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 (MRP) R5-2025-####

ORDER INFORMATION

Order Type(s):	Monitoring & Reporting Program (MRP)
Status:	TENTATIVE
Program:	Title 27 Discharges to Land
Region 5 Office:	Fresno
Discharger(s):	Merced County Regional Waste Management Authority
Facility:	Highway 59 Solid Waste Landfill
Address:	7040 N. State Highway 59, Merced CA. 95348
County:	Merced County
Parcel Nos.:	052-150-004, 052-070-006, 052-150-006, 052-160-033, and 052-160-035
WDID:	5C240303002
Prior Order(s):	R5-2014-0139 and Revised MRP R5-2014-0139-01, R5-2006-0022

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 2025.

_____

PATRICK PULUPA,
Executive Officer

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GLOSSARY

AMR	Annual Monitoring Report
CalRecycle	California Department of Resources Recycling and Recovery
CAMP	Corrective Action Monitoring Program
CIWQS	California Integrated Water Quality System Project
COCs	Constituents of Concern
DMP	Detection Monitoring Program
EC	Electrical Conductivity
Five-Year COCs	Five-Year Constituents of Concern
GeoTracker	State Water Board's Data Management System for Sites with Potential Groundwater Impact
LCRS	Leachate Collection and Removal System
MDL	Method Detection Limit
MRP	Monitoring and Reporting Program
POC	Point of Compliance for Water Quality Protection Standard
Qualified Professional	Professional Civil Engineer or Geologist licensed by the State of California
RCRA	Resource Conservation and Recovery Act, 42 U.S.C. § 6901 et seq.
RL	Reporting Limit
SCAP	Sample Collection and Analysis Plan
SI	Surface Impoundment
SMR	Semiannual Monitoring Report

GLOSSARY

SPRRs / Standard Provisions .....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

TDS .....Total Dissolved Solids

Title 27 .....California Code of Regulations, Title 27

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

µg/L .....Micrograms per Liter

µmhos/cm.....Microsiemens per Centimeter

ng/L .....Nanograms per Liter

NTUs .....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 Merced County Regional Waste Management Authority (Discharger), which owns and operates the Highway 59 Solid Waste Landfill (Facility) in Merced County. Additional information regarding the Facility is set forth in the enumerated findings of Waste Discharge Requirements Order R5-2025-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) (see Title 27 §§ 21720, 20380-20435), the findings and provisions of this Order are incorporated as part of the WDRs Order.

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, and their agents, employees and successors shall comply with the following Monitoring and Reporting Program (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 and Reporting Requirements (SPRRs)

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), which are incorporated herein. (See, e.g., SPRRs §§ I (*Standard Monitoring Specifications*) and J (*Response to Release*).

2. Monitoring Provisions in WDRs Order

The Discharger shall comply with all “Monitoring Provisions” in the Facility’s operative WDRs Order, which are also incorporated herein.

3. Compliance with Title 27

The Discharger shall comply with all provisions of Title 27 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 *Detection Monitoring Program* (DMP) for groundwater, surface water, and the unsaturated zone in accordance with the provisions of Title 27, particularly sections 20415 and 20420. In addition, cutoff barrier wall piezometer monitoring is required for this facility. Groundwater, unsaturated zone, surface water[1] detection monitoring networks, and cutoff barrier wall piezometer monitoring shall be revised (as needed) with the construction of each new landfill cell or module.

1. Groundwater

a. Required Network

The Facility's groundwater monitoring well network consists of the wells listed in **Table 1**.[2] As of the date of this Order, the network meets the requirements of Title 27. (Title 27, § 20415, subd. (b).)

Table 1—Groundwater Monitoring Network

Well	Program	Status
MW-4C	Background	Operational
MW-8A	Background	Operational
MW-9B	Detection	Operational
MW-10B	Detection	Operational
MW-11B	Detection	Operational

[1] I.e., to the extent that surface water detection monitoring is required under this Order.

[2] Non-background monitoring wells at the Point of Compliance constitute "Monitoring Points" for purposes of the Water Quality Protection Standard (WQPS).

Well	Program	Status
MW-12A	Detection	Operational
MW-19	Detection	Operational
MW-23A	Detection	Operational
MW-30A	Detection	Operational
MW-31A	Detection	Operational
MW-32A	Detection	Operational
MW-15A	Evaluation/Corrective Action	Operational
MW-16B	Evaluation/Corrective Action	Operational
MW-17B	Evaluation/Corrective Action	Operational
MW-18B	Evaluation/Corrective Action	Operational
MW-21A	Evaluation/Corrective Action	Operational
MW-22A	Evaluation/Corrective Action	Operational
MW-20B	Evaluation/Corrective Action	Operational

See Glossary for definitions of terms and abbreviations in table.

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, subds. (e)-(f).)

Table 2—Groundwater Detection Monitoring, Physical Parameters

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

See Glossary for definitions of terms and abbreviations in table.

Table 3—Groundwater Detection Monitoring, Constituent Parameters

Constituent Parameter	GeoTracker Code	Units	Sampling Frequency	Reporting Frequency
TDS	TDS	mg/L	Semiannually	Semiannually
Chloride	CL	mg/L	Semiannually	Semiannually
Carbonate	CACO3	mg/L	Semiannually	Semiannually
Bicarbonate	BICACO3	mg/L	Semiannually	Semiannually
Sulfate	SO4	mg/L	Semiannually	Semiannually
Calcium	CA	mg/L	Semiannually	Semiannually
Magnesium	MG	mg/L	Semiannually	Semiannually
Potassium	K	mg/L	Semiannually	Semiannually
Sodium	NA	mg/L	Semiannually	Semiannually
Short List VOCs (Attachment A)	(various)	µg/L	Semiannually	Semiannually
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	ng/L	Semiannually	Semiannually

See Glossary for definitions of terms and abbreviations in table.

c. Five-Year COCs

The Discharger shall analyze for groundwater samples from each well for the Five-Year Constituents of Concern (Five-Year COCs) listed in **Table 4**. (Title 27, § 20420, subd. (g).)

Table 4—Groundwater Detection Monitoring, Five-Year COCs

Five-Year Constituent	GeoTracker Code	Units	Sampling & Reporting Frequency
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 semiannually per **Section E.1**[3] (Title 27, § 20415, subd. (b)(1).)

Table 5—Groundwater Detection Monitoring, Groundwater Conditions

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

2. Unsaturated Zone

a. Required Network

The Facility's unsaturated zone monitoring network consists of the lysimeter (LYS) and landfill gas (LFG) monitoring points specified in **Table 6**. 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	Program	Monitored Unit	Status
LYS PL-4	Detection	Phase 5	Operational
LYS PL-6A	Detection	Phase 6A	Operational
LYS PL-6B	Detection	Phase 6B	Operational
LYS PL-1	Detection	Surface Impoundment #1	Operational

[3] To the extent feasible, this information shall be determined separately for: (1) the uppermost aquifer; (2) any zones of perched water; and (3) any additional zone of saturation monitored based upon water level elevations taken prior to the collection of the water quality data submitted in the report. (Title 27, § 20415, subd. (e)(15).)

Monitoring Point	Program	Monitored Unit	Status
LFG GW-13 through GW-19	Detection	Phase 1-4	Operational

See Glossary for definitions of terms and abbreviations in table.

b. Soil Pore Gas (SPG) Monitoring

Soil Pore Gas (SPG) shall be monitored for Methane and Method TO-15 VOCs[4] in accordance with **Table 7**, provided that samples may be prescreened to determine if such analyses will be required.[5] (Title 27, § 20420, subds. (e)-(f).)

Table 7—Unsaturated Zone Detection Monitoring (Soil Pore Gas), Constituent Parameters

Constituent Parameter	GeoTracker Code	Units	Sampling Frequency	Reporting Frequency
Method TO-15 VOCs	(various)	µg/cm^3	Semiannually	Semiannually
Methane	CH4	%	Semiannually	Semiannually

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 8** (Physical Parameters) and **Table 9** (Constituent

[4] Volatile Organic Compounds associated with USEPA Method TO-15.

[5] A gas analyzer for methane concentrations or a Photo Ionization Detector (PID) for total VOCs concentrations may be used. If methane concentrations exceed 1 percent by volume OR organic vapors (total VOCs) exceed 1 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.

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 Frequency	Reporting Frequency
Electrical Conductivity	SC	µmhos/cm	Monthly	Semiannually
pH	PH	pH Units	Monthly	Semiannually
Volume of Removed Liquid	(none)	Gallons	Monthly	Semiannually

See Glossary for definitions of terms and abbreviations in table.

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

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

Constituent Parameter	GeoTracker Code	Units	Sampling Frequency	Reporting Frequency
Short List VOCs (Attachment A)	(various)	µg/L	Semiannually	Semiannually
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	ng/L	Semiannually	Semiannually

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**. (Title 27, § 20420, subd. (g).)

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

Five-Year Constituent	GeoTracker Code	Units	Sampling & Reporting Frequency
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

As of the date of this Order, there are no surface water monitoring requirements for this Facility.

4. Cutoff Barrier Wall Piezometer Monitoring

Construction of a cut-off barrier wall was completed in September 2022 to mitigate seepage on the north cut slope of the Phase 6B-2 expansion. Three piezometers (P-1, P-2, and P-3) were installed to monitor for groundwater diversion from the nearby Henderson Lateral Irrigation Canal around the barrier.

All piezometers shall be monitored **weekly** for the first month after installation, **monthly** for the first year after installation and while the canal is in operation, and then **quarterly** readings thereafter. The results of monitoring shall be submitted and discussed in each semiannual monitoring report in accordance with **Section E.1.**

5. Summary of Water Quality Protection Standard (WQPS) Components

The Water Quality Protection Standard (WQPS) is the Title 27 analytical framework through which an individual WMU is monitored for releases and impacts to water quality, i.e., the Detection Monitoring Program (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 a WMU's Point of Compliance are sampled and analyzed for Monitoring Parameters indicative of a release. If concentrations of Constituents of Concern 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 a given WMU. (Id., §§ 20410 subd. (a), 20415, 20425.) If a WMU is in corrective action, the 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 B** (Detection Monitoring Program)—specifically **Table 1** (Groundwater), **Table 6** (Unsaturated Zone).

c. Point of Compliance (POC)

The Point of Compliance (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 below in **Table 1**.

d. Constituents of Concern (COCs)

Constituents of Concern (COCs) are waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in a 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 subds. (e)-(f).) For the purposes of this MRP, the Monitoring Parameters are:

For **Groundwater**, those in **Table 2** and **Table 3**; and

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 each unit at the Facility. (Title 27, §§ 20395, 20420 subd. (g).). 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*) 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 Title 27, section 20415, subdivision (e)(8).[6] (Title 27, § 20400, subds. (a), (b).) Methods for calculating Concentration Limits were proposed in the most recently approved WQPS Report. The approved methods use intrawell tolerance limits.

Concentration Limits shall be proposed and/or updated by the Discharger on an annual basis, in the Annual Monitoring Report (AMR) submitted per **Section E.2** here.

Unless expressly rejected by the Executive Officer in writing, these Concentration Limits shall be incorporated as part of this Order.

If the Discharger fails to submit periodically updated concentration limits as required by this MRP, the existing concentration limits shall remain operative, provided that, where appropriate, the Executive Officer may revert to lower concentrations where warranted based on existing monitoring data.

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[6] 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.

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:

vii. **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

viii. **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)

A dual phase extraction and treatment system was completed in November 2015. The CAP consists of three groundwater extraction wells (RW-1A, RW-3A, and RW-4A), one dual-phase extraction well (RW-2), and three soil gas extraction wells (RW-1G, RW-3, and RW-4). The soil gas extracted from these wells is connected to the existing LFG extraction system terminating at the flare. The extracted groundwater is treated with a granular activated carbon (GAC) treatment system to remove VOCs prior to discharge to either the west or east storm water detention ponds located along the southern property boundary. The system is also equipped with a bypass line that allows for direct discharge of untreated groundwater to one of the lined leachate ponds (SI-1).

The Discharger shall conduct corrective action monitoring to demonstrate the effectiveness of corrective action in accordance with Title 27, section 20430 and this MRP. Groundwater monitoring wells and unsaturated zone monitoring points that are in a corrective action monitoring program shall be monitored in accordance with the groundwater requirements in parts B.1 and B.2 of this MRP. Corrective Action monitoring data analysis shall include the following:

a. Nature and Extent

1) Comparisons with concentration limit to identify any new or previously undetected constituents at a monitoring point.

b. Effectiveness of Corrective Action

1) Preparation of time series plots for representative waste constituents.

2) Trend analysis for each waste constituent.

3) The need for additional corrective action measures and/or monitoring points.

The results of the above analysis, including a narrative discussion, shall be included in each semiannual report and summarized in the Annual Report, as specified under reporting Section E below. The semiannual monitoring reports shall also include a discussion of the progress of corrective action toward returning to compliance with the Water Quality protection Standard, as specified in Section 20430(h) of Title 27.

The Discharger shall monitor the influent and effluent to the groundwater extraction and treatment system on a monthly basis to monitor the total VOC concentrations (Attachment A). The monthly analytical results of influent and effluent shall be submitted in the semiannual monitoring reports. **The rate and volume of extracted groundwater shall be monitored on a monthly basis and be submitted in the semiannual monitoring reports.** Upon determination that the groundwater extraction and treatment system is adequately removing VOCs from groundwater and with approval from Central Valley Water Board staff, the sampling frequency of the influent and effluent may be reduced to quarterly and the results submitted in the semiannual monitoring reports.

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 11**, the total flow and flow rate for leachate in each sump shall be recorded after each inspection and reported semiannually per **Section E.1**.

Table 11—LCRS Sump Monitoring, Monthly Inspection Parameters

Physical Parameter	GeoTracker Code	Units	Sampling Frequency	Reporting Frequency
Total Flow	(none)	Gallons	Monthly	Semiannually
Flow Rate	FLOW	Gallons/Day	Monthly	Semiannually

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 12**.[7] 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 12**.

Table 12—LCRS Sump Monitoring, Parameters for Subsequent Monitoring

Constituent Parameter	GeoTracker Code	Units	Sampling Frequency	Reporting Frequency
Electrical Conductivity	SC	µmhos/cm	Annually	Annually
pH	PH	pH Units	Annually	Annually
TDS	TDS	mg/L	Annually	Annually
Chloride	CL	mg/L	Annually	Annually

[7] The sampling and reporting schedules in **Table 12** are applicable for subsequent monitoring only. When notifying Central Valley Water Board staff of the first detection of leachate, the Discharger shall indicate when laboratory results are expected to be available.

Constituent Parameter	GeoTracker Code	Units	Sampling Frequency	Reporting Frequency
Carbonate	CACO3	mg/L	Annually	Annually
Bicarbonate	BICACO3	mg/L	Annually	Annually
Nitrate (as Nitrogen)	NO3N	mg/L	Annually	Annually
Sulfate	SO4	mg/L	Annually	Annually
Calcium	CA	mg/L	Annually	Annually
Magnesium	MG	mg/L	Annually	Annually
Potassium	K	mg/L	Annually	Annually
Sodium	NA	mg/L	Annually	Annually
Short List VOCs (Attachment A)	(various)	µg/L	Annually	Annually
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	ng/L	Annually	Annually

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 13**.

Table 13—LCRS Sump Monitoring, Five-Year COCs

Parameter	GeoTracker Code	Units	Sampling & Reporting Frequency
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.

2. Leachate Seepage

Upon detection of any leachate seeping to the surface from any landfill WMU, the Discharger shall immediately, u sample and analyze the leachate for the Monitoring Parameters in **Table 14** (Physical Parameters) and **Table 15** (Constituent Parameters). See **Section E.3** for Reporting Requirements.) In the event of a reported leachate seep, Central Valley Water Board staff may direct additional sampling and analysis pursuant to Water Code section 13267, subdivision (b)(1).

Table 14—Leachate Seep Monitoring, Physical Parameters

Physical Parameter	GeoTracker Code	Units	Sampling Frequency	Reporting Frequency
Total Flow	(none)	Gallons	Upon Detection	See MRP, § E.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 15—Leachate Seep Monitoring, Constituent Parameters

Constituent Parameter	GeoTracker Code	Units	Sampling Frequency	Reporting Frequency
TDS	TDS	mg/L	Upon Detection	See MRP, § E.3
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)

Constituent Parameter	GeoTracker Code	Units	Sampling Frequency	Reporting Frequency
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	ng/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 16** (Criteria) and **Table 17** (Schedule). Results of these regular visual inspections shall be included in Semiannual Monitoring Reports per **Section E.1**.

Table 16—Criteria for Regular Visual Inspections

Category	Criteria
Within Unit	• Evidence of ponded water at any point on unit 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.
Unit Perimeter	• Evidence of leachate seep. • Estimated size of affected area (record on map) and flow rate. • Evidence of erosion and/or of day-lighted refuse.
Receiving Waters	• Floating and suspended materials of waste origin—presence or absence, source and size of affected areas. • Discoloration and turbidity—description of color, source and size of affected areas.

Table 17—Regular Visual Inspection Schedule

Category	Wet Season **(1 Oct. to 30 April)**	Dry Season **(1 May to 30 Sept.)**
Active Units	Weekly	Monthly
Inactive or Closed Units	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, and groundwater monitoring wells, as well as preparedness for winter conditions (e.g., erosion and sedimentation control). If repairs are made as 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 (Major Storm Event), the Discharger shall inspect the Facility for damage to any precipitation, diversion and drainage facilities, and all landfill side slopes. 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 Landfills)

Every five years, the Discharger shall conduct an iso-settlement survey of each closed landfill unit 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. For each portion of the landfill, 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 18—Summary of Required Reports

Section	Report	Deadline
§ E.1	Semiannual Monitoring Reports (SMRs)	**31 August** (1 January to 30 June) **28 February** (1 July to 31 December)
§ E.2	Annual Monitoring Reports (AMRs)	**28 February**
§ E.3	Leachate Seep Reporting	Immediately upon Discovery of Seepage (*staff notification*) **Within 7 Days** (*written report*)
§ E.4	Annual Facility Inspection Reports	**15 November**
§ E.5	Major Storm Reporting	**Immediately after Damage Discovery** (*staff notification*) **Within 14 Days of Completing Repairs** (*written report, photos*)
§ E.6	Survey and Iso-Settlement Mapping	**2027**
§ E.7	Financial Assurances Reports	**1 September**
§ E.8	Water Quality Protection Standard Reports	**Proposed Revisions** (excluding Concentration Limits)

1. Semiannual Monitoring Reports (SMRs)

The Discharger shall submit Semiannual Monitoring Reports (SMRs) on 31 August (1 Jan. to 30 June) and 28 February (1 July to 31 Dec.). 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. Map(s)/aerial photograph(s) depicting locations of all observation stations, monitoring points referenced in the report.

c. In tabulated format, all monitoring data required to be reported on a semiannual basis, including Groundwater Conditions and Monitoring Parameters. (See **Section E.9.b** for additional requirements.)

d. For each groundwater monitoring point referenced in the SMR:

   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 electrical conductivity (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.

e. Evaluation of concentrations for all Constituent Parameters and Five-Year COCs (when analyzed), comparison to current Concentration Limits, and results of any Retesting Procedures per **Section B.5.h**.

f. In the event of a verified exceedance of Concentration Limit(s), any actions taken per Section J of the SPRRs (*Response to Release*) for wells and/or constituents not already specifically addressed in Corrective Action Monitoring under this MRP.

g. Evaluation as to effectiveness of existing leachate monitoring and control facilities, and runoff/run-on control facilities.

h. For lined landfill units, a summary of any instances where leachate on the landfill liner system exceeded a depth of 30 cm (excluding the leachate sump), and information about the required notification and corrective action in Section E.13 of the SPRRs (*Standard Facility Specifications*).

i. Summaries of all Regular Visual Inspections conducted per **Section D.3** during the reporting period.

j. For closed landfills, summaries of inspections, leak searches and final cover repairs conducted in accordance with an approved Post-Closure Maintenance Plan per SPRRs G.26-29 (*Standard Closure and Post-Closure Maintenance Specifications*).

k. Laboratory statements of results of all analyses evaluating compliance with the WDRs.

l. For any Corrective Action systems at the Facility, tabulated summaries of:

i. Operating hours;

ii. Monthly runtimes and downtimes; and

iii. Shutdowns, including start/stop dates and causes.

2. Annual Monitoring Reports (AMRs)

On **28 February** of each year,[8] the Discharger shall submit an Annual Monitoring Report (AMR) containing following materials and information:

a. In tabulated format, all monitoring data for which annual reporting is required under this MRP. (See **Section E.9.b** for additional requirements for monitoring reports.)

[8] The Annual Monitoring Report may be combined with the Semiannual Monitoring Report for 1 July through 31 December of the same year, provided that the combination is clearly indicated in the title.

b. 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.[9]

c. 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.

d. All historical monitoring data for which there are detectable results, including data for the previous year, shall be submitted in tabular form in a digital file.

e. 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,

f. 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.

g. For landfill units, a map showing the areas and elevations of each unit where filling was completed during the previous calendar year; comparison to final closure design contours; and projected years in which each discrete module are expected to be filled.

h. A summary of the monitoring results, indicating any changes made or observed since the previous AMR.

i. A discussion on the results of Annual LCRS Testing conducted in accordance with **Section D.1.a**.

j. Annual updates to the Concentration Limits for all Monitoring Parameters and WQPS Monitoring Points, in accordance with **Section B.5.g** of this Order.

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[9] 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.

3. Leachate Seep Reporting

Upon discovery of seepage from any disposal area within the Facility, the Discharger shall immediately notify the Central Valley Water Board 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;

b. Estimated flow rate(s);

c. A description of the nature 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 14** (*Physical Parameters*) and **Table 15** (*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 D.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 Units)

The Discharger shall submit all iso settlement maps prepared in accordance with **Section D.6**. (Title 27, § 21090, subd. (e).) The next maps are due in 2027.

7. Financial Assurances Report

By **1 September** of each year, the Discharger shall submit a copy of the annual financial assurances report due to the California Department of Resources Recycling and Recovery (CalRecycle) that updates the financial assurances for closure, post-closure maintenance, and corrective action. (See WDRs Order.)

8. Water Quality Protection Standard Report

Any proposed changes[10] 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" (see § 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[11] and unsaturated zone monitoring points (including all background/upgradient and Point of Compliance 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 § f) detected in at least 10 percent of the background data (naturally-occurring constituents)

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[10] 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.

[11] To the extent that surface water monitoring is included in the Detection Monitoring Program.

using a statistical procedure described in Title 27 section 20415, subdivisions (e)(8)(A)-(D) or (e)(8)(E); 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 pursuant to this MRP shall be accompanied by a Transmittal Letter providing a brief overview of the enclosed report, as well as the following:

i. Descriptions of any violations found since the last report was submitted, all actions undertaken to correct the violations (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., SMRs and AMRs) shall be submitted electronically via the State Water Board's Geotracker Database (https://geotracker.waterboards.ca.gov). After uploading a report, the Discharger shall notify Central Valley Water Board staff via email at **CentralValleyFresno@WaterBoards.ca.gov**. The following information shall be included in the body of the email:

Attention:	Title 27 Unit
Report Title:	[Title of Report]
GeoTracker Global ID:	L10002455947
Facility Name:	Highway 59 Solid Waste Landfill
County:	Merced County
CIWQS Place ID:	230368

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 the same table, non-detections and sub-RL concentrations 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 pursuant to this MRP (e.g., SMRs [§ E.1], AMRs [§ E.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).

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 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 $5,000 per violation, per day, pursuant to Water Code section 13268. 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 Resources Control 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—VOLATILE ORGANIC COMPOUNDS, SHORT LIST

USEPA Method 8260B, Short List

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 l ,4 Dichloro 2 butene	DCBE14T
Dichlorodifluoromethane (CFC-12)	FC12

ATTACHMENT A—VOLATILE ORGANIC COMPOUNDS, SHORT LIST

Constituent	Geotracker Code
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
Di-isopropylether (DIPE)	DIPE
Ethanol	ETHANOL
Ethyltertiary 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

ATTACHMENT A—VOLATILE ORGANIC COMPOUNDS, SHORT LIST

Constituent	Geotracker Code
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
1,2,3 Trichloropropane	TCPR123
Vinyl acetate	VA
Vinyl chloride	VC
Xylenes	XYLENES

ATTACHMENT B—DISSOLVED INORGANICS (FIVE-YEAR COCS)

Dissolved Inorganics List

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

ATTACHMENT B—DISSOLVED INORGANICS (FIVE-YEAR COCS)

Constituent	Analytical Method	Geotracker Code
Vanadium	USEPA Method 6010	V
Zinc	USEPA Method 6010	ZN

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

USEPA Method 8260,
Extended List

Volatile Organic Compound	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

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

Volatile Organic Compound	Geotracker Code
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, l Dichloroethene; Vinylidene chloride)	DCE11
cis l ,2 Dichloroethylene (cis 1,2 Dichloroethene)	DCE12C
trans l ,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 l ,3 Dichloropropene	DCP13T
Di-isopropylether (DIPE)	DIPE
Ethanol	ETHANOL
Ethyltertiary butyl ether	ETBE
Ethylbenzene	EBZ
Ethyl methacrylate	EMETHACRY

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

Volatile Organic Compound	Geotracker Code
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 t-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
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)	PCE

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

Volatile Organic Compound	Geotracker Code
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 & Acids Extractables List

Constituent	Geotracker Code
Acenaphthene	ACNP
Acenaphthylene	ACNPY
Acetophenone	ACPHN
2 Acetylaminofluorene (2 AAF)	ACAMFL2
Aldrin	ALDRIN
4 Aminobiphenyl	AMINOBPH4
Anthracene	ANTH
Benzo[a]anthracene (Benzanthracene)	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

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

Constituent	Geotracker Code
Bis(2 chloroethoxy) methane	BECEM
Bis(2 chloroethyl) ether (Dichloroethyl ether)	BIS2CEE
Bis(2 chloro 1 methyethyl) 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
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

Constituent	Geotracker Code
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 Dimehtylphenol (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
2,6 Dinitrotoluene	DNT26
Di n octyl phthalate	DNOP
Diphenylamine	DPA
Endosulfan I	ENDOSULFANA
Endosulfan II	ENDOSULFANB

Constituent	Geotracker Code
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

Constituent	Geotracker Code
Methyl methanesulfonate	MMSULFN
2 Methylnaphthalene	MTNPH2
1,4 Naphthoquinone	NAPHQ14
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

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

Constituent	Geotracker Code
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
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)

USPEA Method 8151A List

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 List

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