

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

DRAFT

MONITORING AND REPORTING ORDER NO. R5-2020-00XX

FOR

WASTE DISCHARGE REQUIREMENTS

GLENN SPRINGS HOLDING COMPANY

FORMER OCCIDENTAL CHEMICAL COMPANY

GROUNDWATER REMEDIATION PROJECT

LATHROP FACILITY

SAN JOAQUIN COUNTY

This Monitoring and Reporting Program (MRP) is issued pursuant to Water Code Section 13267, and it contains the minimum monitoring and reporting requirements necessary to determine compliance with the Waste Discharge Requirements (WDRs) Order No.R5-2020-0XX for the Former Occidental Chemical Company facility located at 16777 Howland Road in Lathrop, San Joaquin County, California (Site). The Discharger is required to comply with this MRP, which describes the requirements for monitoring the extraction wells, and discharges from the Site's remediation system(s).

The objective of groundwater remediation is to reduce concentrations of Site's contaminants of concern (COCs), mainly DBCP, EDB, and sulfolane in groundwater beneath the Site, and to prevent further off-Site migration of COCs towards the City of Lathrop municipal wells. As described in the WDRs specifications, this MRP covers the following components of the Site's groundwater remediation system:

- Groundwater extraction and treatment system (GETS) using granular activated carbon (GAC) units
- Aerated moving bed bioreactor (MBBR)
- On-Site backup supply wellhead (BSW) treatment system for the J.R. Simplot company.

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 before the 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.

Sample collection and analysis shall follow standard United States Environmental Protection Agency (USEPA) protocols, and sample analyses shall be completed by a California State-certified laboratory. If necessary, equivalent analytical methods may be used with the concurrence of the Central Valley Water Board staff.

SITE REMEDIATION MONITORING

As shown on Site plan (Attachment B), there are 22 extraction wells, five (5) injection wells, and one BSW well associated with the Site's groundwater remediation. The exact number of extraction wells and injections wells may change over time as the remediation system is adjusted to meet overall objectives. Groundwater monitoring for tracking plume containment and cleanup is required under a separate monitoring program. That monitoring program is currently found in Order No. R5-2015-0810.

GETS GAC, AERATION TANKS, AND BSW TREATMENT

Sampling of the groundwater extraction wells is required. All active extraction wells must be monitored according to Table 2, Table 3, and Table 4. Table 2 lists the wells, sampling objective/purpose, sample analytes, and sampling frequency. Sample collection and analysis shall follow standard EPA protocol.

Sampling of the groundwater treatment systems is conducted at the influent, interbed, and effluent sampling ports of the GETS GAC units; influent and effluent of the BSW treatment; and at the influent and effluent ports of the aerated MBBR. A process flow diagram is shown in Attachment C. Treatment system shall be sampled according to the schedule in Table 1. Samples shall be analyzed by using the analytical methods listed in Table 3, and field methods listed in Table 4.

GETS GAC, AERATED MBBR, AND BSW TREATMENT DISCHARGE MONITORING

Effluents from the GETS GAC, aerated MBBR, and BSW treatment are discharged beneath the Site in injection wells located in zones above and below the Corcoran Clay layer that lies under the Site.

TREATMENT SYSTEM SAMPLING FREQUENCY AND CONSTITUENT SUITES FOR GETS GAC, AERATED MBBR, AND BSW TREATMENT SYSTEMS

Treatment system monitoring presented in Table 1 below shall be conducted at the monitoring location specified below and in accordance with the testing requirements listed in Table 3 and Table 4.

Monitoring Locations:

- 1: GAC GETS Monitoring, Port A Influent and Interbed Port Lead Vessel Effluent.
- 2: GAC GETS Monitoring, Port C Effluent.
- 3: Aerated MBBR Influent.
- 4: Aerated MBBR Effluent.

- 5: J.R Simplot BSW Treatment System Influent.
- 6: J.R Simplot BSW Treatment System Effluent.

Testing Requirements:

- 7: Field Measurements
- 8: As oxidation/reduction potential (ORP) data is being collected frequently, the range of ORP measurements should be reported.
- 9: Additional effluent sampling may be needed if the amendment form is changed. Safety Data Sheets (SDS) and chemical formulations for the new commercial product must be submitted before switching the amendment form and shall be approved by the Central Valley Water Board staff.
- 10: All influent BSW samples shall be collected and analyzed at least once during the effluent injection periods.

TABLE 1

Location	Constituents	Units	Frequency	Testing Requirements
See Monitoring Location #1 (above)	1,2-Dibromo-3-chloropane (DBCP)	Micrograms per liter (µg/L)	Monthly	
See Monitoring Locations #1 (above)	Ethylene dibromide (EDB)	µg/L	Monthly	
See Monitoring Locations #1 (above)	Sulfolane	µg/L	Monthly	
See Monitoring Locations #1 (above)	1,2,3-Trichloropropane (1,2,3-TCP)	µg/L	Monthly	
See Monitoring Locations #1 (above)	Nitrate	µg/L	Monthly	
See Monitoring Location #2 (above)	DBCP	µg/L	Monthly	
See Monitoring Location #2 (above)	EDB	µg/L	Monthly	
See Monitoring Location #2 (above)	Sulfolane	µg/L	Monthly	

**DRAFT MONITORING AND REPORTING PROGRAM NO. R5-2020-00XX
 FOR WASTE DISCHARGE REQUIREMENTS NO. R5-2020-00XX
 GLENN SPRINGS HOLDING COMPANY, FORMER OCCIDENTAL CHEMICAL COMPANY
 GROUNDWATER REMEDIATION PROJECT, LATHROP FACILITY
 SAN JOAQUIN COUNTY**

Location	Constituents	Units	Frequency	Testing Requirements
See Monitoring Location #2 (above)	1,2,3-TCP	µg/L	Monthly	
See Monitoring Location #2 (above)	Nitrate	Milligrams per liter (mg/L)	Monthly	
See Monitoring Location #2 (above)	Total Dissolved Solids (TDS)	mg/L	Monthly	
See Monitoring Location #2 (above)	Dissolved Oxygen	mg/L	Monthly	See Testing Requirement # 7 (above)
See Monitoring Location #2 (above)	Total Organic Carbon	mg/L	Annual	
See Monitoring Location #2 (above)	Oxidation/Reduction Potential	millivolts	Monthly	See Testing Requirement # 8 (above)
See Monitoring Location #2 (above)	Electrical Conductivity	micromhos per centimeter (µmhos/cm)	Monthly	
See Monitoring Location #2 (above)	Flow (Average)	gallons per minute (gpm)	Monthly	
See Monitoring Location #2 (above)	Flow (Cumulative)	gpm	Monthly	
See Monitoring Location #3 (above)	DBCP	µg/L	Monthly	
See Monitoring Location #3 (above)	EDB	µg/L	Monthly	
See Monitoring Location #3 (above)	Sulfolane	µg/L	Monthly	
See Monitoring Location #3 (above)	Nitrate	mg/L	Monthly	

**DRAFT MONITORING AND REPORTING PROGRAM NO. R5-2020-00XX
 FOR WASTE DISCHARGE REQUIREMENTS NO. R5-2020-00XX
 GLENN SPRINGS HOLDING COMPANY, FORMER OCCIDENTAL CHEMICAL COMPANY
 GROUNDWATER REMEDIATION PROJECT, LATHROP FACILITY
 SAN JOAQUIN COUNTY**

Location	Constituents	Units	Frequency	Testing Requirements
See Monitoring Location #3 (above)	Nutrients (Nitrogen, Phosphate)	mg/L	Monthly, when nutrients are added in the MBBR tank(s)	See Testing Requirement # 9 (above)
See Monitoring Location #3 (above)	1,2,3-TCP	µg/L	Quarterly	
See Monitoring Location #3 (above)	TDS	mg/L	Quarterly	
See Monitoring Location #3 (above)	Dissolved Oxygen	mg/L	Monthly	See Testing Requirement # 7 (above)
See Monitoring Location #3 (above)	Total Organic Carbon	mg/L	Annual	
See Monitoring Location #4 (above)	DBCP	µg/L	Monthly	
See Monitoring Location #4 (above)	EDB	µg/L	Monthly	
See Monitoring Location #4 (above)	Sulfolane	µg/L	Monthly	
See Monitoring Location #4 (above)	1,2,3-TCP	µg/L	Monthly	
See Monitoring Location #4 (above)	Nitrate	mg/L	Monthly	
See Monitoring Location #4 (above)	Nutrients (Nitrogen, Phosphate)	mg/L	Monthly, when nutrients are added in the MBBR tank(s)	See Testing Requirement #9 (above)

**DRAFT MONITORING AND REPORTING PROGRAM NO. R5-2020-00XX
 FOR WASTE DISCHARGE REQUIREMENTS NO. R5-2020-00XX
 GLENN SPRINGS HOLDING COMPANY, FORMER OCCIDENTAL CHEMICAL COMPANY
 GROUNDWATER REMEDIATION PROJECT, LATHROP FACILITY
 SAN JOAQUIN COUNTY**

Location	Constituents	Units	Frequency	Testing Requirements
See Monitoring Location #4 (above)	TDS	mg/L	Monthly	
See Monitoring Location #4 (above)	Dissolved Oxygen	mg/L	Monthly	See Testing Requirement #7 (above)
See Monitoring Location #4 (above)	Total Organic Carbon	mg/L	Annual	
See Monitoring Location #4 (above)	Oxidation/Reduction Potential	millivolts	Monthly	See Testing Requirement #8 (above)
See Monitoring Location #4 (above)	Electrical Conductivity	µmhos	Monthly	
See Monitoring Location #4 (above)	Flow (Average)	gpm	Monthly	
See Monitoring Location #4 (above)	Flow (Cumulative)	gpm	Monthly	
See Monitoring Location #5 (above)	DBCP	µg/L	Monthly, when effluent is used for re-injections	
See Monitoring Location #5 (above)	EDB	µg/L	Monthly, when effluent is used for re-injections	
See Monitoring Location #5 (above)	Sulfolane	µg/L	Monthly, when effluent is used for re-injections	

**DRAFT MONITORING AND REPORTING PROGRAM NO. R5-2020-00XX
 FOR WASTE DISCHARGE REQUIRMENTS NO. R5-2020-00XX
 GLENN SPRINGS HOLDING COMPANY, FORMER OCCIDENTAL CHEMICAL COMPANY
 GROUNDWATER REMEDIATION PROJECT, LATHROP FACILITY
 SAN JOAQUIN COUNTY**

Location	Constituents	Units	Frequency	Testing Requirements
See Monitoring Location #5 (above)	1,2,3-TCP	µg/L	Quarterly, when effluent is used for re-injections	
See Monitoring Location #5 (above)	Nitrate	mg/L	Quarterly, when effluent is used for re-injections	
See Monitoring Location #6 (above)	DBCP	µg/L	Monthly, when effluent is used for re-injection	
See Monitoring Location #6 (above)	EDB	µg/L	Monthly, when effluent is used for re-injection	
See Monitoring Location #6 (above)	Sulfolane	µg/L	Monthly, when effluent is used for re-injection	
See Monitoring Location #6 (above)	1,2,3-TCP	µg/L	Quarterly, when effluent is used for re-injection	
See Monitoring Location #6 (above)	Nitrate	mg/L	Quarterly, when effluent is used for re-injection	
See Monitoring Location #6 (above)	TDS	mg/L	Monthly, when effluent is used for re-injection	

Location	Constituents	Units	Frequency	Testing Requirements
See Monitoring Location #6 (above)	Total Organic Carbon	mg/L	Monthly, when effluent is used for re-injection	
See Monitoring Location #6 (above)	Dissolved Oxygen	mg/L	Monthly, when effluent is used for re-injection	
See Monitoring Location #6 (above)	Oxidation/Reduction Potential	millivolts	Monthly, when effluent is used for re-injection	
See Monitoring Location #6 (above)	Electrical Conductivity	µmhos	Monthly, when effluent is used for re-injection	
See Monitoring Location #6 (above)	Flow (Average)	gpm	Monthly, when effluent is used for re-injection	
See Monitoring Location #6 (above)	Flow (Cumulative)	gpm	Monthly, when effluent is used for re-injection	

WELL SAMPLING LOCATIONS, ANALYTES AND SAMPLING FREQUENCY

Sampling shall be performed according to Table 2 for the listed active Extraction and monitoring wells. The purpose of the sampling is to monitor the compliance wells to gauge baseline/background conditions outside of treatment zone and to monitor long term progress of remediation, and to obtain data for optimizing remediation system operations.

Analytical Requirements:

- 1: Wells that are sampled annually shall be sampled during the third quarter.

- 2: If sulfolane, 1,2,3-TCP, EDB and/or DBCP are not detected in the monitoring wells above the reporting limit or detection limit (whichever is applicable) for four consecutive routine sampling events, the sampling frequency for these analytical suites may be reduced to annual sampling for that well following Central Valley Water Board staff concurrence.
- 3: If BHC isomers, OC, and OP pesticides are not detected in the extraction wells above their respective reporting limits for four consecutive routine sampling events, these analytical suites may be removed from the schedule for the well(s) following Central Valley Water Board staff concurrence.
- 4: Newly installed extraction wells will be monitored for total dissolved solids (TDS) quarterly for the first year. After the first year, wells will be monitored annually for TDS.
- 5: pH, Temperature and Conductivity shall be measured whenever a sample is submitted for laboratory analysis.
- 6: Well shall be sampled at the following frequencies as indicated on Table 2:
 Q – Quarterly
 A – Annually
- 7: Purpose: Data will be used for the following purpose as indicated on Table 2:
 C – Compliance well to gauge baseline/background outside the treatment zone.
 R – Remediation well for gauging long-term progress.
 M – Monitoring well to monitor TDS and nitrate below the Corcoran Clay.
 O – Operation well providing information needed to optimize remediation system operations.

TABLE 2

Sampling Location	Purpose	EDB	DBCP	Sulfolane	1,2,3-TCP	OC & OP Pesticides	BHC Isomers	TDS	Nitrate
Extraction Wells									
EW-01 (see Analytical Requirements #1, 4, 5, 6, and 7 above)	R,O	A	A	A	A	--	--	A	A
EW-02 (see Analytical Requirements #1, 4, 5, 6, and 7 above)	R,O	A	A	A	A	--	--	A	A

**DRAFT MONITORING AND REPORTING PROGRAM NO. R5-2020-00XX
 FOR WASTE DISCHARGE REQUIREMENTS NO. R5-2020-00XX
 GLENN SPRINGS HOLDING COMPANY, FORMER OCCIDENTAL CHEMICAL COMPANY
 GROUNDWATER REMEDIATION PROJECT, LATHROP FACILITY
 SAN JOAQUIN COUNTY**

Sampling Location	Purpose	EDB	DBCP	Sulfolane	1,2,3-TCP	OC & OP Pesticides	BHC Isomers	TDS	Nitrate
EW-03 (see Analytical Requirements #1, 4, 5, 6, and 7 above)	R,O	A	A	A	A	--	--	A	A
EW-05 (see Analytical Requirements #1, 4, 5, 6, and 7 above)	R,O	A	A	A	A	--	--	A	A
EW-06 (see Analytical Requirements #1, 4, 5, 6, and 7 above)	R,O	A	A	A	A	--	--	A	A
EW-07 (see Analytical Requirements #1, 4, 5, 6, and 7 above)	R,O	A	A	A	A	--	--	A	A
EW-08A (see Analytical Requirements #1, 4, 5, 6, and 7 above)	R,O	A	A	A	A	--	--	A	A
EW-08B (see Analytical Requirements #1, 4, 5, 6, and 7 above)	R,O	A	A	A	A	--	--	A	A
EW-09 (see Analytical Requirements #1, 4, 5, 6, and 7 above)	R,O	A	A	A	A	--	--	A	A
EW-10 (see Analytical Requirements #1, 4, 5, 6, and 7 above)	R,O	A	A	A	A	--	--	A	A

**DRAFT MONITORING AND REPORTING PROGRAM NO. R5-2020-00XX
 FOR WASTE DISCHARGE REQUIREMENTS NO. R5-2020-00XX
 GLENN SPRINGS HOLDING COMPANY, FORMER OCCIDENTAL CHEMICAL COMPANY
 GROUNDWATER REMEDIATION PROJECT, LATHROP FACILITY
 SAN JOAQUIN COUNTY**

Sampling Location	Purpose	EDB	DBCP	Sulfolane	1,2,3-TCP	OC & OP Pesticides	BHC Isomers	TDS	Nitrate
EW-11 (see Analytical Requirements #1, 4, 5, 6, and 7 above)	R,O	A	A	A	A	--	--	A	A
EW-12A (see Analytical Requirements #1, 4, 5, 6, and 7 above)	R,O	A	A	A	A	--	--	A	A
EW-12B (see Analytical Requirements #1, 4, 5, 6, and 7 above)	R,O	A	A	A	A	--	--	A	A
EW-13 (see Analytical Requirements #1, 4, 5, 6, and 7 above)	R,O	A	A	A	A	--	--	A	A
EW-14A (see Analytical Requirements #1, 4, 5, 6, and 7 above)	R,O	A	A	A	A	--	--	A	A
EW-14B (see Analytical Requirements #1, 4, 5, 6, and 7 above)	R,O	A	A	A	A	--	--	A	A
EW-15A (see Analytical Requirements #1, 4, 5, 6, and 7 above)	R,O	A	A	A	A	--	--	A	A
EW-15B (see Analytical Requirements #1, 4, 5, 6, and 7 above)	R,O	A	A	A	A	--	--	A	A

Sampling Location	Purpose	EDB	DBCP	Sulfolane	1,2,3-TCP	OC & OP Pesticides	BHC Isomers	TDS	Nitrate
EW-17 (see Analytical Requirements #1, 4, 5, 6, and 7 above)	R,O	A	A	A	A	--	--	A	A
EW-18A (see Analytical Requirements #2,3, 4, 5, 6, and 7 above)	R,O	Q	Q	Q	Q	--	--	A	A
EW-18BR (see Analytical Requirements #2,3, 4, 5,6, and 7 above)	R,O	Q	Q	Q	Q	--	--	A	A
EW-19 (see Analytical Requirements #2,3,4,5,6, and 7 above)	R,O	Q	Q	Q	Q	--	--	A	A
New Wells (see Analytical Requirements #2,3,4,5,6, and 7 above)	R,O	Q	Q	Q	Q	Q	Q	Q	Q

Monitoring Wells Above the Corcoran Clay
 (see Analytical Requirements #1,5,6, and 7 above)

Sampling Location	Purpose	EDB	DBCP	Sulfolane	1,2,3-TCP	OC & OP Pesticides	BHC Isomers	TDS	Nitrate
PW02-40	C	A	A	A	--	--	--	--	A
PW02-080A	C	A	A	A	--	--	--	--	A
PW02-155	C	A	A	A	--	--	--	--	A
PW02-253	C	A	A	A	--	--	--	--	A
PW11-031	C	A	A	A	--	--	--	--	A

Monitoring Wells below the Corcoran Clay
 (see Analytical Requirements #1,4,5,6, and 7 above)

Sampling Location	Purpose	EDB	DBCP	Sulfolane	1,2,3-TCP	OC & OP Pesticides	BHC Isomers	TDS	Nitrate
PW09-338	M	--	--	--	--	--	--	A	A
PW12-315	M	--	--	--	--	--	--	A	A
PW16-329	M	--	--	--	--	--	--	A	A
PW20-500	M	--	--	--	--	--	--	A	A

ANALYTICAL METHODS

Analysis of samples shall be performed according to Table 3.

Analytical Requirements:

- 1: Any equivalent EPA Method that achieves the maximum Practical Quantitation Limit may be used following Central Valley Water Board staff concurrence.
- 2: All concentrations found between the Method Detection Limit and the Practical Quantitation Limit shall be reported as an estimated value.

Table 3

Constituent Type	Sampling Parameter	Analytical Method (See Analytical Requirements #1 above)	Maximum Quantification Limit (see Analytical Requirements #2 above)
Fumigant	DBCP	APPL Department of Health Services (DOHS) Method	0.01 µg/L
Fumigant	EDB	APPL Department of Health Services (DOHS) Method	0.01 µg/L
Organochlorine Pesticide	Aldrin	EPA Method 8081A	0.05 µg/L
Organochlorine Pesticide	Alpha-Hexachlorocyclohexane (BHC)	EPA Method 8081A	0.05 µg/L

Constituent Type	Sampling Parameter	Analytical Method (See Analytical Requirements #1 above)	Maximum Quantification Limit (see Analytical Requirements #2 above)
Organochlorine Pesticide	Beta-BHC	EPA Method 8081A	0.05 µg/L
Organochlorine Pesticide	Delta-BHC	EPA Method 8081A	0.05 µg/L
Organochlorine Pesticide	Gamma-BHC	EPA Method 8081A	0.05 µg/L
Organochlorine Pesticide	Chlordane	EPA Method 8081A	0.05 µg/L
Organochlorine Pesticide	4,4'-Dichlorodiphenyldichloroethane (4,4'-DDD)	EPA Method 8081A	0.05 µg/L
Organochlorine Pesticide	4,4'-Dichlorodiphenyldichloroethylene (4,4'-DDE)	EPA Method 8081A	0.05 µg/L
Organochlorine Pesticide	4,4'-Dichlorodiphenyltrichloroethane (4,4'-DDT)	EPA Method 8081A	0.05 µg/L
Organochlorine Pesticide	Dieldrin	EPA Method 8081A	0.05 µg/L
Organochlorine Pesticide	Heptachlor	EPA Method 8081A	0.05 µg/L
Organochlorine Pesticide	Toxaphene	EPA Method 8081A	5 µg/L
Organophosphorus Pesticide	DEF (S,S,S – Tributyltrithio-phosphate)	EPA Method 8141A	1.0 µg/L
Organophosphorus Pesticide	Delnav	EPA Method 8141A	1.0 µg/L
Organophosphorus Pesticide	Dimethoate	EPA Method 8141A	1.0 µg/L
Organophosphorus Pesticide	Ethyl parathion	EPA Method 8141A	1.0 µg/L
Organophosphorus Pesticide	Methyl parathion	EPA Method 8141A	1.0 µg/L
Organophosphorus Pesticide	Disyston (Disulfoton)	EPA Method 8141A	1.0 µg/L
Herbicide	2,4-D (Dichlorophenoxyacetic acid)	EPA Method 8151A	0.5 µg/L

Constituent Type	Sampling Parameter	Analytical Method (See Analytical Requirements #1 above)	Maximum Quantification Limit (see Analytical Requirements #2 above)
Herbicide	2,4,5-T (Trichlorophenoxyacetic acid)	EPA Method 8151A	0.1 µg/L
Herbicide	Sulfolane	APPL SOP ANASULF	10 µg/L
Inorganic	Chloride	EPA Method 300	1 mg/L
Inorganic	Nitrate	EPA Method 300	0.1 mg/L
Inorganic	Sulfate	EPA Method 300	1 mg/L
Inorganic	Phosphorous	EPA Method 200.7, 365	0.025 mg/L
Inorganic	TDS	EPA Method 160.1	10 mg/L
Volatile Organic Compound	1,2,3-TCP	EPA Method 524.3	0.005 µg/L

FIELD SAMPLING

In addition to the above sampling and analysis, field sampling and analysis shall be conducted each time an injection well, aerated MBBR, or extraction well is sampled. The sampling and analysis of field parameters are specified in Table 4 as follows:

FIELD SAMPLING REQUIREMENTS

Field Sampling Requirements:

- 1: Applies only to extraction wells.
- 2: Applies only to treated water injection wells.
- 3: Average and cumulative volume of injected groundwater shall be monitored monthly at the treatment system effluent (Table 1). In addition, injection volume, flow rate, and injection pressure shall be monitored quarterly during routine sampling events.

Table 4

Parameters	Units	Practical Quantitation Limit	Analytical Method	Field Sampling Requirement
Electrical Conductivity	µmhos/cm	50 microsiemens per square centimeter (µS/cm ²)	Field Meter	See Field Sampling Requirement #1 and 2 (above)

Parameters	Units	Practical Quantitation Limit	Analytical Method	Field Sampling Requirement
Dissolved Oxygen	mg/L	0.2 mg/L	Field Meter	See Field Sampling Requirement #1 and 2 (above)
pH	pH units (to 0.1 units)	0.1 units	Field Meter	See Field Sampling Requirement #1 and 2 (above)
Temperature	°F/°C	0.1 °F/°C	Grab	See Field Sampling Requirement #1 and 2 (above)
Extraction Rate	GPM		Measurements	See Field Sampling Requirement #1 (above)
Injection Rate	GPM		Measurements	See Field Sampling Requirement #2 (above)
Oxidation-Reduction Potential	Millivolts	10 millivolts	Field Meter	See Field Sampling Requirement #2 (above)
Turbidity	Nephelometric Turbidity Units (NTU)		Grab	See Field Sampling Requirement #1 and 2 (above)
Water Level	Feet, Mean Sea Level	0.01 feet	Measurement	See Field Sampling Requirement #1 and 2 (above)

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.
4. Field calibration reports are submitted as described in the "Reporting" section of this MRP.
5. Groundwater level sampling is being conducted pursuant to Order No. R5-2015-0810, provided that more stringent field sampling requirements will be applied, whichever is applicable.

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 the groundwater treatment system(s). The results of any monitoring done more frequently than required at the locations specified in the MRP 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 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. The Discharger shall submit the semi-annual monitoring report which conform to the requirements of the California Code of Regulations, Title 23, Division 3, Chapter 30. The semi-annual monitoring 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 semiannual period (i.e. **1 February and 1 August**) until such time as the Executive Officer determines that the reports are no longer necessary.

Each semi-annual report shall include the following minimum information:

- (a) a description and discussion of groundwater sampling event and results for the groundwater treatment systems, air injections, and J.R. Simplot BSW wellhead treatment system operation.
- (b) field logs that contain, at a minimum, sampling method, water quality parameters measured during sampling, depth of water, etc.
- (c) 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;

- (d) cumulative data tables containing the water quality analytical results. This table may be submitted electronically on a CD.
- (e) an electronic copy of laboratory analytical data reports.
- (f) a description of remedial and system optimization activities and the status of ongoing remediation, including influent and effluent concentrations, extraction well and injection well pumping rates, treatment system flow rates, amount and form of injected amendments, effectiveness of the remediation systems, and cumulative information on the mass of pollutant removed from the subsurface, system operating time, the effectiveness of the remediation system, and any operational logs pertaining to the operation and maintenance of the system;
- (g) if applicable, the reasons for and duration of all significant interruptions in the operation of remediation system, and actions planned or taken to correct and prevent interruptions; and
- (h) a log of GAC replacement, if applicable along with transportation date(s) and destination of disposal; and
- (i) a description of filtration and backwash cycling for the aerated MBBR, details of excess biomass from the aerated MBBR. If applicable, details of dewatering, drying, waste characterization, and off-Site disposal of waste generated in the aerated MBBR.

An Annual Report shall be submitted to the Regional Board by **1 February** of each year. The Annual Report shall also serve as the Semi-Annual Report also due on **1 February** of each year. This Annual Report shall contain an evaluation of the effectiveness and progress of the investigation and remediation, and may be substituted for the concurrent 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 reporting year.
- (b) 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.
- (c) an identification of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program; and
- (d) if desired, a proposal and rationale for any revisions to the groundwater sampling plan frequency and/or list of analytes.

A letter transmitting the self-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 as of the effective date of the Order. This Order is effective upon the date of signature.

Ordered by: _____
PATRICK PULUPA, Executive Officer

10/27/2020 :SS