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**[TENTATIVE DRAFT] MONITORING & REPORTING
PROGRAM R5-2022-XXXX**



ORDER INFORMATION

Waste Discharge Requirements (WDRs)

Status: Tentative Draft
Program: Title 27 Discharges to Land
Region 5 Office: Redding
Discharger: Butte County
Facility: Neal Road Class III Municipal Solid Waste Landfill
Address: 1023 Neal Road, Chico California
County: Butte County
Parcel No.: 040-600-082
WDID: 5A040300001
Prior Order(s): R5-2011-0049-01

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 2022.

PATRICK PULUPA,
Executive Officer

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GLOSSARY

AMR	Annual Monitoring Report
CalRecycle	California Department of Resources Recycling and Recovery
CIWQS	California Integrated Water Quality System
CAMP	Corrective Action Monitoring Program
COCs	Constituents of Concern
DMP	Detection Monitoring Program
EC	Electrical Conductivity
EMP	Evaluation Monitoring Program
Five-Year COCs	Five-Year Constituents of Concern
GeoTracker	State Water Board’s Data Management System for Sites with Potential Groundwater Impact
GPM	Gallons Per Minute
LFG	Landfill Gas
MDL	Method Detection Limit
Method TO-15 VOCs	Volatile Organic Compounds associated with USEPA Method TO-15
MRP	Monitoring and Reporting Program
N/A	Not Applicable
PID	Photoionization Detector

POC	Point of Compliance for Water Quality Protection Standard
QA/QC	Quality Assurance/Quality Control
Qualified Professional	Professional Civil Engineer or Geologist licensed by the State of California
QMR	Quarterly Monitoring Report
RCRA	Resource Conservation and Recovery Act, 42 U.S.C. § 6901 et seq.
RL	Reporting Limit
SCAP	Sample Collection and Analysis Plan
SPRRs / Standard Provisions ...	<i>Standard Provisions and Reporting Requirements for Nonhazardous Solid Waste Discharges Regulated by Subtitle D and/or Title 27 Municipal Solid Waste Facilities</i> , December 2015 Edition
TDS	Total Dissolved Solids
Title 27	California Code of Regulations, Title 27
TSS	Total Suspended Solids
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds
WDRs	Waste Discharge Requirements
WMU	Waste Management Unit
WQPS	Water Quality Protection Standard
UNITS	
°F	Degrees Fahrenheit

- mg/L**.....Milligrams per Liter
- PPM**Parts per Million
- µg/L**.....Micrograms per Liter
- µmhos/cm**Microsiemens per Centimeter
- µg/cm³**Micrograms per Cubic Centimeter
- NTUs**.....Nephelometric Turbidity Units
- % Vol.**Percent by Volume

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 Butte County (Discharger), which owns and operates the Neal Road Class III Municipal Solid Waste Landfill (Facility) in Butte County. Additional information regarding the Facility is set forth in the enumerated findings of Waste Discharge Requirements Order R5-2022-XXXX (WDRs Order). Except as otherwise provided in the following MRP, these findings are incorporated herein.

The MRP also contains supplemental findings related to monitoring and reporting activities, and/or Facility conditions. For the purposes of California Code of Regulations, title 27 (Title 27) (e.g., §§ 21720, 20380-20435), the findings and provisions of this Order are conversely incorporated as part of the WDRs Order as well.

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. For the purposes of Title 27, such revisions shall be automatically incorporated as part of the WDRs Order.

MONITORING & REPORTING PROGRAM

IT IS HEREBY ORDERED, pursuant to Water Code section 13267: that all previously issued Monitoring and Reporting Program(s) for the discharge of solid waste at the Facility are rescinded (except for enforcement purposes); and that the Discharger, their agents, employees and successors shall comply with the following MRP. The Discharger shall not implement any changes until a revised MRP is issued by the Central Valley Water Board or its Executive Officer.

A. General Provisions

1. **Incorporation of Standard Provisions**—The Discharger shall comply with all relevant provisions of the *Standard Provisions and Reporting Requirements for Nonhazardous Solid Waste Discharges Regulated by Subtitle D and/or Title 27 Municipal Solid Waste Facilities, December 2015 Edition* (SPRRs or Standard Provisions), which are incorporated herein. See, e.g., SPRRs section I (*Standard Monitoring Specifications*) and section J (*Response to Release*).
2. **Monitoring Provisions in WDRs Order**—The Discharger shall comply with all “Monitoring Provisions” in the Facility’s operative Title 27 WDRs Order, which are also incorporated herein.
3. **Compliance with Title 27**—The Discharger shall comply with all Title 27 provisions as they pertain to activities described in this MRP (including SPRRs).
4. **Sample Collection and Analysis Plan (SCAP)**—All samples shall be collected, preserved and transported in accordance with the approved Sample Collection and Analysis Plan (SCAP) and the Quality Assurance/Quality Control (QA/QC) standards specified therein. The Discharger may use alternative analytical test methods (including new USEPA-approved methods), provided that the alternative methods have method detection limits (MDLs) equal to or lower than the analytical methods specified in this MRP and are identified in the approved SCAP.

B. Detection Monitoring Program (DMP)—To detect a release at the earliest possible time (see Title 27, § 20420, subd. (b)), the Discharger shall implement a DMP for groundwater, surface water and the unsaturated zone in accordance with the provisions of Title 27, particularly sections 20415 and 20420. Groundwater, unsaturated zone and surface water detection monitoring networks shall be revised (as needed) with the construction of each new landfill cell or module.

1. Groundwater

a. Required Network—The Facility’s groundwater detection monitoring well network consists of the wells listed in **Table 1**.¹ As of the date of this Order, the network does not meet the requirements of Title 27. (Title 27, § 20415, subd. (b).) No wells are positioned to monitor downgradient of the Primary Sedimentation Basin and Sedimentation Basin No. 2. WDRs Order R5-2022-XXXX requires submittal of a Monitoring Network Augmentation Work Plan to address this deficiency.

Table 1—Groundwater Detection Monitoring Network

Well	Program	Monitored Unit	Point of Compliance	Status
MW-4A	Background	N/A	No	Operational
MW-6	Detection	Module 4	Yes	Operational
MW-7	Detection	Module 4	Yes	Operational
MW-10A	Detection	Module 5, Leachate Impoundment	Yes	Operational
MW-11	Detection	Module 4	Yes	Operational
MW-12	Detection	Module 5	Yes	Operational
MW-13	Background	N/A	No	Operational

See Glossary for definitions of terms and abbreviations in table.

¹ Non-background monitoring wells at the Point of Compliance (POC) constitute “Monitoring Points” for purposes of the Water Quality Protection Standard (WQPS).

- b. **Sample Collection and Analysis**—Groundwater samples shall be collected from each well and analyzed for Monitoring Parameters listed in **Table 2** (*Physical Parameters*) and **Table 3** (*Constituent Parameters*), in accordance with the specified schedule for each parameter. (Title 27, § 20420, subs. (e)-(f).)

Table 2—Groundwater Detection Monitoring, Physical Parameters

Physical Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Temperature	TEMP	°F	Quarterly	Quarterly
Electrical Conductivity	SC	µmhos/cm	Quarterly	Quarterly
pH	PH	pH Units	Quarterly	Quarterly
Turbidity	TURB	NTUs	Quarterly	Quarterly

See Glossary for definitions of terms and abbreviations in table.

Table 3—Groundwater Detection Monitoring, Constituent Parameters

Constituent Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
TDS	TDS	mg/L	Quarterly	Quarterly
Chloride	CL	mg/L	Quarterly	Quarterly
Carbonate	CACO3	mg/L	Quarterly	Quarterly
Bicarbonate	BICACO3	mg/L	Quarterly	Quarterly
Sulfate	SO4	mg/L	Quarterly	Quarterly
Calcium	CA	mg/L	Quarterly	Quarterly
Magnesium	MG	mg/L	Quarterly	Quarterly
Potassium	K	mg/L	Quarterly	Quarterly
Sodium	NA	mg/L	Quarterly	Quarterly

Constituent Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Short List VOCs (Attachment A)	(various)	µg/L	Semiannual	Semiannual
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	µg/L	Quarterly for four initial sampling events. If undetected, switch to five-year sampling	Quarterly for four initial sampling events. If undetected, switch to five-year sampling

See Glossary for definitions of terms and abbreviations in table.

- c. **Five-Year COCs**—The Discharger shall analyze groundwater samples from each well for the Five-Year Constituents of Concern (Five-Year COCs) listed in **Table 4**. Five-Year COCs were last monitored in 2019, and shall be analyzed again in 2024. (Title 27, § 20420, subd. (g).)

Table 4—Groundwater Detection Monitoring, Five-Year COCs

Five-Year Constituent	GeoTracker Code	Units	Sampling & Reporting Freq.
Total Organic Carbon	TOC	mg/L	Every 5 Years
Dissolved Inorganics (Attachment B)	(various)	µg/L	Every 5 Years
Extended List VOCs (Attachment C)	(various)	µg/L	Every 5 Years
Semi-Volatile Organic Compounds (Attachment D)	(various)	µg/L	Every 5 Years
Chlorophenoxy Herbicides (Attachment E)	(various)	µg/L	Every 5 Years
Organophosphorus Compounds (Attachment F)	(various)	µg/L	Every 5 Years

See Glossary for definitions of terms and abbreviations in table.

- d. **Groundwater Conditions**—Each quarter, the Discharger shall monitor the Groundwater Conditions specified in **Table 5**, with the result of such monitoring being reported quarterly per **Section E.1**. (Title 27, § 20415, subd. (b)(1).)

Table 5—Groundwater Detection Monitoring, Groundwater Conditions

Groundwater Condition	GeoTracker Code	Monitoring Freq.	Reporting Freq.
Elevation (Well-Specific)	ELEV	Quarterly	Quarterly
Gradient	(none)	Quarterly	Quarterly
Flow Rate	(none)	Quarterly	Quarterly

2. Unsaturated Zone

- a. **Required Network**—The Facility’s unsaturated zone monitoring network consists of the Landfill Gas (LFG) monitoring points and lysimeters specified in **Table 6** (*Unsaturated Zone Detection Monitoring Network*). As of the date of this Order, the network meets the requirements of Title 27. (Title 27, § 20415, subd. (d).)

Table 6—Unsaturated Zone Monitoring Network

Monitoring Point	Device Type	Program	Monitored Unit	Status
SP1	Gas monitoring probe	Detection	Southern Facility Perimeter	Operational
SP2	Gas monitoring probe	Detection	Southern Facility Perimeter	Operational
SP3	Gas monitoring probe	Detection	Eastern Facility Perimeter	Operational
SP4	Gas monitoring probe	Detection	Northern Facility Perimeter	Operational
SP5	Gas monitoring probe	Detection	Northern Facility Perimeter	Operational
SP6	Gas monitoring probe	Detection	Northern Facility Perimeter	Operational
SP7	Gas monitoring probe	Detection	Southern Facility Perimeter	Operational

Monitoring Point	Device Type	Program	Monitored Unit	Status
SP8	Gas monitoring probe	Detection	Southern Facility Perimeter	Operational
SP9	Gas monitoring probe	Detection	Southern Facility Perimeter	Operational
SP10	Gas monitoring probe	Detection	Southern Facility Perimeter	Operational
SP11	Gas monitoring probe	Detection	Western Facility Perimeter	Operational
SP12	Gas monitoring probe	Detection	Western Facility Perimeter	Operational
SP13	Gas monitoring probe	Detection	Western Facility Perimeter	Operational
SP14	Gas monitoring probe	Detection	Northern Facility Perimeter	Operational
U-3	Suction Lysimeter	Detection	Modules 1,2,3	Operational
U-4B	Suction Lysimeter	Detection	Modules 1,2,3	Operational
U-5	Suction Lysimeter	Background	N/A	Operational
U-11	Suction Lysimeter	Detection	Module 5	Operational
U-12	Pan Lysimeter	Detection	Module 4	Operational

See Glossary for definitions of terms and abbreviations in table.

- b. **Landfill Gas (LFG) Monitoring.** —LFG shall be monitored for Methane and Method TO-15 VOCs² in accordance with **Table 7**,

² Volatile Organic Compounds (VOCs) associated with USEPA Method TO-15.

provided that samples may be prescreened to determine if such analyses will be required.³ (Title 27, § 20420, subds. (e)-(f).)

**Table 7—Unsaturated Zone Detection Monitoring (Landfill Gas),
 Constituent Parameters**

Constituent Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Method TO-15 VOCs	(various)	µg/cm ³	Semiannual	Semiannual
Methane	CH4	%	Semiannual	Semiannual

See Glossary for definitions of terms and abbreviations in table.

- c. **Monthly Lysimeter Inspection**—Pan lysimeters shall be inspected **monthly** for the presence of liquid, which shall then be analyzed for the Monitoring Parameters in **Table 7** (*Physical Parameters*) and **Table 8** (*Constituent Parameters*). (Title 27, § 20420, subds. (e)-(f).) If liquid is detected in a *previously dry* pan lysimeter, the Discharger shall notify Central Valley Water Board staff **within seven days** of the detection.

**Table 8—Unsaturated Zone Detection Monitoring (Lysimeters),
 Physical Parameters**

Physical Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Electrical Conductivity	SC	µmhos/cm	Semiannual	Semiannual
pH	PH	pH Units	Semiannual	Semiannual
Volume of Removed Liquid	(none)	Gallons	Semiannual	Semiannual

See Glossary for definitions of terms and abbreviations in table.

³ A gas analyzer for methane concentrations or a Photoionization Detector (PID) for total VOCs concentrations may be used. If methane concentrations exceed 1 percent by volume OR organic vapors (total VOCs) exceed 1 parts per million (ppm), a gas sample shall be obtained and analyzed for VOCs using Method TO-15. Both the screening results and lab analysis results shall be reported. Otherwise, the methane or total VOC screening results shall be reported, and no further lab analysis will be required.

**Table 9—Unsaturated Zone Detection Monitoring (Lysimeters),
 Constituent Parameters**

Constituent Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
TDS	TDS	mg/L	Semiannual	Semiannual
Chloride	CL	mg/L	Semiannual	Semiannual
Carbonate	CACO3	mg/L	Semiannual	Semiannual
Bicarbonate	BICACO3	mg/L	Semiannual	Semiannual
Sulfate	SO4	mg/L	Semiannual	Semiannual
Calcium	CA	mg/L	Semiannual	Semiannual
Magnesium	MG	mg/L	Semiannual	Semiannual
Potassium	K	mg/L	Semiannual	Semiannual
Sodium	NA	mg/L	Semiannual	Semiannual
Short List VOCs (Attachment A)	(various)	µg/L	Semiannual	Semiannual
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	µg/L	Semiannual for four initial sampling events. If undetected, switch to five- year sampling	Semiannual for four initial sampling events. If undetected, switch to five- year sampling

See Glossary for definitions of terms and abbreviations in table.

- d. **Five-Year COCs**—Every five years, liquid from each pan lysimeter shall be analyzed for the Five-Year COCs listed below in **Table 10**. Five-Year COCs were last monitored in 2019, and shall be analyzed again in 2024. (Title 27, § 20420, subd. (g).)

Table 10—Unsaturated Zone Detection Monitoring (Lysimeters), Five-Year COCs

Five-Year Constituent	GeoTracker Code	Units	Sampling & Reporting Freq.
Total Organic Carbon	TOC	mg/L	Every 5 Years
Dissolved Inorganics (Attachment B)	(various)	µg/L	Every 5 Years
Extended List VOCs (Attachment C)	(various)	µg/L	Every 5 Years
Semi-Volatile Organic Compounds (Attachment D)	(various)	µg/L	Every 5 Years
Chlorophenoxy Herbicides (Attachment E)	(various)	µg/L	Every 5 Years
Organophosphorus Compounds (Attachment F)	(various)	µg/L	Every 5 Years

See Glossary for definitions of terms and abbreviations in table

3. **Surface Water**—Run-on from upgradient of the Facility is collected at monitoring point SW-2. Runoff from the Facility is collected in three interior basins, Basins No. 2, 3, and 4 and can also flow to the Primary Sedimentation Basin. The Primary Sedimentation Basin may potentially discharge through spillway SW-1 at the western edge of the basin and flow to Hamlin Slough, which may be affected by a release. (See Title 27, § 20415, subd. (c)(1).)
 - a. **Required Network**—The Facility’s surface water monitoring network consists of the monitoring points listed in **Table 11**. As of the date of this Order, the network meets the requirements of Title 27. (See § 20415, subd. (c).)

Table 11—Surface Water Detection Monitoring Network

Monitoring Point	Program or Function	Monitored Unit	Location / Notes
SW-1	Downstream	Entire Facility	West of Facility
SW-2	Background	NA	East of Facility

See Glossary for definitions of terms and abbreviations in table.

- b. **Sample Collection and Analysis**—When surface water is present at the monitoring points in **Table 11** (*Surface Water Detection Monitoring Network*) at any point during the monitoring period, samples shall be collected from the monitoring points and analyzed for the Monitoring Parameters in **Table 12** (*Physical Parameters*) and **Table 13** (*Constituent Parameters*), in accordance with the specified schedule. (Title 27, § 20420, subds. (e)-(f).)

Table 12—Surface Water Detection Monitoring, Physical Parameters

Physical Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Electrical Conductivity	SC	µmhos/cm	When present	Quarterly
pH	PH	Std. Units	When present	Quarterly
Turbidity	TURB	NTUs	When present	Quarterly
Hardness	HARD	mg / L	When present	Quarterly
Presence of Oil & Grease	(none)	Yes / No	When present	Quarterly
Flow Rate	(none)	gpm	When present	Quarterly
Flow to Surface Waters at Time of Sampling	(none)	Yes / No	When present	Quarterly

See Glossary for definitions of terms and abbreviations in table.

**Table 13—Surface Water Detection Monitoring,
 Constituent Parameters**

Constituent Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
TSS	TSS	mg/L	When present	Quarterly
Chloride	CL	mg/L	When present	Quarterly
Carbonate	CACO3	mg/L	When present	Quarterly
Bicarbonate	BICACO3	mg/L	When present	Quarterly
Nitrate as Nitrogen	NO3N	mg/L	When present	Quarterly
Sulfate	SO4	mg/L	When present	Quarterly
Iron	FE	Mg/L	When present	Quarterly
Calcium	CA	mg/L	When present	Quarterly
Magnesium	MG	mg/L	When present	Quarterly
Potassium	K	mg/L	When present	Quarterly
Sodium	NA	mg/L	When present	Quarterly
Chemical Oxygen Demand	COD	mg/L	When present	Quarterly
Aluminum	Al	mg/L	When present	Quarterly
Short List VOCs (Attachment A)	(various)	µg/L	When present	Quarterly

See Glossary for definitions of terms and abbreviations in table.

- c. **Five-Year COCs**—The Discharger shall analyze surface water samples for the Five-Year COCs listed in **Table 14**. Five-Year

COCs were last monitored in 2019, and shall be analyzed again in 2024. (Title 27, § 20420, subd. (g).)

Table 14—Surface Water Detection Monitoring, Five-Year COCs

Five-Year Constituent	GeoTracker Code	Units	Sampling & Reporting Freq.
Total Organic Carbon	TOC	mg/L	Every 5 Years
Dissolved Inorganics (Attachment B)	(various)	µg/L	Every 5 Years
Extended List VOCs (Attachment C)	(various)	µg/L	Every 5 Years
Semi-Volatile Organic Compounds (Attachment D)	(various)	µg/L	Every 5 Years
Chlorophenoxy Herbicides (Attachment E)	(various)	µg/L	Every 5 Years
Organophosphorus Compounds (Attachment F)	(various)	µg/L	Every 5 Years

See Glossary for definitions of terms and abbreviations in table.

4. Summary of Water Quality Protection Standard (WQPS)

Components—The WQPS is the Title 27 analytical framework through which an individual WMU is monitored for releases and impacts to water quality, i.e., the DMP. (See Title 27, § 20390, subd. (a).) As explained in further detail below, for the duration of the *Compliance Period*, the *Monitoring Points* situated at the WMUs’ *Point of Compliance* (POC) are sampled and analyzed for *Monitoring Parameters* indicative of a release. If concentrations of *Constituents of Concern* (COCs) exceed *Concentration Limits*, the results are confirmed through *Retesting Procedures*.

a. Compliance Period—The “compliance period” is the minimum time for which a water quality monitoring will be required—i.e., equal to the sum of active years and the closure period. (Title 27, § 20410.) The period restarts each time an Evaluation

Monitoring Program (EMP) is initiated for the WMU.
(*Id.*, §§ 20410, subd. (a), 20415, 20425.)

- b. Monitoring Points**—For WQPS purposes, a “monitoring point” is any well, device, or location where monitoring is conducted, and is specified in the Facility’s WDRs and subject to the WQPS. (Title 27, § 20164.) Monitoring Points are listed in **Section B (Detection Monitoring Program)**—specifically **Table 1 (Groundwater)**, **Table 6 (Unsaturated Zone)** and **Table 11 (Surface Water)**.
- c. Point of Compliance (POC)**—The POC is a vertical plane at the WMU’s hydraulically downgradient limit, extending through the uppermost underlying aquifer. (Title 27, §§ 10164, 20405, subd. (a).) The Facility’s POC monitoring wells are listed in **Table 1**.
- d. Constituents of Concern (COCs)**—COCs are waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the WMU. (Title 27, §§ 20164, 20395.)
- e. Monitoring Parameters**—Monitoring Parameters are a predetermined set of COCs and measurable physical characteristics (e.g., temp., electrical conductivity, pH), which serve as reliable indicators of a WMU release, and for which samples will therefore be routinely analyzed. (Title 27, §§ 20164, 20395, subd. (a), 20420, subd. (e)-(f).) For the purposes of this MRP, the Monitoring Parameters are:

 - i. For **Surface Water**, those in Table 12 and Table 13;
 - ii. For **Groundwater**, those in Table 2 and Table 3; and
 - iii. For the **Unsaturated Zone**, those in Table 7, Table 8 and Table 9.
- f. Five-Year COCs**—In addition to the Monitoring Parameters described above, this Order requires the *quinquennial analysis* of samples for a larger range of constituents that are reasonably expected to be found in, or derived from, the waste contained within the WMU at the Facility. (Title 27, §§ 20395, 20420, subd. (g).) Analytical results for Five-Year COCs were last submitted to the Central Valley Water Board as part of the 2019 Annual Monitoring

Report and are due again in 2024. For the purposes of this MRP, the Five-Year COCs are listed in:

- i. **Attachment B** (*Dissolved Inorganics*);
- ii. **Attachment C** (*Extended List VOCs*);
- iii. **Attachment D** (*Semi-Volatile Organic Compounds*);
- iv. **Attachment E** (*Chlorophenoxy Herbicides*);
- v. **Attachment F** (*Organophosphorus Compounds*); and
- vi. Any other COCs listed in **Table 14** (*Surface Water*), **Table 4** (*Groundwater*) and **Table 10** (*Unsaturated Zone*).

g. Concentration Limits—The Concentration Limit for each COC is the “background concentration,” as determined by the statistical methods outlined in subdivision (e)(8) of Title 27, section 20415. (Title 27, § 20400, subds. (a), (b).) Concentration Limits are initially proposed by the Discharger, then reviewed and approved by the Central Valley Water Board (subject to any necessary revisions). The limits specified herein are approved and incorporated as part of the Facility’s WDRs. Methods for calculating Concentration Limits were proposed in the 2017 WQPS Report. The approved methods use parametric and non-parametric interwell tolerance limits at a 95 percent confidence interval and 95 percent coverage interval.

h. Retesting Procedures—If monitoring results indicate measurably significant evidence of a release, as described in Section I.45 of the SPRRs (*Standard Monitoring Specifications*), the Discharger shall apply the following:

- i. **Non-Statistical Retesting Procedures (SPRRs, § I.46)** for analytes detected in less than 10 percent of background samples (e.g., non-naturally occurring COCs); and
- ii. **Statistical Retesting Procedures (SPRRs, § I.46)** for analytes detected in at least 10 percent of background samples (e.g., naturally-occurring COCs).

C. Corrective Action Monitoring Program (CAMP) –To demonstrate the effectiveness of ongoing corrective action at the Facility, the Discharger shall

perform the following additional monitoring in accordance with subdivision (d) of Title 27, section 20430.

1. Groundwater

- a. **Required Network**—The Facility’s corrective action groundwater monitoring well network consists of the wells listed in **Table 1**. At this time, the corrective action monitoring network downgradient of Modules 1, 2 and 3 is inadequate to assess the nature and extent of impacted groundwater. WDRs Order R5-2022-XXXX requires submittal of a Monitoring Network Augmentation Work Plan to address this deficiency.

Table 15—Corrective Action Groundwater Monitoring Network

Well	Program	Monitored Unit	Point of Compliance	Status
MW-3	Corrective Action	Modules 1,2,3	Yes	Operational
MW-8B	Corrective Action	Modules 1,2,3	Yes	Operational
MW-9B	Corrective Action	Modules 1,2,3	Yes	Operational

- b. **Sample Collection and Analysis**—Groundwater samples shall be collected from each well and analyzed for Monitoring Parameters listed in **Table 2** (*Physical Parameters*) and **Table 3** (*Constituent Parameters*), in accordance with the specified schedule for each parameter.
 - c. **Five-Year COCs**—The Discharger shall analyze for groundwater samples from each well for the Five-Year COCs listed in **Table 4**. Five-Year COCs were last monitored in 2019, and shall be analyzed again in 2024
 - d. **Groundwater Conditions**—Each quarter, the Discharger shall monitor the Groundwater Conditions specified in **Table 5**, with the result of such monitoring being reported quarterly per **Section E.1**.
- 2. Summary of Water Quality Protection Standard Components**—The WQPS is the Title 27 analytical framework through which an individual

WMU is monitored for releases and impacts to water quality, i.e., the DMP. (See Title 27, § 20390, subd. (a).) As explained in further detail below, for the duration of the *Compliance Period*, the *Monitoring Points* situated at the WMUs' *Point of Compliance* (POC) are sampled and analyzed for *Monitoring Parameters* indicative of a release.

- a. **Compliance Period**—For WMUs in corrective action, the compliance period continues until it is demonstrated that the WMU has been in continuous compliance with its WQPS for at least three years. (*Id.*, § 20410, subd. (c).)
- b. **Monitoring Points**—For WQPS purposes, a “monitoring point” is any well, device, or location where monitoring is conducted, and is specified in the Facility’s WDRs and subject to the WQPS. (Title 27, § 20164.) Monitoring Points are listed in **Section C** (*Corrective Action Monitoring Program*)—specifically **Table 15** (*Groundwater*).
- c. **Point of Compliance (POC)**—The POC is a vertical plane at the WMU’s hydraulically downgradient limit, extending through the uppermost underlying aquifer. (Title 27, §§ 10164, 20405, subd. (a).) The Facility’s POC monitoring wells are listed in **Table 15**.
- d. **Constituents of Concern (COCs)**—COCs are waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the WMU. (Title 27, §§ 20164, 20395.)
- e. **Monitoring Parameters**—Monitoring Parameters are a predetermined set of COCs and measurable physical characteristics (e.g., temp., electrical conductivity, pH), which serve as reliable indicators of a WMU release, and for which samples will therefore be routinely analyzed. (Title 27, §§ 20164, 20395, subd. (a), 20420, subd. (e)-(f).) For the purposes of this MRP, the Monitoring Parameters are for **Groundwater**, those in **Table 2** and **Table 3**.
- f. **Five-Year COCs**—In addition to the Monitoring Parameters described above, this Order requires the *quinquennial analysis* of samples for a larger range of constituents that are reasonably expected to be found in, or derived from, the waste contained within the WMU at the Facility. (Title 27, §§ 20395, 20420, subd. (g).) Analytical results for Five-Year COCs were last submitted to the

Central Valley Water Board as part of the 2019 Annual Monitoring Report and are due again in 2024. For the purposes of this MRP, the Five-Year COCs are listed in:i. **Attachment B** (*Dissolved Inorganics*);

- ii. **Attachment C** (*Extended List VOCs*);
- iii. **Attachment D** (*Semi-Volatile Organic Compounds*);
- iv. **Attachment E** (*Chlorophenoxy Herbicides*);
- v. **Attachment F** (*Organophosphorus Compounds*); and
- vi. Any other COCs listed in **Table 4** (*Groundwater*).

g. Groundwater degradation—In conjunction with corrective action measures, the Discharger shall establish and implement a water quality monitoring program to demonstrate the effectiveness of the corrective action program, and shall be effective in determining the success of the corrective action measures. (Title 27, §§ 20430, subd. (d).)

D. Additional Facility Monitoring

- 1. Leachate Collection & Removal System (LCRS)**—The Discharger shall operate and maintain leachate collection and removal system (LCRS) sumps, and conduct monitoring of any detected leachate seeps in accordance with Title 27 and the following provisions.
 - a. Annual LCRS Testing**—All Leachate Collection and Removal Systems (LCRS) shall be tested annually to demonstrate proper operation, with the results of each test being compared to the results of prior testing. (See Title 27, § 20340, subd. (d).)
 - b. Monthly Sump Inspection**—All LCRS sumps shall be inspected monthly for the presence of leachate. As provided in **Table 16**, the total flow and flow rate for leachate in each sump shall be recorded after each inspection and reported Quarterly per **Section D**.

Table 16—LCRS Sump Monitoring, Monthly Inspection Parameters

Physical Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Total Flow	(none)	Gallons	Monthly	Quarterly

Physical Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Flow Rate	FLOW	Gallons/Day	Monthly	Quarterly

See Glossary for definitions of terms and abbreviations in table.

- c. **First Detection of Leachate in Sump**—Upon detecting leachate in a previously dry sump, the Discharger shall notify Central Valley Water Board staff **within seven days**, and immediately sample and analyze leachate for the parameters in **Table 17**.⁴ Thereafter, whenever leachate is present in the same sump, the leachate shall be sampled and analyzed for the same parameters, and in accordance with the specified sampling and reporting schedule in **Table 17**.

Table 17—LCRS Sump Monitoring, Parameters for Subsequent Monitoring

Constituent Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Electrical Conductivity	SC	µmhos/cm	Monthly	Annual
pH	PH	pH Units	Monthly	Annual
TDS	TDS	mg/L	Annual	Annual
Chloride	CL	mg/L	Annual	Annual
Carbonate	CACO3	mg/L	Annual	Annual
Bicarbonate	BICACO3	mg/L	Annual	Annual
Nitrate (as Nitrogen)	NO3N	mg/L	Annual	Annual
Sulfate	SO4	mg/L	Annual	Annual
Calcium	CA	mg/L	Annual	Annual

⁴ The sampling and reporting schedules in Table are applicable for subsequent monitoring only.

Constituent Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Magnesium	MG	mg/L	Annual	Annual
Potassium	K	mg/L	Annual	Annual
Sodium	NA	mg/L	Annual	Annual
Short List VOCs (Attachment A)	(various)	µg/L	Annual	Annual
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	µg/L	Quarterly for four initial sampling events. If undetected, switch to five-year sampling	Quarterly for four initial sampling events. If undetected, switch to five-year sampling

See Glossary for definitions of terms and abbreviations in table.

- d. **Five-Year COCs**—At least once every five years, the Discharger shall sample and analyze any leachate present in the sump for the Five-Year COCs listed in **Table 18**. Five-Year COCs were last monitored in 2019, and shall be analyzed again in 2024.

Table 18—LCRS Sump Monitoring, Five-Year COCs

Parameter	GeoTracker Code	Units	Sampling & Reporting Freq.
Total Organic Carbon	TOC	mg/L	Every 5 Years
Dissolved Inorganics (Attachment B)	(various)	µg/L	Every 5 Years
Extended List VOCs (Attachment C)	(various)	µg/L	Every 5 Years
Semi-Volatile Organic Compounds (Attachment D)	(various)	µg/L	Every 5 Years

Parameter	GeoTracker Code	Units	Sampling & Reporting Freq.
Chlorophenoxy Herbicides (Attachment E)	(various)	µg/L	Every 5 Years
Organophosphorus Compounds (Attachment F)	(various)	µg/L	Every 5 Years

See Glossary for definitions of terms and abbreviations in table.

- 2. Leachate Seepage**—Leachate that seeps to the surface, or that is released, from any WMUs shall, immediately upon detection, be sampled and analyzed for the Monitoring Parameters in **Table 19** (*Physical Parameters*) and **Table 20** (*Constituent Parameters*). See **Section E.3** for Reporting Requirements.) In the event of a reported leachate seep or release, Central Valley Water Board staff may direct additional sampling and analysis pursuant to Water Code section 13267, subdivision (b)(1).

Table 19—Leachate Seep and Release Monitoring, Physical Parameters

Physical Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Total Flow	(none)	Gallons	Upon Detection	See MRP, § D.3
Flow Rate	FLOW	Gallons/Day	(same)	(same)
Electrical Conductivity	SC	µmhos/cm	(same)	(same)
pH	PH	pH Units	(same)	(same)

See Glossary for definitions of terms and abbreviations in table.

Table 20—Leachate Seep and Release Monitoring, Constituent Parameters

Constituent Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
TDS	TDS	mg/L	Upon Detection	See MRP, § D.3

Constituent Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Chloride	CL	mg/L	(same)	(same)
Carbonate	CACO3	mg/L	(same)	(same)
Bicarbonate	BICACO3	mg/L	(same)	(same)
Nitrate as N	NO3N	mg/L	(same)	(same)
Sulfate	SO4	mg/L	(same)	(same)
Calcium	CA	mg/L	(same)	(same)
Magnesium	MG	mg/L	(same)	(same)
Potassium	K	mg/L	(same)	(same)
Sodium	NA	mg/L	(same)	(same)
Short List VOCs (Attachment A)	(various)	µg/L	(same)	(same)

See Glossary for definitions of terms and abbreviations in table.

3. **Regular Visual Inspection**—The Discharger shall perform regular visual inspections at the Facility in accordance with **Table 21** (*Criteria*) and **Table 22** (*Schedule*). Results of these regular visual inspections shall be included in Quarterly Monitoring Reports per **Section E.1**.

Table 21—Criteria for Regular Visual Inspections

Category	Criteria
Within WMUs	<ul style="list-style-type: none"> Evidence of ponded water at any point on WMU outside of any contact storm water/leachate diversions structures on the active face of unit (record affected areas on map). Evidence of erosion and/or of day-lighted refuse.

Category	Criteria
WMU Perimeters	<ul style="list-style-type: none"> Evidence of leachate seep or release. Estimated size of affected area (record on map) and flow rate. Evidence of erosion and/or of day-lighted refuse.
Receiving Waters	<ul style="list-style-type: none"> Floating and suspended materials of waste origin—presence or absence, source and size of affected areas. Evidence of a leachate release. Discoloration and turbidity—description of color, source and size of affected areas.

Table 22—Regular Visual Inspection Schedule

Category	Wet Season (1 Oct. to 30 April)	Dry Season (1 May to 30 Sept.)
Active WMUs	Weekly	Monthly
Inactive or Closed WMUs	Monthly	Quarterly

- 4. Annual Facility Inspections**—Prior to **30 September** of each year, the Discharger shall inspect the Facility to assess repair and maintenance needs for drainage control systems, cover systems, landfill gas wells and groundwater monitoring wells; and preparedness for winter conditions (e.g., erosion and sedimentation control). If repairs are made as a result of the annual inspection, problem areas shall be photographed before and after repairs. Any necessary construction, maintenance, or repairs shall be completed by 31 October. See **Section E.4** for Reporting Requirements.
- 5. Major Storm Events**—Within **seven days** of any storm event capable of causing damage or significant erosion, the Discharger shall inspect the Facility for damage to any precipitation, diversion and drainage facilities, and all WMU side slopes. The Facility’s Operations Plan requires inspections after rainfall events greater than or equal to 1-inch in a 24-hour period. Necessary repairs shall be completed within 30 days of the inspection. the Discharger shall take photos of any problem areas before and after repairs. See **Section E.5** for Reporting Requirements.

6. **Five-Year Iso-Settlement Surveys (Closed WMUs)**—Every five years following closure of a WMU, the Discharger shall conduct an iso-settlement survey of the closed WMU and produce an iso-settlement map accurately depicting the estimated total change in elevation of each portion of the final cover’s low-hydraulic-conductivity layer. Currently Modules 1, 2, and 3 are closed and require iso-settlement surveys every five years. The next survey is due in 2022. For each portion of the WMU, this map shall show the total lowering of the surface elevation of the final cover, relative to the baseline topographic map. (Title 27, § 21090, subd. (e)(1)-(2).) See **Section E.6** for Reporting Requirements.

E. Reporting Requirements

Table 23—Summary of Required Reports

Section	Report	Deadline
§ E.1	<i>Quarterly Monitoring Reports (QMRs)</i>	31 January (1 October to 31 December) 30 April (1 January to 31 March) 31 July (1 April to 30 June) 31 October (1 July to 30 September)
§ E.2	<i>Annual Monitoring Reports (AMRs)</i>	31 January
§ E.3	<i>Leachate Seep and Release Reporting</i>	Immediately upon Discovery of Seepage or Release (staff notification) Within 7 Days (written report)
§ E.4	<i>Annual Facility Inspection Reports</i>	15 November
§ E.5	<i>Major Storm Reporting</i>	Immediately after Damage Discovery (staff notification) Within 14 Days of Completing Repairs (written report, photos)
§ E.6	<i>Survey and Iso-Settlement Mapping</i>	Every Five Years (Due Five Years After WMU Closure)
§ E.7	<i>Financial Assurances Reports</i>	1 October
§ E.8	<i>Water Quality Protection Standard Reports</i>	Proposed Revisions (excluding Concentration Limits)

1. **Quarterly Monitoring Reports (QMRs)**—The Discharger shall submit QMRs on **31 January, 30 April, 31 July** and **31 October**. SMRs shall contain the following materials and information:
 - a. A statement affirming that all sampling activities referenced in the report were conducted in accordance with the approved SCAP (see § A.4).
 - b. Table of contents with hyperlinks to report sections, tables, figures, maps, and appendices.
 - c. Map(s)/aerial photograph(s) depicting locations of all observation stations, monitoring points referenced in the report.
 - d. Table summarizing any concentration limit exceedances.
 - e. In tabulated format, all monitoring data required to be reported on a quarterly basis, including Groundwater Conditions and Monitoring Parameters. (See Section D.9.b for additional requirements.)
 - f. For each groundwater monitoring point referenced in the QMR:
 - i. The times each water level measurement was taken;
 - ii. The type of pump or other device used to purge and elevate pump intake level relative to screening interval;
 - iii. The purging methods used to stabilize water in the well bore before sampling (including pumping rate);
 - iv. The equipment and methods used for monitoring pH, temperature and EC during purging activity, and the results of such monitoring;
 - v. Methods for disposing of purged water; and
 - vi. The type of device used for sampling, if different than the one used for purging.
 - g. Evaluation of concentrations for all Constituent Parameters and Five-Year COCs (when analyzed), evaluation of trends, and results of any Retesting Procedures per Section B.5.h.

- h. Evaluation as to effectiveness of existing runoff/run-on control facilities.
 - i. Summaries of all Regular Visual Inspections conducted per Section E.3 during the reporting period.
 - j. Laboratory statements of results of all analyses evaluating compliance with the WDRs.
- 2. Annual Monitoring Reports (AMRs)**—On **31 January** of each year,⁵ the Discharger shall submit an AMR containing following materials and information:
- a. In tabulated format, all monitoring data for which annual reporting is required under this MRP. (See Section D.9.b for additional requirements for monitoring reports.)
 - b. Table of contents with hyperlinks to report sections, tables, figures, maps, and appendices.
 - c. Table summarizing any concentration limit exceedances.
 - d. Graphs of historical trends for all Monitoring Parameters and Five-Year COCs (if such analyses were performed) with respect to each monitoring point over the five prior calendar years.⁶
 - e. An evaluation of Monitoring Parameters with regard to the cation/anion balance, and graphical presentation of same in a Stiff diagram, Piper graph or Schoeller plot.
 - f. All historical monitoring data, including data for the previous year, shall be submitted in tabular form in a digital file.
 - g. For each groundwater well, quarterly hydrographs showing the elevation of groundwater with respect to the top and bottom of the screened interval, and the elevation of the pump intake.

⁵ The Annual Monitoring Report may be combined with the Quarterly Monitoring Report for 1 October through 31 December of the same year, provided that the combination is clearly indicated in the title.

⁶ Each graph shall contain individual data points (not mean values) and be appropriately scaled to accurately depict statistically significant trends or variations in water quality.

- h. A comprehensive discussion of the Facility's compliance record, and the result of any corrective actions taken or planned which may be needed to attain full compliance with the WDRs.
 - i. A summary of the monitoring results including the groundwater monitoring network, surface water monitoring network, and landfill gas monitoring network and Facility conditions, indicating any changes made or observed since the previous AMR.
- 3. **Leachate Seep and Release Reporting**—Upon discovery of leachate seepage or a leachate release from any WMU at the Facility, the Discharger shall **immediately notify** Central Valley Water Board staff via telephone or email; and **within seven days**, submit a written report with the following information:
 - a. Map(s) depicting the location(s) of seepage and/or areas affected by the leachate release;
 - b. Estimated flow rate(s);
 - c. A description of the nature and extent of the discharge (e.g., all pertinent observations and analyses);
 - d. Verification that samples have been submitted for analyses of the Monitoring Parameters in Table 11 (*Physical Parameters*) and Table 12 (*Constituent Parameters*), and an estimated date that the results will be submitted to the Central Valley Water Board; and
 - e. Corrective measures underway or proposed, and corresponding time schedule.
- 4. **Annual Facility Inspection Report**—By **15 November**, the Discharger shall submit a report with results of the Annual Facility Inspection per **Section C.4**. The report shall discuss any repair measures implemented, any preparations for winter, and include photographs of any problem areas and repairs.
- 5. **Major Storm Event Reports**—Immediately following each post-storm inspection described in **Section D.5**, the Discharger shall notify Central Valley Water Board staff of any damage or significant erosion (upon discovery). Subsequent repairs shall be reported to the Central Valley

Water Board (together with before and after photos of the repaired areas) **within 14 days** of completion.

6. **Survey and Iso-Settlement Map (Closed Landfill Unit)**—The Discharger shall submit all iso-settlement maps prepared in accordance with **Section D.6.** (Title 27, § 21090, subd. (e).) The next maps for Modules 1, 2, and 3 are due in 2022.
7. **Financial Assurances Report**—By **1 October** of each year, the Discharger shall submit a copy of the annual financial assurances report due to the CalRecycle that updates the financial assurances for closure, post-closure maintenance, and corrective action. (See WDRs Order.)
8. **Water Quality Protection Standard (WQPS) Report**—Any proposed changes⁷ to the WQPS components (§ B.5), other than periodic update of the Concentration Limits (§ B.5.g), shall be submitted in a WQPS Report for review and approval.

The report shall be certified by a “Qualified Professional” (§ B), and contain the following:

- a. *Potentially Affected Waterbodies*—An identification of all distinct bodies of surface water and groundwater potentially affected by a WMU release (including, but not limited to, the uppermost aquifer and any permanent or ephemeral zones of perched groundwater underlying the Facility);
- b. *Map of Monitoring Points*—A map of all groundwater, surface water and unsaturated zone monitoring points (including all background/upgradient and POC monitoring points);
- c. *Groundwater Movement*—An evaluation of perennial direction(s) of groundwater movement within the uppermost zone(s);
- d. *Statistical Method for Concentration Limits*—A proposed statistical method for calculating Concentration Limits for Monitoring Parameters and Five-Year COCs (see § B.5.f) detected in at least 10 percent of the background data (naturally-occurring

⁷ If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to onsite waste management activities, the Discharger may request modification of the WQPS.

constituents) using a statistical procedure from subdivisions (e)(8)(A)-(D) or (e)(8)(E) of Title 27, section 20415; and

- e. *Retesting Procedure*—A retesting procedure to confirm or deny measurably significant evidence of a release (Title 27, §§ 20415, subd. (e)(8)(E), 20420, subd. (j)(1)-(3)).

9. General Reporting Provisions

- a. **Transmittal Letters**—Each report submitted under this MRP shall be accompanied by a Transmittal Letter providing a brief overview of the enclosed report, as well as the following:

- i. Any violations found since the last report was submitted, a description of all actions undertaken to correct the violation (referencing any previously submitted time schedules for compliance), and whether the violations were corrected; and
- ii. A statement from the submitting party, or its authorized agent, signed under penalty of perjury, certifying that, to the best of the signer’s knowledge, the contents of the enclosed report are true, accurate and complete.

b. Monitoring Data and Reports

- i. **Electronic Submission via GeoTracker**—All reports with monitoring data (e.g., QMRs and AMRs) shall be submitted electronically via the State Water Board’s [Geotracker Database](https://geotracker.waterboards.ca.gov) (<https://geotracker.waterboards.ca.gov>). After uploading a report, the Discharger shall notify Central Valley Water Board staff via email at CentralValleyRedding@WaterBoards.ca.gov. The following information shall be included in the body of the email:

Attention:	WDR Unit
Report Title:	[Title of Report]
GeoTracker Upload ID:	[Identification Number]
Facility Name:	Neal Road Class III Municipal Solid Waste Landfill
County:	Butte
CIWQS Place ID:	244045

- ii. **Data Presentation and Formatting**—In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. Additionally, data shall be summarized in a manner that clearly illustrates compliance/noncompliance with WDRs.
 - iii. **Non-Detections / Reporting Limits**—Unless the reporting limits (RL) are specified in or adjacent to the same table, non-detections shall be reported as “< [limit]” (e.g., “< 5 µg/L”).
 - iv. **Units**—Absent specific justification, all monitoring data shall be reported in the units specified herein.
 - c. **Compliance with SPRRs**—All reports submitted under this MRP shall comply with applicable provisions of the SPRRs, including those in Section I (*Standard Monitoring Specifications*) and Section J (*Response to Release*).
 - d. **Additional Requirements for Monitoring Reports**—Every monitoring report submitted under this MRP (e.g., QMRs [§ D.1], AMRs [§ D.2]) shall include a discussion of relevant field and laboratory tests, and the results of all monitoring conducted at the site shall be reported to the Central Valley Water Board in accordance with the reporting schedule above for the calendar period in which samples were taken or observations made.
- F. **Record Retention Requirements**—The Discharger shall maintain permanent records of all monitoring information, including without limitation: calibration and maintenance records; original strip chart recordings of continuous monitoring instrumentation; copies of all reports required by this MRP; and records of all data used to complete the application for WDRs. Such records shall be legible, and show the following for each sample:
 - 1. Sample identification and the monitoring point or background monitoring point from which it was taken, along with the identity of the individual who obtained the sample;
 - 2. Date, time and manner of sampling;
 - 3. Date and time that analyses were started and completed, and the name of the personnel and laboratory performing each analysis;

4. A complete list of procedures used (including method of preserving the sample, and the identity and volumes of reagents used);
5. A calculation of results; and
6. The results of all analyses, as well as the MDL and PQL for each analysis (all peaks shall be reported).

SIGNATURE

This Order is effective as of the date set forth below.

ORDERED BY:

PATRICK PULUPA,
Executive Officer

LIST OF ATTACHMENTS

Attachment A—Volatile Organic Compounds, Short-List
Attachment B—Dissolved Inorganics (Five-Year COCs)
Attachment C—Volatile Organic Compounds, Extended List (Five-Year COCs)
Attachment D—Semi-Volatile Organic Compounds (Five-Year COCs)
Attachment E—Chlorophenoxy Herbicides (Five-Year COCs)
Attachment F—OrganoPhosphorous Compounds (Five-Year COCs)

ENFORCEMENT

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 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) (http://www.waterboards.ca.gov/public_notices/petitions/water_quality). Copies will also be provided upon request.

ATTACHMENT A—VOLATILE ORGANIC COMPOUNDS, SHORT-LIST

USEPA Method 8260B

Constituent	GeoTracker Code
Acetone	ACE
Acrylonitrile.....	ACRAMD
Benzene	BZ
Bromochloromethane	BRCLME
Bromodichloromethane	BDCME
Bromoform (Tribromomethane).....	TBME
Carbon disulfide	CDS
Carbon tetrachloride.....	CTCL
Chlorobenzene	CLBZ
Chloroethane (Ethyl chloride).....	CLEA
Chloroform (Trichloromethane)	TCLME
Dibromochloromethane (Chlorodibromomethane)	DBCME
1,2 Dibromo 3 chloropropane (DBCP).....	DBCP
1,2 Dibromoethane (Ethylene dibromide; EDB)	EDB
o Dichlorobenzene (1,2 Dichlorobenzene)	DCBZ12
m Dichlorobenzene (1,3 Dichlorobenzene)	DCBZ13
p Dichlorobenzene (1,4 Dichlorobenzene)	DCBZ14
trans 1,4 Dichloro 2 butene	DCBE14T
Dichlorodifluoromethane (CFC-12)	FC12
1,1 Dichloroethane (Ethylidene chloride).....	DCA11
1,2 Dichloroethane (Ethylene dichloride).....	DCA12
1,1 Dichloroethylene (1,1 Dichloroethene; Vinylidene chloride)	DCE11
cis 1,2 Dichloroethylene (cis 1,2 Dichloroethene)	DCE12C
trans 1,2 Dichloroethylene (trans 1,2 Dichloroethene)	DCE12T
1,2 Dichloropropane (Propylene dichloride)	DCPA12
cis 1,3 Dichloropropene.....	DCP13C
trans 1,3 Dichloropropene	DCP13T

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ATTACHMENT A—VOLATILE ORGANIC COMPOUNDS, SHORT-LIST

Di-isopropyl ether (DIPE)	DIPE
Ethanol.....	ETHANOL
Ethyl tertiary butyl ether.....	ETBE
Ethylbenzene	EBZ
2 Hexanone (Methyl butyl ketone).....	HXO2
Hexachlorobutadiene	HCBU
Methyl bromide (Bromomethene).....	BRME
Methyl chloride (Chloromethane)	CLME
Methylene bromide (Dibromomethane).....	DBMA
Methylene chloride (Dichloromethane).....	DCMA
Methyl ethyl ketone (MEK: 2 Butanone).....	MEK
Methyl iodide (Iodomethane).....	IME
Methyl t-butyl ether.....	MTBE
4-Methyl 2 pentanone (Methyl isobutylketone).....	MIBK
Naphthalene.....	NAPH
Styrene.....	STY
Tertiary amyl methyl ether.....	TAME
Tertiary butyl alcohol	TBA
1,1,1,2 Tetrachloroethane	TC1112
1,1,2,2 Tetrachloroethane	PCA
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene)	PCE
Toluene	BZME
1,2,4 Trichlorobenzene.....	TCB124
1,1,1 Trichloroethane (Methylchloroform).....	TCA111
1,1,2 Trichloroethane	TCA112
Trichloroethylene (Trichloroethene)	TCE
Trichlorofluoromethane (CFC 11).....	FC11

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ATTACHMENT A—VOLATILE ORGANIC COMPOUNDS, SHORT-LIST

1,2,3 TrichloropropaneTCPR123

Vinyl acetate..... VA

Vinyl chloride..... VC

XylenesXYLENES

ATTACHMENT B—DISSOLVED INORGANICS (FIVE-YEAR COCS)

Constituent / Analytical Method.....	GeoTracker Code
Aluminum, USEPA Method 6010	AL
Zinc, USEPA Method 6010	ZN
Antimony, USEPA Method 7041	SB
Iron, USEPA Method 6010	FE
Barium, USEPA Method 6010	BA
Manganese, USEPA Method 6010	MN
Beryllium, USEPA Method 6010	BE
Arsenic, USEPA Method 7062	AS
Cadmium, USEPA Method 7131A.....	CD
Lead, USEPA Method 7421	PB
Chromium, USEPA Method 6010	CR
Mercury, USEPA Method 7470A.....	HG
Cobalt, USEPA Method 6010	CO
Nickel, USEPA Method 7521	NI
Copper, USEPA Method 6010	CU
Selenium, USEPA Method 7742	SE
Silver, USEPA Method 6010	AG
Thallium, USEPA Method 7841	TL
Tin, USEPA Method 6010	SN
Cyanide, USEPA Method 9010C.....	CN
Vanadium, USEPA Method 6010	V
Sulfide, USEPA Method 9030Bx	S

**ATTACHMENT C—VOLATILE ORGANIC COMPOUNDS, EXTENDED LIST
 (FIVE-YEAR COCS)**

**USEPA Method 8260,
 Extended List**

Constituent	GeoTracker Code
Acetone	ACE
Acetonitrile (Methyl cyanide)	ACCN
Acrolein	ACRL
Acrylonitrile.....	ACRAMD
Allyl chloride (3 Chloropropene)	CLPE3
Benzene	BZ
Bromochloromethane (Chlorobromomethane)	BRCLME
Bromodichloromethane (Dibromochloromethane).....	DBCME
Bromoform (Tribromomethane).....	TBME
Carbon disulfide	CDS
Carbon tetrachloride.....	CTCL
Chlorobenzene	CLBZ
Chloroethane (Ethyl chloride).....	CLEA
Chloroform (Trichloromethane)	TCLME
Chloroprene	CHLOROPRENE
Dibromochloromethane (Chlorodibromomethane)	DBCME
1,2 Dibromo 3 chloropropane (DBCP).....	DBCP
1,2 Dibromoethane (Ethylene dibromide; EDB)	EDB
o Dichlorobenzene (1,2 Dichlorobenzene)	DCBZ12
m Dichlorobenzene (1,3 Dichlorobenzene)	DCBZ13
p Dichlorobenzene (1,4 Dichlorobenzene)	DCBZ14
trans 1,4 Dichloro 2 butene	DCBE14T
Dichlorodifluoromethane (CFC 12).....	FC12
1,1 Dichloroethane (Ethylidene chloride).....	DCA11
1,2 Dichloroethane (Ethylene dichloride).....	DCA12

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**ATTACHMENT C—VOLATILE ORGANIC COMPOUNDS, EXTENDED LIST
(FIVE-YEAR COCS)**

1,1 Dichloroethylene (1, 1 Dichloroethene; Vinylidene chloride)	DCE11
cis 1,2 Dichloroethylene (cis 1,2 Dichloroethene)	DCE12C
trans 1,2 Dichloroethylene (trans 1,2 Dichloroethene)	DCE12T
1,2 Dichloropropane (Propylene dichloride)	DCPA12
1,3 Dichloropropane (Trimethylene dichloride).....	DCPA13
2,2 Dichloropropane (Isopropylidene chloride).....	DCPA22
1,1 Dichloropropene	DCP11
cis 1,3 Dichloropropene.....	DCP13C
trans 1,3 Dichloropropene	DCP13T
Di-isopropyl ether (DIPE)	DIPE
Ethanol.....	ETHANOL
Ethyl tertiary butyl ether.....	ETBE
Ethylbenzene	EBZ
Ethyl methacrylate.....	EMETHACRY
Hexachlorobutadiene	HCBU
2 Hexanone (Methyl butyl ketone).....	HXO2
Isobutyl alcohol	ISOBTOH
Methacrylonitrile	METHACRN
Methyl bromide (Bromomethane).....	BRME
Methyl chloride (Chloromethane)	CLME
Methyl ethyl ketone (MEK; 2 Butanone).....	MEK
Methyl iodide (Iodomethane).....	IME
Methyl tert-butyl ether.....	MTBE
Methyl methacrylate	MMTHACRY
4 Methyl 2 pentanone (Methyl isobutyl ketone)	MIBK
Methylene bromide (Dibromomethane)	DBMA
Methylene chloride (Dichloromethane).....	DCMA
Naphthalene.....	NAPH
Propionitrile (Ethyl cyanide).....	PACN

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**ATTACHMENT C—VOLATILE ORGANIC COMPOUNDS, EXTENDED LIST
(FIVE-YEAR COCS)**

Styrene.....	STY
Tertiary amyl methyl ether.....	TAME
Tertiary butyl alcohol.....	TBA
1,1,1,2 Tetrachloroethane.....	TC1112
1,1,1,2 Tetrachloroethane.....	PCA
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene; PCE).....	PCE
Toluene.....	BZME
1,2,4 Trichlorobenzene.....	TCB124
1,1,1 Trichloroethane (Methylchloroform).....	TCA111
1,1,2 Trichloroethane.....	TCA112
Trichloroethylene (Trichloroethene; TCE).....	TCE
Trichlorofluoromethane (CFC 11).....	FC11
1,2,3 Trichloropropane.....	TCPR123
Vinyl acetate.....	VA
Vinyl chloride (Chloroethene).....	VC
Xylene (total).....	XYLENES

ATTACHMENT D—SEMI-VOLATILE ORGANIC COMPOUNDS (FIVE-YEAR COCS)

**USEPA Methods 8270C or 8270D
(Base, Neutral & Acid Extractables)**

Constituent	GeoTracker Code
Acenaphthene	ACNP
Acenaphthylene	ACNPY
Acetophenone	ACPHN
2 Acetylaminofluorene (2 AAF)	ACAMFL2
Aldrin	ALDRIN
4 Aminobiphenyl.....	AMINOBP4
Anthracene	ANTH
Benzo[a]anthracene (Benanthracene).....	BZAA
Benzo[b]fluoranthene	BZBF
Benzo[k]fluoranthene	BZKF
Benzo[g,h,i]perylene.....	BZGHIP
Benzo[a]pyrene	BZAP
Benzyl alcohol	BZLAL
Bis(2 ethylhexyl) phthalate	BIS2EHP
alpha BHC	BHCALPHA
beta BHC.....	BHCBETA
delta BHC.....	BHCDELTA
gamma BHC (Lindane).....	BHCGAMMA
Bis(2 chloroethoxy) methane.....	BECEM
Bis(2 chloroethyl) ether (Dichloroethyl ether)	BIS2CEE
Bis(2 chloro 1 methylethyl) ether (Bis(2 chloroisopropyl) ether; DCIP)	BIS2CIE
4 Bromophenyl phenyl ether	BPPE4
Butyl benzyl phthalate (Benzyl butyl phthalate).....	BBP
Chlordane.....	CHLORDANE
p Chloroaniline	CLANIL4
Chlorobenzilate	CLBZLATE

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ATTACHMENT D—SEMI-VOLATILE ORGANIC COMPOUNDS (FIVE-YEAR COCS)

p Chloro m cresol (4 Chloro 3 methylphenol)	C4M3PH
2 Chloronaphthalene	CNPH2
2 Chlorophenol	CLPH2
4 Chlorophenyl phenyl ether	CPPE4
Chrysene	CHRYSENE
o Cresol (2 methylphenol)	MEPH2
m Cresol (3 methylphenol)	MEPH3
p Cresol (4 methylphenol)	MEPH4
4,4' DDD	DDD44
4,4' DDE	DDE44
4,4' DDT	DDT44
Diallate	DIALLATE
Dibenz[a,h]anthracene	DBAHA
Dibenzofuran	DBF
Di n butyl phthalate	DNBP
3,3' Dichlorobenzidine	DBZD33
2,4 Dichlorophenol	DCP24
2,6 Dichlorophenol	DCP26
Dieldrin	DIELDRIN
Diethyl phthalate	DEPH
p (Dimethylamino) azobenzene	PDMAABZ
7,12 Dimethylbenz[a]anthracene	DMBZA712
3,3' Dimethylbenzidine	DMBZD33
2,4 Dimethylphenol (m Xylenol)	DMP24
Dimethyl phthalate	DMPH
m Dinitrobenzene	DNB13
4,6 Dinitro o cresol (4,6 Dinitro 2 methylphenol)	DN46M
2,4 Dinitrophenol	DNP24
2,4 Dinitrotoluene	DNT24

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ATTACHMENT D—SEMI-VOLATILE ORGANIC COMPOUNDS (FIVE-YEAR COCS)

2,6 Dinitrotoluene	DNT26
Di n octyl phthalate.....	DNOP
Diphenylamine	DPA
Endosulfan I	ENDOSULFANA
Endosulfan II	ENDOSULFANB
Endosulfan sulfate.....	ENDOSULFANS
Endrin.....	ENDRIN
Endrin aldehyde	ENDRINALD
Ethyl methanesulfonate.....	EMSULFN
Famphur.....	FAMPHUR
Fluoranthene	FLA
Fluorene	FL
Heptachlor	HEPTACHLOR
Heptachlor epoxide	HEPT-EPOX
Hexachlorobenzene	HCLBZ
Hexachlorocyclopentadiene	HCCP
Hexachloroethane	HCLEA
Hexachloropropene	HCPR
Indeno(1,2,3 c,d) pyrene	INP123
Isodrin	ISODRIN
Isophorone	ISOP
Isosafrole.....	ISOSAFR
Kepone.....	KEP
Methapyrilene.....	MTPYRLN
Methoxychlor.....	MTXYCL
3 Methylcholanthrene	MECHLAN3
Methyl methanesulfonate	MMSULFN
2 Methylnaphthalene	MTNPH2
1,4 Naphthoquinone	NAPHQ14

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ATTACHMENT D—SEMI-VOLATILE ORGANIC COMPOUNDS (FIVE-YEAR COCS)

1 Naphthylamine	AMINONAPH1
2 Naphthylamine	AMINONAPH2
o Nitroaniline (2 Nitroaniline)	NO2ANIL2
m Nitroaniline (3 Nitroaniline)	NO2ANIL3
p Nitroaniline (4 Nitroaniline)	NO2ANIL4
Nitrobenzene	NO2BZ
o Nitrophenol (2 Nitrophenol)	NTPH2
p Nitrophenol (4 Nitrophenol)	NTPH4
N Nitrosodi n butylamine (Di n butylNitrosamine)	NNSBU
N Nitrosodiethylamine (Diethylnitrosamine)	NNSE
N Nitrosodimethylamine (Dimethylnitrosamine)	NNSM
N Nitrosodiphenylamine (Diphenylnitrosamine)	NNSPH
N Nitrosodipropylamine (N Nitroso N dipropylamine; Di n propylNitrosamine)	NNSPR
N Nitrosomethylethylamine (Methylethylnitrosamine).....	NNSME
N Nitrosopiperidine.....	NNSPPRD
N Nitrosospyrrolidine	NNSPYRL
5 Nitro o toluidine	TLDNONT5
Pentachlorobenzene	PECLBZ
Pentachloronitrobenzene (PCNB)	PECLNO2BZ
Pentachlorophenol	PCP
Phenacetin	PHNACTN
Phenanthrene.....	PHAN
Phenol	PHENOL
p Phenylenediamine.....	ANLNAM4
Polychlorinated biphenyls (PCBs; Aroclors)	PCBS
Pronamide.....	PRONAMD
Pyrene.....	PYR
Safrole.....	SAFROLE
1,2,4,5 Tetrachlorobenzene	C4BZ1245

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ATTACHMENT D—SEMI-VOLATILE ORGANIC COMPOUNDS (FIVE-YEAR COCS)

2,3,4,6 Tetrachlorophenol	TCP2346
o Toluidine.....	TLDNO
Toxaphene	TOXAP
2,4,5 Trichlorophenol.....	TCP245
0,0,0 Triethyl phosphorothioate	TEPTH
sym Trinitrobenzene.....	TNB135

ATTACHMENT E—CHLOROPHENOXY HERBICIDES (FIVE-YEAR COCS)

USEPA Method 8151A

Constituent	GeoTracker Code
2,4 D (2,4 Dichlorophenoxyacetic acid).....	24D
Dinoseb (DNBP; 2 sec Butyl 4,6 dinitrophenol).....	DINOSEB
Silvex (2,4,5 Trichlorophenoxypropionic acid; 2,4,5 TP)	SILVEX
2,4,5 T (2,4,5 Trichlorophenoxyacetic acid)	245T

ATTACHMENT F—ORGANOPHOSPHOROUS COMPOUNDS (FIVE-YEAR COCS)

USEPA Method 8141B

Constituent	GeoTracker Code
Atrazine	ATRAZINE
Chlorpyrifos	CLPYRIFOS
0,0-Diethyl 0-2-pyrazinyl phosphorothioate (Thionazin)	ZINOPHOS
Diazinon	DIAZ
Dimethoate	DIMETHAT
Disulfoton	DISUL
Methyl parathion (Parathion methyl)	PARAM
Parathion	PARAE
Phorate	PHORATE
Simazine	SIMAZINE