CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

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Regional Board Website (https://www.waterboards.ca.gov/centralvalley)

[TENTATIVE] MONITORING & REPORTING PROGRAM R5-2021-####

ORDER INFORMATION

Order Type(s):	Monitoring & Reporting Program (MRP)
Status:	TENTATIVE
Program:	Private Site Cleanup
Region 5 Office:	Sacramento (Rancho Cordova)
Discharger(s):	Glenn Springs Holdings Inc. Occidental Petroleum Corp.
Facility:	Groundwater Remediation Project—Lathrop Facility
Address:	Louise Avenue and Howland Road, City of Lathrop
County:	San Joaquin County
Parcel Nos.:	198-180-**01**; 198-180-**02**; 198-180-**03**; 198-180-**04**; 198-180-**05**; 198-180-**06**; 198-**140-03**; 198-**140-04**
WDID:	5B392008001
GeoTracker ID:	SLT5S0033055
Related Order(s):	WDRs Order R5-2012-0106 MRP R5-2015-0810

CERTIFICATION

I, PATRICK PULUPA, Executive Officer, hereby certify that the following is a full, true, and correct copy of the order adopted by the California Regional Water Quality Control Board, Central Valley Region, on _____ February 2021.

_____

PATRICK PULUPA,
Executive Officer

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GLOSSARY

BSW .....Backup Supply Well

ELAP .....State Water Resources Control Board's Environmental Laboratory Accreditation Program

EW .....Extraction Well

GAC .....Granular Activated Carbon

GETS .....Groundwater Extraction and Treatment System

GW .....Groundwater

MBBR.....Moving Bed Biofilm Reactor

MDL.....Method Detection Limit

MW.....Monitoring Well

PDF .....Portable Document Format

PQL .....Practical Quantitation Limit

RL.....Reporting Limit

Constituents / Parameters

DBCP 1,2-Dibromo-3-chloropane

DO.....Dissolved Oxygen

EC .....Electrical Conductivity

EDB.....Ethylene Dibromide

ORP .....Oxidation/Reduction Potential

TCP 1,2,3-Trichloropropane

TDS .....Total Dissolved Solids

TOC.....Total Organic Carbon

Units

GPD .....Gallons per Day

GPM.....Gallons Per Minute

MGD.....Million Gallons per Day

Standard Units .....Standard pH Units

mV.....Millivolts

mg/L .....Milligrams per Liter

µg/L .....Micrograms per Liter

µmS/cm.....Microsiemens per Centimeter

NTU.....Nephelometric Turbidity Units

PREFACE

Adopted by the California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) pursuant to Water Code section 13267, subdivision (b)(1), this Order establishes a Monitoring and Reporting Program (MRP) for Glenn Springs Holding Company (Glenn Springs) and Occidental Chemical Company (OCC) (collectively, Dischargers), which operate the Groundwater Remediation Project—Lathrop Facility (Facility) in San Joaquin County. Additional information regarding the Facility is set forth in the enumerated findings of Waste Discharge Requirements Order R5-2021-#### (WDRs Order). Except as otherwise provided in the following MRP, these findings are incorporated herein.

Although adopted with the WDRs Order, this is a separate order subject to subsequent revision by the Executive Officer in accordance with delegated authority per Water Code section 13223. Such revisions shall also be automatically incorporated as part of the WDRs Order.

As described in the WDRs Order, this MRP addresses 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);
- Onsite backup supply wellhead (BSW) treatment system for the J.R. Simplot company; and
- Groundwater extraction and monitor wells.

Well samples collected for site remediation purposes per Monitoring and Reporting Program R5-2015-0810 (and revisions thereto),[1] may be used for compliance with the well sampling requirements found in this MRP as long as the sampling and analytical requirements contained in this MRP are met. Duplication of sampling is not intended. Results of all samples used to meet the monitoring requirements of this MRP must be included in the required monitoring reports for this MRP.

[1] This Order is not intended to replace or supersede the 2015 MRP.

REQUIREMENTS

IT IS HEREBY ORDERED, pursuant to Water Code section 13267, that the Dischargers shall comply with the following.

A. Compliance with Standard Provisions—Except as otherwise expressly provided herein, the Dischargers shall comply with the Standard Provisions and Reporting Requirements for Waste Discharge Requirements, 1 March 1991 Edition (Standard Provisions or SPRRs) insofar as those provisions pertain to the monitoring and reporting activities required under this Order.

B. Monitoring Requirements

1. General Monitoring Provisions—The following provisions apply to all sampling and analytical activities conducted in accordance with this Order.

a. Representative Sampling—All samples shall be representative of the volume and nature of the discharge or matrix of material sampled.

b. Sample Information—The time, date, and location of each sample shall be recorded on the sample chain of custody form.

c. Field Test Instruments—Field test instruments (such as those used to measure pH, electrical conductivity (EC), dissolved oxygen (DO),) oxidation reduction potential (ORP) must be used, provided that:

i. Instrument operators are trained in proper use and maintenance;

ii. Instruments are field calibrated at the manufacturer-recommended frequency;

iii. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and

iv. Field calibration reports are submitted to the Central Valley Water Board.

d. Laboratory Analytical Procedures—Laboratory analytical procedures shall comply with the methods specified in **Attachment A**.

e. **Requests for Reduced Monitoring**—The Discharger may request this MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency. This monitoring program shall remain in effect unless and until a revised MRP is issued.

2. **Treatment System Monitoring**—The Dischargers shall monitor the treatment system monitoring points listed in **Table 1**, in accordance with the parameters, methods and frequencies specified in **Table 2**. See WDRs Order Attachment C for a treatment process flow diagram.

Average and cumulative volume of injected groundwater shall be monitored monthly at the treatment system effluent. In addition, injection volume, flow rate, and injection pressure shall be monitored quarterly during routine sampling events.

Table 1—Treatment System Monitoring Points

Monitoring Point	System	Location/Type
1	GAC GETS	Point A—*Influent*
2	GAC GETS	Interbed Port Lead Vessel Effluent
3	GAC GETS	Point C—*Effluent*
4	Aerated MBBR	Influent
5	Aerated MBBR	Effluent
6	J.R. Simplot BSW	Influent
7	J.R. Simplot BSW	Effluent

Table 2—Treatment System Monitoring Requirements

Parameter	Units	Analytical Method or Field Measurement	Monitoring Frequencies
DBCP	µg/L	APPL DOHS Method (PQL: 0.01 µg/L)	**Pts. 1-5:** Monthly **Pts. 6-7:** Monthly When Injecting Effluent
EDB	µg/L	APPL DOHS Method (PQL: 0.01 µg/L)	**Pts. 1-5:** Monthly **Pts. 6-7:** Monthly When Injecting Effluent
Sulfolane	µg/L	APPL SOP ANASULF (PQL: 10 µg/L)	**Pts. 1-5:** Monthly **Pts. 6-7:** Monthly When Injecting Effluent
TCP	µg/L	EPA Method 524.3 (PQL: 0.005 µg/L)	**Pts. 1-3, 5:** Monthly **Pt. 4:** Quarterly; Monthly When Nutrients Added **Pts. 6-7:** Monthly When Injecting Effluent
Nitrate	mg/L	EPA Method 300 (PQL: 1 mg/L)	**Pts. 1-3, 5:** Monthly **Pt. 4:** Quarterly **Pts. 6-7:** Quarterly When Injecting Effluent
TDS	mg/L	EPA Method 160.1 (PQL: 10 mg/L)	**Pts. 3, 5:** Quarterly **Pt. 4:** Monthly **Pt. 7:** Monthly When Injecting Effluent
DO	mg/L	Field Meter (PQL: 0.2 mg/L)	**Pts. 3-5:** Monthly **Pt. 7:** Monthly When Injecting Effluent

Parameter	Units	Analytical Method or Field Measurement	Monitoring Frequencies
TOC	mg/L	EPA Method 415.1/SM 5310B (PQL: 0.5 mg/L)	**Pts. 3-5:** Annually **Pt. 7:** Monthly When Injecting Effluent
ORP	mV	Field Meter (PQL 10 mVs)	**Pts. 3-5:** Monthly **Pt. 7:** Monthly When Injecting Effluent
EC	µS/cm	Field Meter (PQL: 50 µS/cm)	**Pts. 3-5:** Monthly **Pt. 7:** Monthly When Injecting Effluent
Average Flow	GPM	Flow Meter	**Pts. 3-5:** Monthly **Pt. 7:** Monthly When Injecting Effluent
Cumulative Flow	Gal.	Flow Meter	**Pts. 3-5:** Monthly **Pt. 7:** Monthly When Injecting Effluent
Nutrients (Nitrogen & Phosphate)	mg/L	Total nitrogen by SM4500NH3C (PQL: 0.1 mg./L); and Total Phosphorus by SM4500-PE/365.2 (PQL: 0.01 mg/L.)	**Pts. 4, 5:** Monthly When Nutrients Added to MBBR Tanks
Injection Volume	Gal.	Flow Meter	**Pt. 3:** Quarterly During Routine Sampling Events
Injection Flow Rate	GPM	Flow Meter	**Pt. 3:** Quarterly During Routine Sampling Events
Injection Pressure	psi	Field Meter	**Pt. 3:** Quarterly During Routine Sampling Events

3. **Groundwater Monitoring**—The Dischargers shall conduct groundwater monitoring in accordance with **Table 3** (Extraction Wells), **Table 4** (Monitoring Wells) and **Table 5** (Field Parameters), in accordance with the analytical methods specified in **Attachment A**.[2]

Table 3—Groundwater Monitoring for Extraction Wells Above Corcoran Clay

Extraction Wells (EWs)	EDB, DBCP and Sulfolane	TCP	Organophosphorus & Organochlorine Pesticides and BHC Isomers	TDS and Nitrate
EW-01 EW-02 EW-03 EW-05 EW-06 EW-07 EW-08A EW-08B EW-09 EW-10 EW-11 EW-12A EW-12B EW-13 EW-14A EW-14B EW-15A EW-15B EW-17	Annually (3rd Qtr.)	Annually (3rd Qtr.)	(not required)	Annually (3rd Qtr.)
EW-18A EW-18BR EW-19	Quarterly	Quarterly	(not required)	Annually (3rd Qtr.)

[2] See **Attachment A** for list of *Organophosphorus Pesticides* and *Organochlorine Pesticides*. *BHC Isomers* are listed in **Table 8**.

Extraction Wells (EWs)	EDB, DBCP and Sulfolane	TCP	Organophosphorus & Organochlorine Pesticides and BHC Isomers	TDS and Nitrate
New Extraction Wells	Quarterly for 1st Year, Thereafter Annually (3rd Qtr.)	Quarterly for 1st Year, Thereafter Annually (3rd Qtr.)	Quarterly for 1st Year, Thereafter Annually (3rd Qtr.) [see note below]	Quarterly for 1st Year, Thereafter Annually (3rd Qtr.)

Note: For new Extraction Wells (i.e., subsequently constructed/operated), if Organophosphorus Pesticides, Organochlorine Pesticides and BHC Isomers are detected above the method detection limit (MDL), this MRP shall be revised with respect to the frequency of sampling requirements for these constituents. If these constituents not detected above the MDL, monitoring may be discontinued with written concurrence from the Central Valley Water Board staff.

Table 4—Groundwater Monitoring for Monitoring Wells Below Corcoran Clay

Monitoring Wells (MWs)	TDS and Nitrate
PW09-338 PW12-315 PW16-329 PW20-500	Annually (3rd Qtr.)

Table 5—Field Parameters for Extraction Wells (EWs) and Monitoring Wells (MWs)

Field Parameter	Units	PQL	Method	Monitoring Points
EC	µS/cm	50 µS/cm	Field Meter	**EWs:** Sampling Events **MWs:** Purging and Sampling Events

Field Parameter	Units	PQL	Method	Monitoring Points
DO	mg/L	0.2 mg/L	Field Meter	**EWs:** Sampling Events **MWs:** Purging and Sampling Events
pH	0.1 Std. Units	0.1 units	Field Meter	**EWs:** Sampling Events **MWs:** Purging and Sampling Events
Temp.	°F/°C	0.1 °F/°C	Grab	**EWs:** Sampling Events **MWs:** Purging and Sampling Events
Extraction Rate	GPM	-	Flow Meter	**EWs:** Sampling Events **MWs:** N/A
Injection Rate	GPM	-	Flow Meter	**EWs:** N/A **MWs:** N/A
ORP	mV	10 mV	Field Meter	**EWs:** N/A **MWs:** Purging and Sampling Events
Turbidity	NTUs	-	Field Meter	**EWs:** N/A **MWs:** Purging and Sampling Events
Water Level	Ft. MSL	0.01 feet	Measurement	**EWs:** N/A **MWs:** Sampling Events

Note: EWs are those listed in Table 3; MWs are those listed in Table 4.

C. Reporting Requirements

1. Quarterly Submittal of Laboratory Data—The Dischargers shall report the results of any laboratory analyses for groundwater performed within the subject quarter, in accordance with the schedule in in **Table 6** below. Data shall be submitted in Electronic Deliverable Format (EDF) to the GeoTracker Database (https://geotracker.waterboards.ca.gov).

Table 6—Quarterly Reporting Schedule

Monitoring Quarter	EDF Upload Deadline
1st Quarter (1 Jan. – 31 Mar.)	1 May
2nd Quarter (1 April –30 June)	1 August
3rd Quarter (1 July – 30 Sept.)	1 November
4th Quarter (1 Oct. – 31 Dec.)	1 February

2. Annual Reports—The Dischargers shall submit Annual Reports on 1 February of each year.

a. Contents—At a minimum, Annual Reports shall contain each of the following:

i. Tabular and graphical summaries of all data obtained during the reporting year;

ii. Results of any monitoring done more frequently than required at the locations specified in this Order;

iii. Identification of data gaps and potential deficiencies/ redundancies in monitoring system or reporting program;

iv. For any proposed revisions to monitoring frequencies and/or analytes, a supporting rationale (if revisions are proposed);

v. 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;

vi. Field logs describing sampling methods, measured parameters, groundwater depths (if applicable), and other relevant information;

vii. For new well constructions within the subject year, a table containing relevant details such as

(A) Well number,

(B) Groundwater zone being monitored,

(C) Coordinates (longitude and latitude),

(D) Ground surface elevation,

(E) Reference elevation, and

(F) Elevations of screen, bentonite, filter pack and well bottom;

viii. Cumulative data tables containing the water quality analytical results generated within the subject year;

ix. Copies of laboratory analytical data reports generated within the subject year;

x. Description of remedial and system optimization activities and the status of ongoing remediation, including

(A) Influent and effluent concentrations,

(B) Extraction well and injection well pumping rates,

(C) Treatment system flow rates,

(D) Amount and form of injected amendments,

(E) Effectiveness of the remediation systems, and

(F) Cumulative information on the mass of pollutant removed from the subsurface, system operating time, the effectiveness of the remediation system, and

(G) Any operational logs pertaining to the operation and maintenance of the system;

xi. 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;

xii. Logs of GAC replacement, if applicable along with transportation date(s) and destination of disposal;

xiii. Description of filtration and backwash cycling for the aerated MBBR, details of excess biomass from the aerated MBBR; and

xiv. If applicable, details of dewatering, drying, waste characterization, and off-Site disposal of waste generated in the aerated MBBR.

b. **Electronic Submittal**—Annual Reports shall be submitted via the GeoTracker Database (https://geotracker.waterboards.ca.gov).

c. **Transmittal Letters**—Each Annual Report shall be accompanied by a transmittal letter discussing any violations occurring during the reporting period, and identifying all actions taken or planned for correcting violations (e.g., operation or facility modifications).[3]

d. **Preparation by Qualified Professionals**—Annual Reports submitted under this Order shall be:

i. Prepared by a registered professional engineer or geologist, or another individual working under their direction (see Bus. & Prof. Code, §§ 6735, 7835, 7835.1);

[3] If the Dischargers previously submitted a report describing corrective actions or a time schedule for implementing the corrective actions, reference to the previous correspondence is satisfactory.

ii. Signed and stamped by the same registered professional engineer or geologist; and

iii. Presented in a manner that clearly and unequivocally attributes work to the registered professional responsible for its preparation.

e. Data Presentation—In reporting monitoring data, the Dischargers shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner that illustrates clearly whether the submitting party is in compliance with waste discharge requirements.

3. Shutdown Notifications—The Discharger shall notify the Central Valley Water Board within 48 hours of any unscheduled shutdown of the groundwater treatment system(s).

LIST OF ATTACHMENTS

Attachment A—Laboratory Analytical Methods

ENFORCEMENT

If, in the opinion of the Executive Officer, the Dischargers fail 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 may result in the assessment 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.

ADMINISTRATIVE REVIEW

Any person aggrieved by this Central Valley Water Board action may petition the State Water Board for review in accordance with Water Code section 13320 and California Code of Regulations, title 23, section 2050 et seq. To be timely, the petition must be received by the State Water Board by 5:00 pm on the 30th day after the date of this Order; if the 30th day falls on a Saturday, Sunday or state holiday, the petition must be received by the State Water Board by 5:00 pm on the next business day. The law and regulations applicable to filing petitions are available on the State Water Board website (http://www.waterboards.ca.gov/public_notices/petitions/water_quality). Copies will also be provided upon request.

ATTACHMENT A—LABORATORY ANALYTICAL METHODS

An alternate equivalent EPA Method that achieves the maximum PQL specified in the tables below may be used, provided that the Dischargers have obtained written concurrence from Central Valley Water Board staff. All concentrations found between the MDL and the PQL shall be reported as an estimated value.

For analytes not addressed in the tables below, the Discharger shall continue using any analytical methods currently in use. Alternatively, the Discharger may use a new method with Central Valley Water Board staff written concurrence.

Table 7—Analytical Methods for Fumigants (DBCP & EDB)

Constituents	Method	PQL
DBCP EDB	APPL Dept. of Health Services Method	0.01 µg/L

Table 8—Analytical Methods for Organochlorine Pesticides

Constituents	Method	PQL
Aldrin Alpha-Hexachlorocyclohexane (BHC) Beta-BHC Delta-BHC Gamma-BHC Chlordane 4,4'-Dichlorodiphenyldichloroethane (4,4'-DDD) 4,4'-Dichlorodiphenyldichloroethylene (4,4'-DDE) 4,4'-Dichlorodiphenyltrichloroethane (4,4'-DDT) Dieldrin Heptachlor	EPA Method 8081A	0.05 µg/L
Toxaphene	EPA Method 8081A	5 µg/L

Table 9—Analytical Methods for Organophosphorus Pesticides

Constituents	Method	PQL
DEF (S,S,S – Tributyltrithio-phosphate) Delnav Dimethoate Ethyl parathion Methyl parathion Disyston (Disulfoton)	EPA Method 8141A	1.0 µg/L

Table 10—Analytical Methods for Herbicides

Constituents	Method	PQL
2,4-D (Dichlorophenoxyacetic acid)	EPA Method 8151A	0.5 µg/L
2,4,5-T (Trichlorophenoxyacetic acid)	EPA Method 8151A	0.1 µg/L
Sulfolane	APPL SOP ANASULF	10 µg/L

Table 11—Analytical Methods for Inorganics

Constituents	Method	PQL
Chloride	EPA Method 300	1 mg/L
Nitrate	EPA Method 300	0.1 mg/L
Sulfate	EPA Method 300	1 mg/L
Phosphorous	EPA Method 200.7, 365	0.025 mg/L
TDS	EPA Method 160.1	10 mg/L

Table 12—Analytical Methods for Volatile Organic Compounds

Constituents	Method	PQL
1,2,3-TCP	EPA Method 524.3	0.005 µg/L