CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION


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


# MONITORING & REPORTING PROGRAM (MRP)
# R5-2024-0033

## ORDER INFORMATION

| | |
|---|---|
| **Order Type(s):** | Monitoring & Reporting Program (MRP) |
| **Status:** | Adopted |
| **Program:** | Title 27 Discharges to Land |
| **Region 5 Office:** | Sacramento (Rancho Cordova) |
| **Discharger(s):** | County of Lake, Public Services Department |
| **Facility:** | Eastlake Sanitary Landfill |
| **Address:** | 16015 Davis Avenue, Clearlake |
| **County:** | Lake County |
| **Parcel Nos.:** | 041-224-400, 041-234-270, 041-244-180, 010-053-120, 010-053-130, 010-008-030, 010-008-390, 010-008-410 |
| **WDID:** | 5A170300001 |
| **Prior Order(s):** | 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 21 June 2024.

Date: 2024.07.05 14:10:10 -07'00'

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

**GLOSSARY**

| | |
|---|---|
| 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 |

**GLOSSARY**

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**

$ft^3$ / 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

$\mu g/cm^3$ .....Micrograms per Cubic Centimeter

NTUs .....Nephelometric Turbidity Units

% Vol.....Percent by Volume

Inches WC.....Inches of Water Column (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 R5-2024-0033 (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[1] 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**.[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[1] | Monitored Unit | Zone[2] | Point of Compliance (WQPS) | Status |
|---|---|---|---|---|---|
| MW-2 | N/A | N/A | N/A | No | Destroyed |
| MW-3 | Background | Area I, II | Shallow | No | 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[1] | Monitored Unit | Zone[2] | Point of Compliance (WQPS) | Status |
|---|---|---|---|---|---|
| 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 |

| Well | Program[1] | Monitored Unit | Zone[2] | Point of Compliance (WQPS) | Status |
|---|---|---|---|---|---|
| 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.

[1] 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.

[2] "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**.[3] (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,

[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).)

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[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 Freq. | Reporting Freq. |
|---|---|---|---|---|
| Method TO-15 VOCs | (various) | µg/cm$^3$ | 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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[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.

**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

Currently non-contact stormwater runoff from the Facility is collected in one or more sedimentation basins, which periodically flow to either Molesworth Creek, a tributary which drains to Clear Lake or to an 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 | Background (Upstream) | 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 | Semiannual | Semiannually |
| pH | PH | Std. Units | Semiannual | Semiannually |

| Physical Parameter | GeoTracker Code | Units | Sampling Freq. | Reporting Freq. |
|---|---|---|---|---|
| Turbidity | TURB | NTUs | Semiannual | Semiannually |
| Presence of Oil & Grease | (none) | Yes / No | Semiannual | Semiannually |
| Flow to Surface Waters at Time of Sampling | (none) | Yes/No | Semiannual | 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 | Semiannual | Semiannually |
| Chloride | CL | mg/L | Semiannual | Semiannually |
| Carbonate | CACO3 | mg/L | Semiannual | Semiannually |
| Bicarbonate | BICACO3 | mg/L | Semiannual | Semiannually |
| Nitrate as Nitrogen | NO3N | mg/L | Semiannual | Semiannually |
| Sulfate | SO4 | mg/L | Semiannual | Semiannually |
| Calcium | CA | mg/L | Semiannual | Semiannually |
| Magnesium | MG | mg/L | Semiannual | Semiannually |

| Constituent Parameter | GeoTracker Code | Units | Sampling Freq. | Reporting Freq. |
|---|---|---|---|---|
| Manganese | MN | mg/L | Semiannual | Semiannually |
| Potassium | K | 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 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.[6] (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**.[7]

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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.

[7] 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)**

| Constituent | Concentration Limits [a,b] |
|---|---|
| TDS[c] | 230 |
| Chloride | 9.195[d] |
| Sulfate | 2.835 |
| NO3[e] | 1.013[d] |
| pH (pH units) | 6.0–9.0[f] |
| EC[g] (umhos)[h] | 380 |
| Turbidity (NTU)i | 74 |
| Bicarbonate | 220 |
| Dissolved Calcium | 35.6 |
| Dissolved Magnesium | 22.3 |
| Dissolved Manganese | 0.010[j] |
| Dissolved Potassium | 1.949[d] |
| Dissolved Sodium | 28 |
| Volatile Organic Compounds (VOCs)[k] | Non-Detect (ug/L) |

[a] mg/L: milligrams per Liter

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

[c] TDS: total dissolved solids

[d] Kaplan Meier method used for data sets with results less than the stated method reporting limit.

[e] $NO_3$: 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 Flare Station | °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 Flare Station | $ft^3$ | Daily | Semiannually |
| Totalized Flow Rate into Flare Station | $ft^3$ / 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 WC | Monthly | Semiannually |
| Adjusted Static Pressure in Wellhead | Inches WC | 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 | $^0F$ | 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 $H_20$ | Quarterly | Semiannually |
| Volatile Organic Compounds per USEPA Method TO-15[8] | $ug/m3$ | 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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[8] 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**

| LCRS Monitoring Point | Modules Addressed |
|---|---|
| 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**

| Physical Parameter | GeoTracker Code | Units | Sampling Freq. | Reporting Freq. |
|---|---|---|---|---|
| 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**.[9] 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 |

[9] 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 | • 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).<br>• Evidence of erosion and/or of day-lighted refuse. |
| Unit Perimeter | • Evidence of leachate seep.<br>• Estimated size of affected area (record on map) and flow rate.<br>• 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.<br>• Discoloration and turbidity—description of color, source and size of affected areas. |

**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) | **1 August**<br>(1 January to 30 June)<br>**1 February**<br>(1 July to 31 December) |
| § E.2 | Annual Monitoring Reports (AMRs) | 1 February |
| § E.3 | Leachate Seep Reporting | Immediately upon Discovery of Seepage<br>(*staff notification*)<br>**Within 7 Days**<br>(*written report*) |
| § E.4 | Annual Facility Inspection Reports | 15 November |
| § E.5 | Major Storm Reporting | Immediately after Damage Discovery<br>(*staff notification*)<br>Within 14 Days of Completing Repairs<br>(*written report, photos*) |
| § E.6 | Survey and Iso-Settlement Mapping | **Every Five Years** 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 | **Proposed Revisions** (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,[10] 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.[11]

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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[10] 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.

[11] 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[1] (NAVD 88) | Calculated groundwater elevation[2] (NAVD 88) | Calculated Separation between waste and groundwater [3] (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 | | | | |

[1] 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.

[2] 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.

[3] 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[12] 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[13] 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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[12] 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.

[13] 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).

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). 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 |
| 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 |

**ATTACHMENT A—VOLATILE ORGANIC COMPOUNDS, SHORT LIST**

| Constituent | Geotracker Code |
|---|---|
| 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

| 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 9030B | 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 |

| 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 |

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

| 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 |

| 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 |
| Ethion | ETHION |
| Methyl parathion (Parathion methyl) | PARAM |
| Parathion | PARAE |
| Phorate | PHORATE |
| Simazine | SIMAZINE |