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**[TENTATIVE] MONITORING & REPORTING PROGRAM (MRP)**  
**R5-2024-####**

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**ORDER INFORMATION**

<b>Order Type(s):</b>	Monitoring & Reporting Program (MRP)
<b>Status:</b>	TENTATIVE
<b>Program:</b>	Title 27 Discharges to Land
<b>Region 5 Office:</b>	Sacramento (Rancho Cordova)
<b>Discharger(s):</b>	County of Lake, Public Services Department
<b>Facility:</b>	Eastlake Sanitary Landfill
<b>Address:</b>	16015 Davis Avenue, Clearlake
<b>County:</b>	Lake County
<b>Parcel Nos.:</b>	041-224-400, 041-234-270, 041-244-180, 010-053-120, 010-053-130, 010-008-030, 010-008-390, 010-008-410
<b>WDID:</b>	5A170300001
<b>Prior Order(s):</b>	R5-2019-0009, R5-2006-0108, R5-2002-0217, 98-159

**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 2024.

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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
C.F.R.....	Code of Federal Regulations
CIWQS .....	California Integrated Water Quality System Project
COCs .....	Constituents of Concern
DMP .....	Detection Monitoring Program
DWR.....	California Department of Water Resources
EC .....	Electrical Conductivity
ELAP .....	State Water Board’s Environmental Laboratory Accreditation Program (formerly administered by California Department of Public Health)
EMP .....	Evaluation Monitoring Program
EW .....	Extraction Well
Five-Year COCs .....	Five-Year Constituents of Concern
GeoTracker .....	State Water Board’s Data Management System for Sites with Potential Groundwater Impact
GP.....	Gas Probe
LCRS.....	Leachate Collection and Removal System
LF .....	Landfill
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
MSW .....	Municipal Solid Waste
MSWLF .....	Municipal Solid Waste Landfill
N/A .....	Not Applicable
PID .....	Photo Ionization 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
RCRA .....	Resource Conservation and Recovery Act, 42 U.S.C. § 6901 et seq.
RL.....	Reporting Limit
ROWD / JTD .....	Report of Waste Discharge / Joint Technical Document
SCAP .....	Sample Collection and Analysis Plan
SPG.....	Soil Pore Gas
SPL .....	Soil Pore Liquids
SI.....	Class II Surface Impoundment
SMR .....	Semiannual Monitoring Report
SPRRs / Standard Provisions .....	Standard Provisions and Reporting Requirements
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**

ft<sup>3</sup> / min .....Cubic Feet per Minute  
°F .....Degrees Fahrenheit  
Gallons/Day.....Gallons per Day  
mg/L .....Milligrams per Liter  
µg/L.....Micrograms per Liter  
µmhos/cm.....Microsiemens per Centimeter  
µg/cm<sup>3</sup> .....Micrograms per Cubic Centimeter  
NTUs .....Nephelometric Turbidity Units  
% Vol.....Percent by Volume  
Inches Hg .....Inches of Mercury (Barometric Pressure)  
MM Hg Vacuum .....Millimeters of Mercury (Barometric Pressure)

## **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 County of Lake, Public Services Department (Discharger), which owns and operates the Eastlake Sanitary Landfill (Facility) in Lake County. Additional information regarding the Facility is set forth in the enumerated findings of Waste Discharge Requirements Order R5-2024-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 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**

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

The Discharger shall comply with all relevant provisions of the *Standard Provisions and Reporting Requirements for Class II Surface Impoundments- Industrial Facilities Regulated by Title 27, April 2016 Edition* (Class II SPRRs or Class II 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 of 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 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.

Groundwater, unsaturated zone and surface water<sup>1</sup> 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 monitoring well network consists of the wells listed in **Table 1**.<sup>2</sup> 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 <sup>1</sup>	Monitored Unit	Zone <sup>2</sup>	Point of Compliance (WQPS)	Status
MW-2	N/A	N/A	N/A	No	Destroyed
MW-3	Background	Area I, II	Shallow	No	Operational

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<sup>1</sup> I.e., to the extent that surface water detection monitoring is required under this Order.

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

<b>Well</b>	<b>Program<sup>1</sup></b>	<b>Monitored Unit</b>	<b>Zone<sup>2</sup></b>	<b>Point of Compliance (WQPS)</b>	<b>Status</b>
MW-4	N/A	N/A	N/A	No	Non-Operational
MW-9a	Background	Area I, II	Shallow	No	Operational
MW-9b	Background	Area I, II	Deep	No	Operational
MW-1	Detection	Area I, II,SI	Shallow	Yes	Operational
MW-5	Detection/Corrective Action	Area I	Shallow	No	Operational
MW-6	Detection	Area I	Shallow	No	Operational
MW-7	N/A	N/A	N/A	No	Destroyed
MW-8	Detection	Area I	Shallow	No	Operational
MW-10	Evaluation	Area I	Shallow	No	Operational
MW-11	Detection	Area I, II	Shallow	No	Operational
MW-12	Detection	Area I, II	Shallow	No	Operational
MW-13	Detection/Corrective Action	Area I, II	Shallow	Yes	Operational
MW-14	Detection/Corrective Action	Area I, II	Shallow	Yes	Operational
MW-15	Detection/Corrective Action	Area I	Shallow	Yes	Operational
MW-16	Detection/Evaluation	Area I	Shallow	Yes	Operational
MW-17	Detection/Corrective Action	Area I	Shallow	Yes	Operational
MW-18	Detection/Evaluation	Area I	Shallow	Yes	Operational
MW-19	Detection/Evaluation	Area I	Shallow	Yes	Operational



<b>Well</b>	<b>Program<sup>1</sup></b>	<b>Monitored Unit</b>	<b>Zone<sup>2</sup></b>	<b>Point of Compliance (WQPS)</b>	<b>Status</b>
MW-20	Detection/Evaluation	Area I, II, SI	Shallow	Yes	Operational
MW-21	Detection/Corrective Action	Area I	Shallow	Yes	Operational
MW-22	Detection	Area I	Shallow	No	Operational
MW-23	Detection	Area I	Shallow	No	Operational
MW-24	Detection	Area I	Deep	No	Operational
MW-25	Detection	Area I	Deep	No	Operational
MW-26	Detection/Evaluation	Area I, II	Shallow	No	Operational
MW-27	Detection/Evaluation	Area I, II	Deep	No	Operational
MW-28	Detection/Evaluation	Area I	Deep	No	Operational
MW-29	Detection	Area I, II	Deep	No	Operational
MW-30	Detection/Evaluation	Area I	Shallow	No	Operational
MW-31	Detection/Evaluation	Area I, II	Shallow	No	Operational
MW-32	Detection/Evaluation	Area I, II	Shallow	No	Operational
MW-33	Detection	Area I	Shallow	No	Operational
MW-34	Detection	Area I, II	Shallow	No	Operational
MW-35	Detection	Area I, II	Shallow	No	Operational

See Glossary for definitions of terms and abbreviations in table.

<sup>1</sup> Evaluation monitoring wells may enter a corrective action monitoring program and require increased monitoring frequency as specified in section C.1 if it is determined that these evaluation monitoring points become corrective action monitoring points to address a known release.

<sup>2</sup> “Zone” means either relative depth of groundwater monitoring well below ground surface and/or indication of groundwater being monitored below the uppermost aquifer which is not hydraulically connected.

**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 Freq.	Reporting Freq.
Temperature	TEMP	°F	Semiannual	Semiannually
Electrical Conductivity	SC	µmhos/cm	Semiannual	Semiannually
pH	PH	pH Units	Semiannual	Semiannually
Turbidity	TURB	NTUs	Semiannual	Semiannually

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	Semiannual	Semiannually
Chloride	CL	mg/L	Semiannual	Semiannually
Carbonate	CACO3	mg/L	Semiannual	Semiannually
Bicarbonate	BICACO3	mg/L	Semiannual	Semiannually
Sulfate	SO4	mg/L	Semiannual	Semiannually
Calcium	CA	mg/L	Semiannual	Semiannually

Constituent Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Magnesium	MG	mg/L	Semiannual	Semiannually
Potassium	K	mg/L	Semiannual	Semiannually
Manganese	MN	mg/L	Semiannual	Semiannually
Nitrate - Nitrogen	NO3N	mg/L	Semiannual	Semiannually
Sodium	NA	mg/L	Semiannual	Semiannually
Short List VOCs (Attachment A)	(various)	µg/L	Semiannual	Semiannually
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	µg/L	Semiannual	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**. 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

Five-Year Constituent	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.

**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.**<sup>3</sup> (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	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 monitoring points specified in **Table 6**. As of the date of this Order,

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<sup>3</sup> 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).)

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
LS-1	Detection	Area II	Operational
LS-2	Detection	Area II	Operational
LS-3	Detection	SI Underdrain	Operational
GP-1R	Detection	Area I	Operational
GP-2RA	Detection	Area I	Operational
GP-3RA	Detection	Area I	Operational
GP-4A	Detection	Area I, II	Operational
GP-5R	Detection	Area I, II	Operational
GP-6R	Detection	Area II, SI	Operational
GP-7	Detection	Area II	Operational
GP-8	Detection	Area II	Operational

See Glossary for definitions of terms and abbreviations in table.

Any underdrains installed under new landfill units shall be sampled and analyzed for the Field and Monitoring Parameters listed in **Table 8** and **Table 9**. The quantity of underdrain liquids removed shall be estimated and reported as Underdrain Flow Rate (in gallons/month). Reporting for underdrain liquids shall be conducted as required in **Section E.1** of this MRP.

**b. Soil Pore Gas (SPG) Monitoring**

Soil Pore Gas (SPG) in the Gas Probes (GP) listed in **Table 6** shall be monitored for Methane and Method TO-15 VOCs<sup>4</sup> in accordance with **Table 7**, provided that samples may be prescreened to determine if such analyses will be required.<sup>5</sup> (Title 27, § 20420, subds. (e)-(f).)

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

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

See Glossary for definitions of terms and abbreviations in table.

**c. Monthly Soil Pore Liquids Inspection**

Monitoring points (LS) listed in **Table 6** shall be inspected monthly for the presence of liquid (Soil Pore Liquid), which shall then be analyzed upon detection for the Monitoring Parameters in **Table 8** (Physical Parameters) and **Table 9** (Constituent Parameters). (Title 27, § 20420, subds. (e)-(f).) If liquid is detected in a previously dry monitoring point, the Discharger shall notify Central Valley Water Board staff within seven days of the detection.

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<sup>4</sup> Volatile Organic Compounds associated with USEPA Method TO-15.

<sup>5</sup> 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.

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

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

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 Freq.	Reporting Freq.
TDS	TDS	mg/L	Upon Detection	Upon Detection
Chloride	CL	mg/L	Upon Detection	Upon Detection
Carbonate	CACO3	mg/L	Upon Detection	Upon Detection
Bicarbonate	BICACO3	mg/L	Upon Detection	Upon Detection
Sulfate	SO4	mg/L	Upon Detection	Upon Detection
Calcium	CA	mg/L	Upon Detection	Upon Detection
Magnesium	MG	mg/L	Upon Detection	Upon Detection

Constituent Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Manganese	MN	mg/L	Upon Detection	Upon Detection
Nitrate - Nitrogen	NO3N	mg/L	Upon Detection	Upon Detection
Potassium	K	mg/L	Upon Detection	Upon Detection
Sodium	NA	mg/L	Upon Detection	Upon Detection
Short List VOCs (Attachment A)	(various)	µg/L	Upon Detection	Upon Detection
Pentachlorophenol	PCP	ug/L	Upon Detection	Upon Detection
Arsenic (dissolved)	AS	ug/L	Upon Detection	Upon Detection
Copper (dissolved)	CU	ug/L	Upon Detection	Upon Detection
Chromium (dissolved)	CR	ug/L	Upon Detection	Upon Detection
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	µg/L	Upon Detection	Upon Detection

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 (Lysimeter),  
 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

Runoff from the Facility is collected in one or more sedimentation basins, which periodically flow to unnamed tributary to Cache Creek which drains to the Yolo Bypass, which may be affected by a release. (See Title 27, § 20415, subd. (c)(1).) Semiannual surface water monitoring is required twice per year when there is water present at the designated surface water monitoring point any time during the reporting period (1 January to 30 June or 1 July to 31 December). Reporting shall include whether there was flow from the facility to waters of the U.S. when the samples were collected.

#### 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	Notes
SWMS-1	Detection	Molesworth Creek	
SWMS-2	Discharge (Downstream)	Unnamed Tributary	
SWMS-3	Discharge (Downstream)	Unnamed Tributary	
SWMS-4	Discharge (Downstream)	Detention Basin	
SWMS-5	Sedimentation Basin	Detention Basin	
SWMS-6	Detection	Molesworth Creek	

See Glossary for definitions of terms and abbreviations in table.

**b. Sample Collection and Analysis**

When surface water is present at monitoring points in **Table 11** at any point during the monitoring period, samples shall be collected from each monitoring point 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	Semiannua 	Semiannually
pH	PH	Std. Units	Semiannua 	Semiannually

Physical Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Turbidity	TURB	NTUs	Semiannua 	Semiannually
Presence of Oil & Grease	(none)	Yes / No	Semiannua 	Semiannually
Flow to Surface Waters at Time of Sampling	(none)	Yes/No	Semiannua 	Semiannually

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	Semiannua 	Semiannually
Chloride	CL	mg/L	Semiannua 	Semiannually
Carbonate	CACO3	mg/L	Semiannua 	Semiannually
Bicarbonate	BICACO3	mg/L	Semiannua 	Semiannually
Nitrate as Nitrogen	NO3N	mg/L	Semiannua 	Semiannually
Sulfate	SO4	mg/L	Semiannua 	Semiannually
Calcium	CA	mg/L	Semiannua 	Semiannually
Magnesium	MG	mg/L	Semiannua 	Semiannually

Constituent Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Manganese	MN	mg/L	Semiannua 	Semiannually
Potassium	K	mg/L	Semiannua 	Semiannually
Sodium	NA	mg/L	Semiannua 	Semiannually
Short List VOCs (Attachment A)	(various)	µg/L	Semiannua 	Semiannually
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	µg/L	Semiannua 	Semiannually

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

Five-Year Constituent	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.

#### 4. 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(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) and **Table 11** (Surface Water).

**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(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(a), 20420(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 each unit at the Facility. (Title 27, §§ 20395, 20420(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.<sup>6</sup> (Title 27, § 20400, subds. (a), (b).) Methods for calculating Concentration Limits were proposed in the 2017 WQPS Report. The limits are calculated using Interwell tolerance limits at 95% confidence and 95% coverage based on pooled background data from background monitoring wells MW-3 and MW-9b.

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. Several notable Concentration Limits, as set forth in the 2022 Annual Report, are set forth below in **Table 15**.<sup>7</sup>

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<sup>6</sup> 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.

<sup>7</sup> The Concentration Limits set forth in **Table 15** is only a partial list of values that are provided for general informational purposes only. These limits shall be superseded once updated values are submitted.

If the Discharger fails to submit periodically updated concentration limits, as provided in 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.

**Table 15—Notable Concentration Limits, 2022 Annual Report (WQPS)**

<b>Constituent</b>	<b>Concentration Limits <sup>a,b</sup></b>
TDS <sup>c</sup>	230
Chloride	9.195 <sup>d</sup>
Sulfate	2.835
NO <sub>3</sub> <sup>e</sup>	1.013 <sup>d</sup>
pH (pH units)	6.0–9.0 <sup>f</sup>
EC <sup>g</sup> (umhos) <sup>h</sup>	380
Turbidity (NTU) <sup>i</sup>	74
Bicarbonate	220
Dissolved Calcium	35.6
Dissolved Magnesium	22.3
Dissolved Manganese	0.010 <sup>j</sup>
Dissolved Potassium	1.949 <sup>d</sup>
Dissolved Sodium	28
Volatile Organic Compounds (VOCs) <sup>k</sup>	Non-Detect (ug/L)

<sup>a</sup> mg/L: milligrams per Liter

<sup>b</sup> Concentration limits are the non-parametric, 95% upper predictive limit of background wells MW-3 and MW-9B calculated through October 2021.

<sup>c</sup> TDS: total dissolved solids

<sup>d</sup> Kaplan Meier method used for data sets with results less than the stated method reporting limit.

<sup>e</sup> NO<sub>3</sub>: nitrate/nitrogen



f Marine Aquatic Life Protection Instantaneous Maximum limit

g EC: electrical conductance

h umhos: micromhos

i NTU: nephelometric turbidity units

j The CCL for manganese is the detection limit due to lack of data points.

k VOCs include semi-volatile organic compounds, chlorophenoxy herbicides, and organophosphorus compounds

Also see Glossary for definitions of terms and abbreviations in table.

#### **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)**

The Discharger shall comply with Cleanup and Abatement Order (CAO) R5-2015- 0713 for corrective action for a release of volatile organic compounds (VOCs) to the unsaturated zone or groundwater due to landfill gas.

To demonstrate the effectiveness of ongoing correction action at the Facility, the Discharger shall perform the following additional monitoring in accordance with of subdivision (d) of Title 27, section 20430.

##### **1. Groundwater Corrective Action**

In addition to parameters in **Table 2** (Field Parameters) and **Table 3** (Monitoring Parameters), corrective action monitoring wells for shall be sampled for additional constituents and/or accelerated monitoring frequency as specified in **Table 16**.

**Table 16—Groundwater Corrective Action Monitoring, Additional Constituent Parameters**

Well	Zone	Additional Constituents	Sampling Freq.
MW-5	Shallow	None	Quarterly
MW-13	Shallow	None	Quarterly
MW-14	Shallow	None	Quarterly
MW-15	Shallow	None	Quarterly
MW-17	Shallow	None	Quarterly
MW-21	Shallow	None	Quarterly

See Glossary for definitions of terms and abbreviations in table.

**2. Unsaturated Zone Corrective Action (Not Applicable)**

In addition to parameters in **Table 8** (Field Parameters) and **Table 9** (Monitoring Parameters), unsaturated zone corrective action monitoring points for shall be sampled for additional constituents as specified in **Table 17**.

**Table 17—Unsaturated Zone Corrective Action Monitoring, Additional Parameters**

Well	Zone	Additional Constituents	Sampling Freq.
None at this time	N/A	N/A	N/A

See Glossary for definitions of terms and abbreviations in table.

**3. Groundwater Extraction Well System (Not Applicable)**

The Facility’s current network of groundwater extraction wells is summarized in **Table 18**. The hours of operation for this system shall be recorded and reported as part of the Semiannual Monitoring Report (SMR).

**Table 18—Groundwater Corrective Action, Extraction Well Network**

Well	Zone	Monitored Units
None at this time	N/A	N/A

See Glossary for definitions of terms and abbreviations in table.

**4. Landfill Gas Corrective Action**

The Discharger shall comply with Cleanup and Abatement Order (CAO) R5- 2015-0713 for corrective action for a release of volatile organic compounds (VOCs) to the unsaturated zone or groundwater due to landfill gas. Landfill gas extraction well samples shall be collected from the LFG extraction network and soil vapor extraction wells used for corrective action in response to the CAO and shall be analyzed for the parameters and constituents listed in **Table 21** and **Table 23** in accordance with the specified methods and frequencies and shall be reported and tabulated in each semiannual report.

The Facility’s landfill gas (LFG) corrective action system currently consists of a landfill gas extraction control system, an landfill gas extraction well field, soil vapor extraction wells, horizontal landfill gas collector trenches and soil gas probes. The Discharger shall log all system shutdowns (including causes and stop/start dates), monthly downtime and monthly runtime. All shutdowns, regardless of the type of restart, shall be recorded. This information shall be reported semiannually per **Section E.1**. Additionally, system performance shall be monitored in accordance with **Table 19**.

**Table 19—Landfill Gas Corrective Action Monitoring, Control System Performance**

Parameter	Units	Sampling Freq.	Reporting Freq.
Control System Runtime	Hours	N/A	Semiannually
Control System Downtime	%	N/A	Semiannually
Temperature into Plant	°F	Daily	Semiannually

Parameter	Units	Sampling Freq.	Reporting Freq.
Flare Combustion Temperature	°F	Daily	Semiannually
System Vacuum	mm Hg vacuum	Daily	Semiannually
Totalized Flow into Plant	ft <sup>3</sup>	Daily	Semiannually
Totalized Flow Rate into Plant	ft <sup>3</sup> / min	Daily	Semiannually
VOCs per USEPA Method TO-15 in Influent	µg / cm	Monthly	Semiannually
Methane in Influent	%	Daily	Semiannually

See Glossary for definitions of terms and abbreviations in table.

**a. Extraction Well Field**

The Facility’s network of LFG extraction wells (GW) and soil vapor extraction wells (SVE), installed to address a release to the unsaturated zone and/or groundwater, is set forth in **Table 20**.

LFG samples shall be collected from the network in **Table 20** and analyzed for the Monitoring Parameters specified in **Table 21**.

**Table 20—Landfill Gas Corrective Action, Extraction Well Network**

Extraction Wells	Extraction Wells
Extraction Wells (GW-xxx) identified as part of response to CAO R5- 2015-0713	Soil Vapor Extraction Wells SVE-1 through SVE-4

**Table 21—Landfill Gas Corrective Action, Extraction Well Network Monitoring Parameters**

Monitoring Parameter	Units	Sampling Freq.	Reporting Freq.
Atmospheric Temperature	°F	Monthly	Semiannually

Monitoring Parameter	Units	Sampling Freq.	Reporting Freq.
Atmospheric Pressure	Inches Hg	Monthly	Semiannually
Methane	% by Vol.	Monthly	Semiannually
Carbon Dioxide	% by Vol.	Monthly	Semiannually
Oxygen	% by Vol.	Monthly	Semiannually
Remainder Gas	% by Vol.	Monthly	Semiannually
Gas Temperature at Each Well	°F	Monthly	Semiannually
Initial Static Pressure in Wellhead	Inches Hg	Monthly	Semiannually
Adjusted Static Pressure in Wellhead	Inches Hg	Monthly	Semiannually

See Glossary for definitions of terms and abbreviations in table.

**b. Probe Network**

The Facility’s network of LFG probes, installed to address a release to the unsaturated zone and/or groundwater, is set forth in **Table 22**. These probes shall be monitored in accordance with the Monitoring Parameters in **Table 23**.

**Table 22—Landfill Gas Corrective Action, Probe Network**

LFG Probe	Zone	Modules Addressed
GP-3RA	Shallow, Intermediate	Area I
GP-4A	Shallow	Area I, II
GP-5R	Shallow	Area I, II
GP-6R	Shallow	Area II, SI

**Table 23—Landfill Gas Corrective Action, Probe Network  
 Monitoring Parameters**

Parameter	Units	Sampling Freq.	Reporting Freq.
Atmospheric Temperature	°F	Quarterly	Semiannually
Atmospheric Pressure	inches Hg	Quarterly	Semiannually
Methane	% by volume	Quarterly	Semiannually
Carbon Dioxide	% by volume	Quarterly	Semiannually
Oxygen	% by volume	Quarterly	Semiannually
Remainder Gas	% by volume	Quarterly	Semiannually
Probe Pressure / Vacuum	inches H <sub>2</sub> O	Quarterly	Semiannually
Volatile Organic Compounds per USEPA Method TO-15 <sup>8</sup>	ug/m <sup>3</sup>	Quarterly	Semiannually

See Glossary for definitions of terms and abbreviations in table.

**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. The current LCRS sump monitoring points are shown in **Table 24**:

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<sup>8</sup> 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.

**Table 24—LCRS Monitoring Points**

<b>LCRS Monitoring Point</b>	<b>Modules Addressed</b>
LCRS-1	Area II Module 1
LCRS-2	Area II Module 2
LCRS-3	Class II Surface Impoundment Leak Detection System

**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 listed in **Table 24** shall be inspected monthly for the presence of leachate. As provided in **Table 25**, 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 25—LCRS Sump Monitoring, Monthly Inspection Parameters**

<b>Physical Parameter</b>	<b>GeoTracker Code</b>	<b>Units</b>	<b>Sampling Freq.</b>	<b>Reporting Freq.</b>
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 26.**<sup>9</sup> 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 26**.

**Table 26—LCRS Sump Monitoring, Parameters for Subsequent Monitoring**

Constituent Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
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
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
Manganese	MN	mg/L	Annually	Annually
Nitrate - Nitrogen	NO3N	mg/L	Annually	Annually
Potassium	K	mg/L	Annually	Annually

<sup>9</sup> The sampling and reporting schedules in **Table 26** 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 Freq.	Reporting Freq.
Sodium	NA	mg/L	Annually	Annually
Pentachlorophenol	PCP	ug/L	Annually	Annually
Arsenic (dissolved)	AS	ug/L	Annually	Annually
Copper (dissolved)	CU	ug/L	Annually	Annually
Chromium (dissolved)	CR	ug/L	Annually	Annually
Short List VOCs (Attachment A)	(various)	µg/L	Annually	Annually
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	µg/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 27**. Five-Year COCs were last monitored in 2019, and shall be analyzed again in 2024.

**Table 27—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 from any landfill WMU shall, immediately upon detection, be sampled and analyzed for the Monitoring Parameters in **Table 28** (Physical Parameters) and **Table 29** (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 28—Leachate Seep Monitoring, Physical Parameters**

Physical Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
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 29—Leachate Seep Monitoring, Constituent Parameters**

Constituent Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
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)
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	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 30** (Criteria) and **Table 31** (Schedule). Results of these regular visual inspections shall be included in Semiannual Monitoring Reports per **Section E.1**.

**Table 30—Criteria for Regular Visual Inspections**

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

**Table 31—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; and 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.

**7. Class II Surface Impoundment Monitoring**

**a. Surface Impoundment Water Quality**

The liquid contents of the surface impoundment shall be sampled annually and analyzed for the Field and Monitoring Parameters listed in **Table 25** and **Table 26**.

**b. Leachate Discharge to WWTP**

The quantity of liquid removed shall be estimated and reported as SI Discharge Flow Rate (in gallons/month) to the sanitary sewer or other means of disposal. Reporting for the surface impoundment contents and liquids disposal shall be conducted as required in **Section E.2** of this MRP, below.

**c. Action Leakage Rate**

The quantity of liquid removed from the LCRS in Section D.1 from the surface impoundment leak detection system shall be recorded on a monthly basis and compared to the action leakage rate for the surface impoundment specified in the Discharger's WDRs to determine whether the primary liner needs to be repaired or replaced.

**d. Freeboard Monitoring**

The Discharger shall immediately notify Central Valley Water Board staff by telephone and email and immediately take measures to regain surface impoundment capacity in the event that freeboard levels are equal to or less than 2.0 feet.

**E. Reporting Requirements**

The Discharger shall submit the following reports in accordance with the required schedule:

**Table 32—Summary of Required Reports**

Section	Report	Deadline
§ E.1	Semiannual Monitoring Reports (SMRs)	<b>1 August</b> (1 January to 30 June) <b>1 February</b> (1 July to 31 December)
§ E.2	Annual Monitoring Reports (AMRs)	1 February
§ E.3	Leachate Seep Reporting	Immediately upon Discovery of Seepage ( <i>staff notification</i> ) <b>Within 7 Days</b> ( <i>written report</i> )
§ E.4	Annual Facility Inspection Reports	15 November
§ E.5	Major Storm Reporting	Immediately after Damage Discovery ( <i>staff notification</i> ) Within 14 Days of Completing Repairs ( <i>written report, photos</i> )
§ E.6	Survey and Iso-Settlement Mapping	<b>Every Five Years</b> following partial or final closure of any WMU

Section	Report	Deadline
§ E.7	Financial Assurances Reports	1 June
§ E.8	Water Quality Protection Standard Reports	<b>Proposed Revisions</b> (excluding Concentration Limits)

**1. Semiannual Monitoring Reports (SMRs)**

The Discharger shall submit Semiannual Monitoring Reports (SMRs) on 1 August (1 Jan. to 30 June) and 1 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 the well bore if purging is required and the elevation of pump intake level relative to screening interval where the groundwater sample was taken;
  - iii. The purging methods used to stabilize water in the well bore if stabilization is required 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 any 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.4.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, 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 D3** 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 Standard Provisions G.26-29 (*Standard Closure and Post-Closure Maintenance Specifications*).
  - k. Laboratory statements of results of all analyses evaluating compliance with the WDRs.
  - l. Summary of underdrain monitoring as required in Section B.2.a.
  - m. For any Corrective Action systems at the Facility used to comply with **Section C**, summaries of:
    - i. The performance of groundwater corrective action measures taken;



- ii. The performance of landfill gas corrective action measures taken; and
- iii. Any additional corrective action measures needed to comply with the WDRs and/or CAO R5- 2015-0713.

## 2. Annual Monitoring Reports (AMRs)

On 1 February of each year,<sup>10</sup> 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.)
- 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.<sup>11</sup>
- 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 years, 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,

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<sup>10</sup> 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.

<sup>11</sup> 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.

- 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. When required per **Section B.4.g** of this Order, periodic updates to the Concentration Limits for all Monitoring Parameters and WQPS Monitoring Points.
- k. A summary of the surface impoundments monitoring results conducted per Section D.7.
- l. The results of the annual testing of leachate collection and removal systems required under Standard Facility Specification E.14 of the Landfill SPRRs and E.8 of the Class II SPRRs.
- m. To assess the progress of ongoing Corrective Action at the Facility, the following:
  - i. The estimated quarterly groundwater flow rate and direction in the uppermost aquifer, in any zones of perched water, and in 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, section 20415(e)(15)]. The Discharger shall provide a map showing the potentiometric surface showing groundwater elevation relative to the bottom of waste e.g., waste in the bottom of the partial LCRS for Area I and bottom of LCRS in Area II and make a determination whether the Discharger has maintained adequate separation between the waste and the uppermost aquifer and in any zones of perched water and in any additional portions of the zone of saturation monitored including the capillary fringe. The Discharger shall present monitoring results using **Table 33** below:

**Table 33—Groundwater Separation Determination**

WMU Area Groundwater Separation Monitoring Point	Monitoring Point Location (Latitude)	Monitoring Point Location (Longitude)	Base of waste elevation <sup>1</sup> (NAVD 88)	Calculated groundwater elevation <sup>2</sup> (NAVD 88)	Calculated Separation between waste and groundwater <sup>3</sup> (Ft)	Compliance with adequate groundwater separation requirements (Y/N)
Area I (A1-1)	38.95319536	-122.601007				
Area I (A1-2)	38.9528159	-122.6013832				
Area I (A1-3)	38.9525063	-122.6017308				
Area I (A1-4)	38.95220113	-122.6021582				
Area I (A1-5)	38.95151867	-122.6025539				
Area II (A2-1)	38.9538328	-122.6018007				
Area II (A2-2)	38.95436643	-122.601043				
Area II (A2-3)	38.95494683	-122.5997294				
Area II (A2-4)	38.95312253	-122.6027012				
Area II (A2-5)	38.95226801	-122.6032179				

<sup>1</sup> Base of waste elevation is the elevation at the base of the partial LCRS which exists in Area I (LCRS pipes) and LCRS which exists in Area II (bottom of LCRS gravel). The Discharger shall also provide the tolerance interval on the accuracy of the estimated base of waste elevation.

<sup>2</sup> Calculated groundwater elevation is calculated from interpolating between groundwater elevation contours mapped by the Discharger also considering any capillary fringe or other means at the point of interest (specified latitude and longitude). The Discharger shall also provide the tolerance interval on the accuracy of the calculated groundwater elevation.

<sup>3</sup> The Discharger shall provide an estimation of the accuracy of calculated groundwater separation.

- ii. A summary of compliance with Cleanup and Abatement Order (CAO) R5- 2015-0713 for corrective action for a release of volatile organic compounds (VOCs) to the unsaturated zone or groundwater due to landfill gas.

- iii. A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the Discharger's WDRs and CAO R5- 2015-0713.

### 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 28**(*Physical Parameters*) and **Table 29** (*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).) following completion of partial and/or final closure of any WMU.

**7. Financial Assurances Report**

By 1 June 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<sup>12</sup> to the Water Quality Protection Standard (WQPS) components (§ B.4), other than periodic update of the Concentration Limits (§ B.4.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<sup>13</sup> 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);

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<sup>12</sup> 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.

<sup>13</sup> To the extent that surface water monitoring is included in the Detection Monitoring Program.

- 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) 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(e)(8)(E), 20420(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., SMRs and AMRs) shall be submitted electronically via the State Water Board's [Geotracker Database](https://geotracker.waterboards.ca.gov) (<https://geotracker.waterboards.ca.gov>).

The Discharger shall enter all monitoring data in electronic data format (EDF) and reports into the online Geotracker database as required by Division 3 of Title 27 and Chapter 30, Division 3 of Title 23.

After uploading a report, the Discharger shall notify Central Valley Water Board staff via email at CentralValleySacramento@WaterBoards.ca.gov. The following information shall be included in the body of the email:

Attention:	Title 27 Compliance & Enforcement Unit
Report Title:	[Title of Report]
GeoTracker Upload ID:	L10009540332
Facility Name:	Eastlake Sanitary Landfill
County:	Lake County
CIWQS Place ID:	CW-222082

**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**

Concentrations below the reporting limit shall not be reported as non-detect "ND" unless the concentration is below the method detection limit (MDL) and the method detection limit is also given in the table. Laboratory results indicating trace values of COCs between the MDL and PQL (Reporting Limit or RL) shall be reported as estimated values (flagged and estimated value reported). Laboratory results of COCs at or above the PQL shall be reported and indicated clearly as exceeding the PQL relative to laboratory results reported below the PQL. Laboratory results shall clearly distinguish on time series graphs data that is reported as non-detect versus data that was reported at or above MDL (trace) levels. Units shall be as required in Tables 2 through 28 unless specific justification is given to report in other units. Refer to the SPRRs Section I "Standard Monitoring Specifications" for requirements regarding MDLs and PQLs.

**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 Landfill and Class II 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., 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. Any calculations of the 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 \$1,000 per violation, per day, depending on the violation, 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 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](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**

<b>Constituent</b>	<b>Geotracker Code</b>
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

<b>Constituent</b>	<b>Geotracker Code</b>
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
Hexachloroethane	HCLEA
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

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

**ATTACHMENT B—DISSOLVED INORGANICS (FIVE-YEAR COCS)**

**Dissolved Inorganics List**

<b>Constituent</b>	<b>Analytical Method</b>	<b>Geotracker Code</b>
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 9030B	S
Thallium	USEPA Method 7841	TL
Tin	USEPA Method 6010	SN

<b>Constituent</b>	<b>Analytical Method</b>	<b>Geotracker Code</b>
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**

<b>Volatile Organic Compound</b>	<b>Geotracker Code</b>
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

<b>Volatile Organic Compound</b>	<b>Geotracker Code</b>
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, I 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-isopropylether (DIPE)	DIPE
Ethanol	ETHANOL
Ethyltertiary butyl ether	ETBE
Ethylbenzene	EBZ
Ethyl methacrylate	EMETHACRY



<b>Volatile Organic Compound</b>	<b>Geotracker Code</b>
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

<b>Volatile Organic Compound</b>	<b>Geotracker Code</b>
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**

<b>Constituent</b>	<b>Geotracker Code</b>
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

<b>Constituent</b>	<b>Geotracker Code</b>
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

<b>Constituent</b>	<b>Geotracker Code</b>
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

<b>Constituent</b>	<b>Geotracker Code</b>
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

<b>Constituent</b>	<b>Geotracker Code</b>
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 Nitrosopyrrolidine	NNSPYRL
5 Nitro o toluidine	TLDNONT5
Pentachlorobenzene	PECLBZ

<b>Constituent</b>	<b>Geotracker Code</b>
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

<b>Constituent</b>	<b>GeoTracker Code</b>
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**

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