concentrations in any compliance well exceeds its Water Quality Objective in Table 1 of the Contingency Plan (Attachment H in the NOI application package) or if a chemical concentration exceeds its background level by 20% or more:

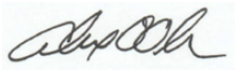
- The Discharger will notify Central Valley Water Board staff.
- Re-sample at the compliance well with the exceedance within 30 days. If the sampling confirms the exceedance, conduct sampling for three consecutive quarters in the well to evaluate the trend.
- Evaluate the risks/hazards to potential receptors.
- Identify a corrective measure, if warranted, which may include additional sampling of the existing monitoring wells in the network or collecting grab groundwater samples to establish the extent of the exceedance.
- Implement the corrective measure.
- Conduct performance monitoring for the selected remedy.

Conditions of Approval

1. The project will be performed in accordance with the requirements contained in General Order No. R5-2015-0012 and in accordance with the information submitted in the Work Plan, Notice of Intent, and specified in this Notice of Applicability.

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. Injection of any material other than those specified above into the proposed injection points is prohibited.
4. The General Order requires a contingency plan for corrective actions should water quality exceed the requirements of the Order at the points of compliance. The General Order prohibits concentrations of metals, total dissolved solids, or electrical conductivity more than 20 percent greater than their respective baseline levels. The Discharger will implement one or more of the corrective action measures outlined in the contingency plan and as deemed necessary by the Central Valley Water Board.
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 shall comply with the attached Monitoring and Reporting Program, Order No. **R5-2015-0012-087**, and any revisions thereto as ordered by the Executive Officer.

If you have any questions regarding the information in this letter or regarding the technical aspects of this project, you may contact Paul Dotson, the Central Valley Water Board's project manager, at (559) 445-5525 or paul.dotson@waterboards.ca.gov.



For Patrick Pulupa
Executive Officer

Attachments: Monitoring and Reporting Program Order No. R5-2015-0012-087

cc: Fresno County Environmental Health Department, Fresno
Ryan Teoxon, ERM, Irvine,CA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2015-0012-087

FOR

IN-SITU GROUNDWATER REMEDIATION
AND DISCHARGE OF TREATED GROUNDWATER TO LAND
AMETEK VALLEY FOUNDRY
2510 SOUTH EAST AVENUE, FRESNO
FRESNO COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring a groundwater remediation system for an industrial facility (Facility) at 2510 South East Avenue in Fresno. 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, California Regional Water Quality Control Board, Central Valley Region (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 chain of custody form.

GROUNDWATER MONITORING

Figure 1 shows the Site layout. Figure 2 shows the existing monitoring wells and proposed additional monitoring wells. Monitoring and sampling of these wells and any additional wells installed for the purposes of monitoring the groundwater remediation system subsequent to the issuance of this MRP shall follow the schedule in Table 1 and the samples shall be analyzed by the methods in Table 2. Sample collection and analysis shall follow standard EPA protocol. Currently, semi-annual groundwater monitoring is performed at the site, which should continue to be implemented in addition to the requirements herein. When concurrent sampling for both monitoring programs can meet requirements, a single report can satisfy both reporting objectives.

Table 1:Sampling Frequency

Well Number [1]	Constituent [2]	Frequency	Monitoring Objective
IW-1	See Table 2	M/Q/S[3]	Treatment Zone[4]
MW-7R	See Table 2	M/Q/S[3]	Treatment Zone[4]
MW-14	See Table 2	M/Q/S[3]	Treatment Zone[4]
MW-15	See Table 2	M/Q/S[3]	Treatment Zone[4]
MW-8	See Table 2	M/Q/S[3]	Transition Zone[5]
MW-9	See Table 2	M/Q/S[3]	Transition Zone[5]
MW-16	See Table 2	M/Q/S[3]	Transition Zone[5]
MW-13	See Table 2	M/Q/S[3]	Compliance[6]
MW-17	See Table 2	M/Q/S[3]	Compliance[6]
MW-18	See Table 2	M/Q/S[3]	Compliance[6]
MW-4	See Table 2	M/Q/S[3]	Background[7]
MW-5	See Table 2	M/Q/S[3]	Background[7]

1.Well numbers as shown on Figure 2.
2.Constuent suite components listed in Table 2.
3.M/Q/S – Wells to be sampled monthly for the first 3 months, quarterly for 3 to 6 months, and semiannual thereafter.
4.Wells sampled to evaluate ISBR progress inside the treatments zone.
5.Wells sampled to evaluate migration of pollutants within the treatment zone.
6.Wells used to determine compliance with groundwater limitations.
7.Wells used to develop background concentrations.

Table 2: Analytical Methods

Constituent	Method[a]	Maximum Practical Quantitation Limit(µg/L)[b]
Volatile Organic Compounds (Freon 11, TCE, VC, cis-1,2-DCE)	USEPA 8260B	0.5
Chloride, Nitrate-N, Sulfate	USEPA 300.0	Various
Title 22 Metals - Total and Dissolved (Iron, Manganese, Chromium)	USEPA 6010B	Various
Dissolved Gases (Ethane Ethene, Methane)	RSK-175	0.1
Total Dissolved Solids	SM 2540C	10,000
Total Organic Carbon	SM 5310D	300
Dissolved Organic Carbon	SM 5310D	

Notes:
a Or an equivalent USEPA Method that achieves the maximum Practical Quantitation Limit.
b All concentrations between the Method Detection Limit and the Practical Quantitation Limit shall be reported as an
estimated value.
µg/L = micrograms per liter
cis-1,2-DCE = cis-1,2-dichloroethene
Freon 11 = trichlorofluoromethane
SM = Standard Method
TCE = trichloroethene
USEPA = United States Environmental Protection Agency
VC = vinyl chloride

FIELD SAMPLING

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

Table 3: Field Sampling

Parameters	Units	Practical Quantitation Limit	Method
Volume Purged	Gallons	0.1 gallons	Measurement
Groundwater Elevation	Feet	0.01 foot	Measurement
Electrical Conductivity	µS/cm	50 µS/cm	Field Meter
Dissolved Oxygen	mg/L	0.1 mg/L	Field Meter
Oxidation-Reduction Potential	millivolts	10 mV	Field Meter
pH	pH units	0.1 units	Field Meter
Temperature	ºF/ºC	0.1 ºF/ºC	Field Meter

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

Field meter usage must include:

1. Operator training in proper use and maintenance of the instruments;
2. Instrument calibration in accordance with the manufacturers specifications prior to each monitoring event;
3. Instrument service and/or calibration by the manufacturer at the recommended frequency; and
4. Submittal of field calibration reports 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 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 day/per injection area	Meter
Amendments 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 5: Amendment Analytical Requirements

Constituents	Method(1)	Maximum Practical Quantitation Limit (µg/L)(2)
Volatile Organic Compounds	USEPA 8260B	0.5
General minerals(3)	Various	Various
Metals, Total and Dissolved(4)	USEPA 6010B	Various
Semi-Volatile Organic Compounds	USEPA 8260C	5
Total Dissolved Solids	USEPA 160.1	10,000
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 as an estimated value.
3. General Minerals include: alkalinity, bicarbonate, potassium, chloride, sulfate, total hardness, nitrate, nitrite, ammonia.
4 Metals include arsenic, barium, cadmium, calcium, total chromium, copper, iron, lead, manganese, magnesium, mercury, molybdenum, nickel, selenium and silica.

ESTABLISHMENT OF BACKGROUND CONCENTRATION VALUES

The Discharger shall develop background groundwater values for c all constituents listed in Table 1 and Table 3, following the procedures found in California Code of Regulations (CCR), title 27, section 20415, subdivision (e)(10). The Discharger shall

conduct a baseline sampling event in which all groundwater monitoring wells are sampled prior to implementation of the groundwater remediation. Ongoing monitoring for changes in background concentrations shall be evaluated by conducting four quarters of groundwater monitoring followed by continuing semi-annual monitoring in the background wells.

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. 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 CCR, 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 for the first four quarters. Following the first year of data collection, the frequency of data submittals becomes semi-annually until such time as the Executive Officer determines that the reports are no longer necessary.

Each quarterly and semi-annual 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, 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.

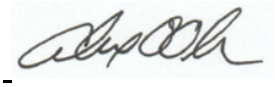
An Annual Report shall be submitted to the Central Valley Water Board by 1 February (1 November for semi-annual monitoring) of each year. This report shall contain an evaluation of the effectiveness and progress of the investigation and remediation. The Annual Report may be substituted for the fourth quarter (or second semi-annual) 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; an identification of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program; and
(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 (Attached to the Notice of Applicability).

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

Ordered by: 

_____

For PATRICK PULUPA
Executive Officer

6 May 2025

_____

Date

FIGURE 1: Site Layout

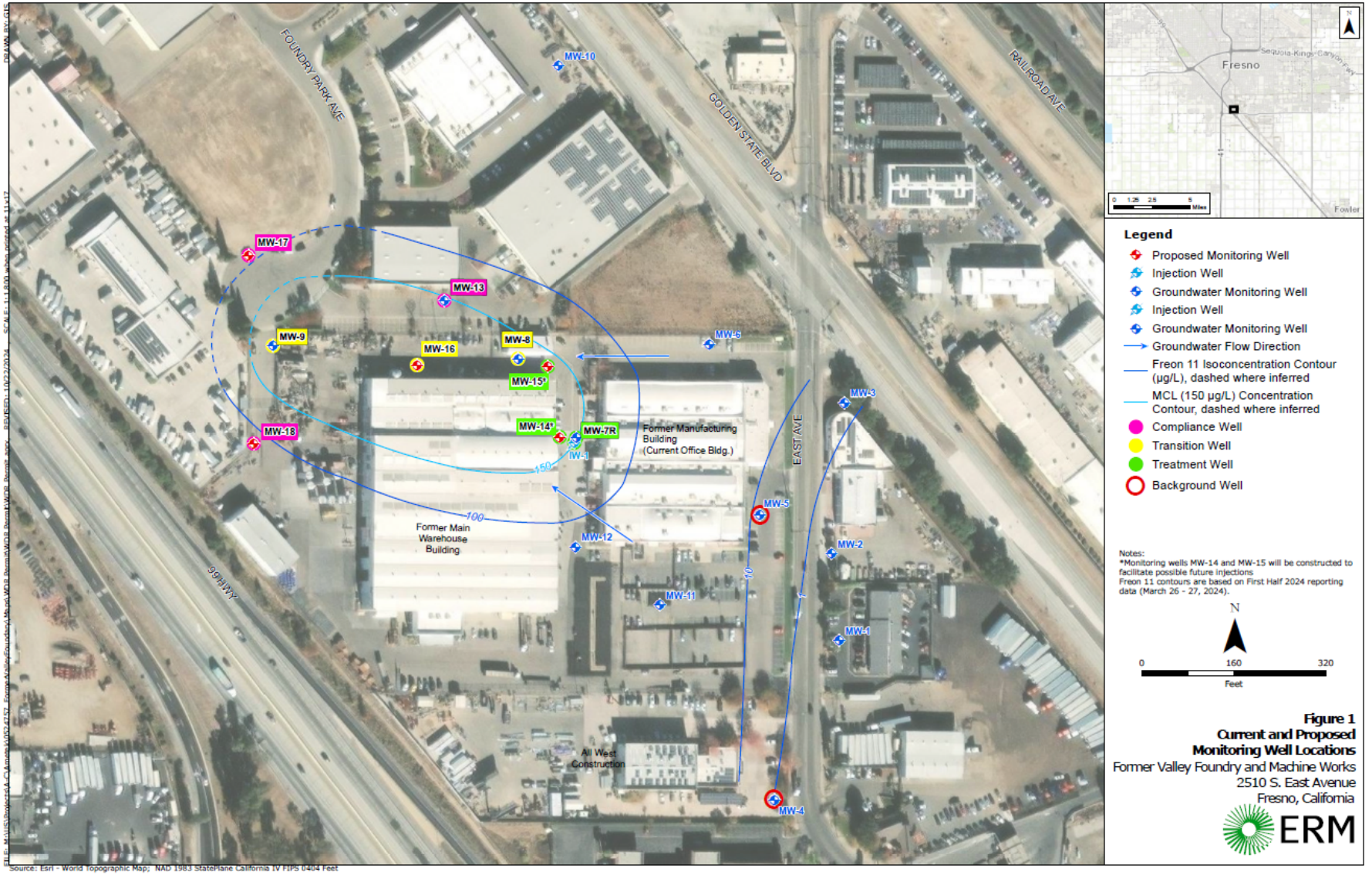


FIGURE 2: Monitoring Well Location