# CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD CENTRAL VALLEY REGION

Fresno Office 1685 "E" Street Fresno, CA 93706-2007 Sacramento Office (Main) 11020 Sun Center Drive #200 Rancho Cordova, CA 95670-6114 Redding Office 364 Knollcrest Drive #205 Redding, CA 96002

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

# **MONITORING & REPORTING PROGRAM R5-2022-0030**



#### ORDER INFORMATION

Order Type(s): Monitoring & Reporting Program (MRP)

Status: Adopted

**Program:** Title 27 Discharges to Land

Region 5 Office: Redding

**Discharger(s):** Siskiyou County Department of General Services **Facility:** McCloud Class III Municipal Solid Waste Landfill

Address: Timber County Ranch Road

**County:** Siskiyou County

**Parcel Nos.:** 049-062-360, 049-062-380, 049-071-080

**WDID:** 5A470302001

Prior Order(s): WDRs Order R5-2003-0082

#### 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 April 2022.

PATRICK PULUPA,
Executive Officer

#### **REGIONAL BOARD INFORMATION**

# Sacramento Office (Main)

Rancho Cordova, CA 95670-6114 11020 Sun Center Drive #200 Telephone: (916) 464-3291

#### Fresno Office

1685 "E" Street Fresno, CA 93706-2007 Telephone: (559) 445-5116

# **Redding Office**

364 Knollcrest Drive #205 Redding, CA 96002 Telephone: (530) 224-4845

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

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# MONITORING AND REPORTING PROGRAM R5-2022-0030 SISKIYOU COUNTY DEPARTMENT OF GENERAL SERVICES MCCLOUD CLASS III MUNICIPAL SOLID WASTE LANDFILL SISKIYOU COUNTY

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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

MONITORING & REPORTING PROGRAM R5-2022-0030 SISKIYOU COUNTY DEPARTMENT OF GENERAL SERVICES MCCLOUD CLASS III MUNICIPAL SOLID WASTE LANDFILL SISKIYOU COUNTY

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
SGP	Soil Pore Gas
\$I	Surface Impoundment
SMR	Semiannual Monitoring Report
SPRRs / Standard Provisions .	Standard Provisions and Reporting Requirements for Nonhazardous Solid Waste Discharges Regulated by Subtitle D and/or Title 27 Municipal Solid Waste Facilities, December 2015 Edition
TDS	Total Dissolved Solids

**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 <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 Siskiyou County Department of General Services (Discharger), which owns and operates the McCloud Class III Municipal Solid Waste Landfill (Facility) in Siskiyou County. Additional information regarding the Facility is set forth in the enumerated findings of Waste Discharge Requirements Order R5-2022-0030 (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 another revised MRP is issued by the Central Valley Water Board or its Executive Officer.

#### A. General Provisions

#### 1. Incorporation of Standard Provisions

The Discharger shall comply with all relevant provisions of the *Standard Provisions and Reporting Requirements for Nonhazardous Solid Waste Discharges Regulated by Subtitle D and/or Title 27 Municipal Solid Waste Facilities, December 2015 Edition* (SPRRs or Standard Provisions), which are incorporated herein. See, e.g., SPRRs section I (*Standard Monitoring Specifications*) and section J (*Response to Release*).

#### 2. Monitoring Provisions in WDRs Order

The Discharger shall comply with all "Monitoring Provisions" in the Facility's operative Title 27 WDRs Order, which are also incorporated herein.

#### 3. Compliance with Title 27

The Discharger shall comply with all 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 in accordance with the provisions of Title 27, particularly sections 20415 and 20420.

#### 1. Groundwater

#### a. Required Network

The Facility's groundwater monitoring well network consists of the wells listed in **Table 1**.<sup>1</sup> As of the date of this Order, the network does not meet the requirements of Title 27. (Title 27, § 20415, subd. (b).) The northeastern (downgradient) portion of the WMU is not adequately monitored. The WDRs Order R5-2022-0030 requires the submittal of a Monitoring Network Augmentation Work Plan as part of the Time Schedule presented in Requirements I and Table 11.

**Table 1—Groundwater Monitoring Network** 

Well	Program	Monitored Unit	Point of Compliance (WQPS)	Zone	Status
OB-1	Detection	Background	No	Deep	Operational
OB-2	Detection	WMU-Cross Gradient	No	Deep	Operational
OB-3	Detection	WMU	Yes	Deep	Operational

See Glossary for definitions of terms and abbreviations in table.

#### b. Sample Collection and Analysis

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

<sup>&</sup>lt;sup>1</sup> Non-background monitoring wells at the Point of Compliance constitute "Monitoring Points" for purposes of the Water Quality Protection Standard (WQPS).

**Table 2—Groundwater Detection Monitoring, Physical Parameters** 

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

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	Semiannual
Chloride	CL	mg/L	Semiannual	Semiannual
Carbonate	CACO3	mg/L	Semiannual	Semiannual
Bicarbonate	BICACO3	mg/L	Semiannual	Semiannual
Sulfate	SO4	mg/L	Semiannual	Semiannual
Calcium	CA	mg/L	Semiannual	Semiannual
Magnesium	MG	mg/L	Semiannual	Semiannual
Potassium	K	mg/L	Semiannual	Semiannual
Sodium	NA	mg/L	Semiannual	Semiannual
Short List VOCs (Attachment A)	(various)	μg/L	Semiannual	Semiannual

Constituent Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	μg/L	Semiannual for two initial sampling events. If undetected, switch to five- year sampling.	Semiannual for two initial sampling events. If undetected, switch to five- year sampling.

See Glossary for definitions of terms and abbreviations in table.

#### c. Five-Year COCs

The Discharger shall analyze 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 2021, and shall be analyzed again in 2026. (Title 27, § 20420, subd. (g).)

**Table 4—Groundwater Detection Monitoring, Five-Year COCs** 

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

See Glossary for definitions of terms and abbreviations in table.

#### d. Groundwater Conditions

The Discharger shall monitor the Groundwater Conditions specified in **Table 5** semiannually, with the result of such monitoring being reported semiannually per **Section 0**.<sup>2</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	Semiannually	Semiannually
Gradient	(none)	Semiannually	Semiannually
Flow Rate	(none)	Semiannually	Semiannually

#### 2. Unsaturated Zone

#### a. Required Network

The Facility's unsaturated zone monitoring network consists of a single landfill gas (LFG) vent which may serve as the monitoring point specified in **Table 6**. The Facility's landfill WMU was fully permitted and operating as of 1 July 1991. There are no dedicated unsaturated zone monitoring points at the Facility. Additionally, installation of unsaturated zone monitoring devices would require unreasonable dismantling or relocating of permanent structures at the Facility.

<sup>&</sup>lt;sup>2</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).)

**Table 6—Unsaturated Zone Monitoring Network** 

Monitoring Point	Program	Monitored Unit	Status
Passive Gas Vent	Detection	WMU	Not currently sampled

See Glossary for definitions of terms and abbreviations in table.

#### b. Landfill Gas (LFG) Monitoring

LFG shall be monitored for Methane and Method TO-15 VOCs<sup>3</sup> in accordance with **Table 7** provided that samples may be prescreened to determine if such analyses will be required.<sup>4</sup> (Title 27, § 20420, subds. (e)-(f).) The Facility has no perimeter landfill gas detection network. This WDRs Order requires the submittal of a Landfill Gas Evaluation Work Plan as part of the Time Schedule presented in the WDRs in Requirements I,Table 9.

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

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

See Glossary for definitions of terms and abbreviations in table.

<sup>4</sup> A gas analyzer for methane concentrations or a Photo Ionization Detector (PID) for total VOCs concentrations may be used. Soil vapor samples from each gas monitoring well probe interval shall be taken after installation and analyzed for VOCs using Method TO-15. Subsequently, the gas probe showing the highest concentrations of VOCs shall be sampled and tested using Method TO-15 annually. If methane is detected above 1% by volume in any gas monitoring probe intervals during quarterly gas monitoring, this probe interval shall be sampled for TO-15 constituents on an annual basis or until methane falls below 1% for four consecutive quarters, at which time TO-15 sampling may be discontinued.

 $<sup>^{3}</sup>$  Volatile Organic Compounds associated with USEPA Method TO-15.

# 3. 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 the 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 the 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 0** (*Detection Monitoring Program*)—specifically **Table 1** (*Groundwater*) and **Table 6** (*Unsaturated Zone*).

#### c. Point of Compliance (POC)

The Point of Compliance (POC) is a vertical plane at the WMU's hydraulically downgradient limit, extending through the uppermost underlying aquifer. (Title 27, §§ 10164, 20405(a).) The Facility's POC monitoring wells are listed 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 **Groundwater**, those in Table 2 and Table 3; and
- ii. For the **Unsaturated Zone**, those in Table 7.

#### 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 2021 Annual Monitoring Report and are due again in 2026. For the purposes of this MRP, the Five-Year COCs are listed in:

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

#### g. 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>5</sup> (Title 27, § 20400, subds. (a), (b).) Methods for calculating Concentration Limits were proposed in the 12 May 2021 WQPS Report. The approved methods use parametric or non-parametric intrawell tolerance

<sup>&</sup>lt;sup>5</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.

limits, at a 95 percent confidence interval and 95 percent coverage interval, to establish concentration limits for each parameter.

Concentration Limits shall be proposed and/or updated by the Discharger on an annual basis, in the Annual Monitoring Report (AMR) submitted per **Section 0** here.

#### 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:

- 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. Additional Facility Monitoring

#### 1. Leachate Seepage

Leachate that seeps to the surface from the WMU shall, immediately upon detection, be sampled and analyzed for the Monitoring Parameters in **Table 8** (*Physical Parameters*) and **Table 9** (*Constituent Parameters*). See **Section 0** 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 8—Leachate Seep Monitoring, Physical Parameters** 

Physical Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Total Flow	(none)	Gallons	Upon Detection	See MRP, § 0
Flow Rate	FLOW	Gallons/Day	(same)	(same)
Electrical Conductivity	SC	µmhos/cm	(same)	(same)
рН	PH	pH Units	(same)	(same)

See Glossary for definitions of terms and abbreviations in table.

**Table 9—Leachate Seep Monitoring, Constituent Parameters** 

Constituent Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
TDS	TDS	mg/L	Upon Detection	See MRP, § 0
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.

# 2. Regular Visual Inspection

The Discharger shall perform regular visual inspections at the Facility in accordance with **Table 10** (*Criteria*) and **Table 11** (*Schedule*). Results of these regular visual inspections shall be included in Semiannual Monitoring Reports per **Section 0**.

Table 10—Criteria for Regular Visual Inspections

Category	Criteria
Within WMU	Evidence of ponded water at any point on unit outside of any contact storm water/leachate diversions structures on the active face of unit (record affected areas on map).
	Evidence of erosion and/or of day-lighted refuse.
WMU Perimeter	<ul> <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>
	Floating and suspended materials of waste origin—presence or
Receiving Waters	absence, source and size of affected areas.
	Discoloration and turbidity—description of color, source and size of affected areas.

Table 11—Regular Visual Inspection Schedule

Category	Wet Season (1 Oct. to 30 April)	<b>Dry Season</b> (1 May to 30 Sept.)
Closed WMU	Monthly, unless snow accumulation limits Facility access and/or visual assessment of the Facility conditions.	Quarterly

# 3. 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 0** for Reporting Requirements.

#### 4. 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 WMU 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 0** for Reporting Requirements.

#### 5. Iso-Settlement Surveys (Closed WMUs)

The Discharger shall conduct an iso-settlement survey of the closed WMU and produce an iso-settlement map accurately depicting the estimated total change in elevation of each portion of the final cover's low-hydraulic-conductivity layer. This shall be performed if visual inspection yields signs of settling such as ponding or development of fissures along the final cover. For each portion of the WMU, this map shall show the total lowering of the surface elevation of the final cover, relative to the baseline topographic map. (Title 27, § 21090, subd. (e)(1)-(2).) See **Section 0** for Reporting Requirements.

#### D. Reporting Requirements

Table 12—Summary of Required Reports

Section	Report	Deadline
§ 0	Semiannual Monitoring Reports (SMRs)	<b>1 August</b> (1 January to 30 June)
		<b>1 February</b> (1 July to 31 December)
§ 0	Annual Monitoring Reports (AMRs)	1 February
§ 0	Leachate Seep Reporting	Immediately upon Discovery of Seepage (staff notification)
		Within 7 Days (written report)

Section	Report	Deadline
§ 0	Annual Facility Inspection Reports	15 November
§ 0	Major Storm Reporting	Immediately after Damage Discovery (staff notification)
		Within 14 Days of Completing Repairs (written report, photos)
§ 0	Survey and Iso-Settlement Mapping	As needed and indicated by visual inspection
§ 0	Financial Assurances Reports	1 June
§ 0	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 statement affirming that all sampling activities referenced in the report were conducted in accordance with the approved SCAP (see § 0).
- 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 0 for additional requirements.)
- d. For each groundwater monitoring point referenced in the SMR:
  - i. The times each water level measurement was taken;
  - ii. The type of pump or other device used to purge and elevate pump intake level relative to screening interval;

- iii. The purging methods used to stabilize water in the well bore before sampling (including pumping rate);
- iv. The equipment and methods used for monitoring pH, temperature and electrical conductivity (EC) during purging activity, and the results of such monitoring;
- v. Methods for disposing of purged water; and
- vi. The type of device used for sampling, if different than the one used for purging.
- e. Evaluation of concentrations for all Constituent Parameters and Five-Year COCs (when analyzed), comparison to current Concentration Limits, and results of any Retesting Procedures per Section 0.
- 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 the wells and/or constituents.
- g. Evaluation as to effectiveness of runoff/run-on control facilities.
- h. Summaries of all Regular Visual Inspections conducted per Section 0 during the reporting period.
- i. 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).
- j. Laboratory statements of results of all analyses evaluating compliance with the WDRs.

# 2. Annual Monitoring Reports (AMRs)

On **1 February** of each year,<sup>6</sup> the Discharger shall submit an Annual Monitoring Report (AMR) containing the following materials and information:

<sup>&</sup>lt;sup>6</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.

- a. In tabulated format, all monitoring data for which annual reporting is required under this MRP. (See Section 0 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>7</sup>
- 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, including data for the previous year, shall be submitted in tabular form in a digital file.
- e. For each groundwater well, semiannual hydrographs showing the elevation of groundwater with respect to the top and bottom of the screened interval, and the elevation of the pump intake,
- f. A comprehensive discussion of the Facility's compliance record, and the result of any corrective actions taken or planned which may be needed to attain full compliance with the WDRs.
- g. A summary of the monitoring results including the groundwater monitoring network and Facility conditions, indicating any changes made or observed since the previous AMR.
- h. Annual updates to the Concentration Limits for all Monitoring Parameters and WQPS Monitoring Points, in accordance with Section 0 of this Order.

#### 3. Leachate Seep Reporting

Upon discovery of seepage from the WMU at 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;

<sup>&</sup>lt;sup>7</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.

- 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 8 (*Physical Parameters*) and Table 9 (*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 0**. 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 0**, 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 WMUs)

The Discharger shall submit all iso settlement maps prepared in accordance with **Section 0**. (Title 27, § 21090, subd. (e).)

#### 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 post-closure maintenance, and corrective action. (See WDRs Order.)

#### 8. Water Quality Protection Standard Report

Any proposed changes<sup>8</sup> to the WQPS components (§ 0), other than periodic update of the Concentration Limits (§ 0), shall be submitted in a WQPS Report for review and approval. The report shall be certified by a "Qualified Professional" (§ 0), 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 and unsaturated zone monitoring points (including all background/upgradient and Point of Compliance monitoring points);

#### c. Groundwater Movement

An evaluation of perennial direction(s) of groundwater movement within the uppermost zone(s);

#### d. Statistical Method for Concentration Limits

A proposed statistical method for calculating Concentration Limits for Monitoring Parameters and Five-Year COCs (see § 0) 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)).

<sup>&</sup>lt;sup>8</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.

#### 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:

- 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). After uploading a report, the Discharger shall notify Central Valley Water Board staff via email at

<u>CentralValleyRedding@WaterBoards.ca.gov</u>v. The following information shall be included in the body of the email:

Attention: WDR Unit Report Title: [Title of Report]

GeoTracker Upload ID: [Identification Number]

Facility Name: McCloud Class III Municipal Solid

Waste Landfill

County: Siskiyou County 5A470302001

#### ii. Data Presentation and Formatting

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. Additionally, data shall be summarized in a manner that clearly illustrates compliance/noncompliance with WDRs.

#### iii. Non-Detections / Reporting Limits

Unless the reporting limits (RL) are specified in the same table, non-detections and sub-RL concentrations shall be reported as "< [limit]" (e.g., "< 5 µg/L").

#### iv. Units

Absent specific justification, all monitoring data shall be reported in the units specified herein.

#### c. Compliance with SPRRs

All reports submitted under this MRP shall comply with applicable provisions of the SPRRs, including those in Section I (*Standard Monitoring Specifications*) and Section J (*Response to Release*).

#### d. Additional Requirements for Monitoring Reports

Every monitoring report submitted under this MRP (e.g., SMRs [§ 0], AMRs [§ 0]) 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.

#### E. 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:

- 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);
- A calculation of results; and
- 6. The results of all analyses, as well as the MDL and PQL for each analysis (all peaks shall be reported).

#### LIST OF ATTACHMENTS

ATTACHMENT A—VOLATILE ORGANIC COMPOUNDS, SHORT-LIST
ATTACHMENT B—DISSOLVED INORGANICS (FIVE-YEAR COCS)
ATTACHMENT C—VOLATILE ORGANIC COMPOUNDS, EXTENDED LIST
(FIVE-YEAR COCS)
ATTACHMENT D—SEMI-VOLATILE ORGANIC COMPOUNDS (FIVE-YEAR COCS)
ATTACHMENT E—CHLOROPHENOXY HERBICIDES (FIVE-YEAR COCS)

#### **ENFORCEMENT**

ATTACHMENT F—ORGANOPHOSPHOROUS COMPOUNDS (FIVE-YEAR COCS)

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to \$10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

#### **ADMINISTRATIVE REVIEW**

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

# ATTACHMENT A—VOLATILE ORGANIC COMPOUNDS, SHORT-LIST

#### **USEPA Method 8260B**

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

MONITORING & REPROTING PROGRAM R5-2022-0030 SISKIYOU DEPARTMENT OF GENERAL SERVICES MCCLOUD CLASS III MUNICIPAL SOLID WASTE LANDFILL SISKIYOU COUNTY

#### ATTACHMEN A- VOLATILE ORGANIC COMPOUNDS, SHORT LIST

Di-isopropylether (DIPE)	DIPE
Ethanol	ETHANOL
Ethyltertiary butyl ether	ETBE
Ethylbenzene	EBZ
2 Hexanone (Methyl butyl ketone)	HXO2
Hexachlorobutadiene	HCBU
Methyl bromide (Bromomethane)	BRME
Methyl chloride (Chloromethane)	CLME
Methylene bromide (Dibromomethane)	DBMA
Methylene chloride (Dichloromethane)	DCMA
Methyl ethyl ketone (MEK: 2 Butanone)	MEK
Methyl iodide (Iodomethane)	IME
Methyl t-butyl ether	MTBE
4-Methyl 2 pentanone (Methyl isobutylketone)	MIBK
Naphthalene	NAPH
Styrene	STY
Tertiary amyl methyl ether	TAME
Tertiary butyl alcohol	TBA
1,1,1,2 Tetrachloroethane	TC1112
1,1.2,2 Tetrachloroethane	PCA
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene)	PCE
Toluene	BZME
1,2,4-Trichlorobenzene	TCB124
1,1,1 Trichloroethane (Methylchloroform)	TCA111
1,1,2 Trichloroethane	TCA112
Trichloroethylene (Trichloroethene)	TCE
Trichlorofluoromethane (CFC 11)	FC11

#### ATTACHMEN A- VOLATILE ORGANIC COMPOUNDS, SHORT LIST

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

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

GeoTracker Code
Zinc, USEPA Method 6010ZN
Iron, USEPA Method 6010FE
Manganese, USEPA Method 6010MN
Arsenic, USEPA Method 7062 AS
Lead, USEPA Method 7421 PB
Mercury, USEPA Method 7470AHG
Nickel, USEPA Method 7521NI
Selenium, USEPA Method 7742 SE
Thallium, USEPA Method 7841TL
Cyanide, USEPA Method 9010CCN
Sulfide, USEPA Method 9030BxS

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

# USEPA Method 8260, Extended List

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

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

cis1,2 Dichloroethylene (cis 1,2 Dichloroethene)         DCE12C           trans 1,2 Dichloroethylene (trans 1,2 Dichloroethene)         DCE12T           1,2 Dichloropropane (Propylene dichloride)         DCPA12           1,3 Dichloropropane (Isopropylidene chloride)         DCPA13           2,2 Dichloropropane (Isopropylidene chloride)         DCPA22           1,1 Dichloropropene         DCP13C           trans 1,3 Dichloropropene         DCP13C           trans 1,3 Dichloropropene         DCP13T           Di-isopropylether (DIPE)         DIPE           Ethanol         ETHANOL           Ethyltertiary butyl ether         ETBE           Ethylbenzene         EBZ           Ethyl methacrylate         EMETHACRY           Hexachlorobutadiene         HCBU           2 Hexanone (Methyl butyl ketone)         HXO2           Isobutyl alcohol         ISOBTOH           Methacrylonitrile         METHACRN           Methyl bromide (Bromomethane)         BRME           Methyl chloride (Chloromethane)         CLME           Methyl tethyl ketone (MEK; 2 Butanone)         MEK           Methyl totide (Iodomethane)         MEK           Methyl totide (Iodomethane)         MIBK           Methyl pentanone (Methyl isobutyl ketone)         MIBK	1,1 Dichloroethylene (1,1 Dichloroethene; Vinylidene chloride)	DCE11
1,2 Dichloropropane (Propylene dichloride)	cis1,2 Dichloroethylene (cis 1,2 Dichloroethene)	DCE12C
1,3 Dichloropropane (Trimethylene dichloride)  2,2 Dichloropropane (Isopropylidene chloride)  1,1 Dichloropropene  1,2 Dichloropropene  1,3 Dichloropropene  1,3 Dichloropropene  1,3 Dichloropropene  1,3 Dichloropropene  1,4 Dichloropropene  1,5 Dichloropropene  1,6 DCP13C  1,6 Tans 1,3 Dichloropropene  1,7 Di-isopropylether (DIPE)  1,8 DIPE  1,9 Ethanol  1,9 ETHANOL  1,9 ETHANOL  1,9 ETHANOL  1,9 ETHANOL  1,9 ETHE  1,9 ETHACRY  1,9 Hexachlorobutadiene  1,0 ETHACRY  1,9 Hexachlorobutadiene  1,0 HCBU  1	trans 1,2 Dichloroethylene (trans 1,2 Dichloroethene)	DCE12T
2,2 Dichloropropane (Isopropylidene chloride)         DCPA22           1,1 Dichloropropene         DCP13C           trans 1,3 Dichloropropene         DCP13C           trans 1,3 Dichloropropene         DCP13T           Di-isopropylether (DIPE)         DIPE           Ethanol         ETHANOL           Ethyltertiary butyl ether         ETBE           Ethylbenzene         EBZ           Ethyl methacrylate         EMETHACRY           Hexachlorobutadiene         HCBU           2 Hexanone (Methyl butyl ketone)         HXO2           Isobutyl alcohol         ISOBTOH           Methacrylonitrile         METHACRN           Methyl bromide (Bromomethane)         BRME           Methyl chloride (Chloromethane)         CLME           Methyl ethyl ketone (MEK; 2 Butanone)         MEK           Methyl rethacrylate         MMTHACRY           4 Methyl pethacrylate         MMTHACRY           4 Methyl 2 pentanone (Methyl isobutyl ketone)         MIBK           Methylene bromide (Dibromomethane)         DBMA           Methylene chloride (Dichloromethane)         DCMA           Naphthalene         NAPH           Propionitrile (Ethyl cyanide)         PACN	1,2 Dichloropropane (Propylene dichloride)	DCPA12
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 Hexachlorobutadiene HCBU 2 Hexanone (Methyl butyl ketone) ISOBTOH Methacrylonitrile METHACRN Methyl bromide (Bromomethane) BRME Methyl chloride (Chloromethane) CLME Methyl ethyl ketone (MEK; 2 Butanone) MEK Methyl t-butyl ether MTBE Methyl rethacrylate MMTHACRY 4 Methyl 2 pentanone (Methyl isobutyl ketone) MIBK Methyl - butyl ether MTBE Methyl methacrylate MMTHACRY 4 Methyl 2 pentanone (Methyl isobutyl ketone) DBMA Methylene bromide (Dibromomethane) DBMA Methylene chloride (Dichloromethane) DCMA Naphthalene NAPH Propionitrile (Ethyl cyanide) PACN	1,3 Dichloropropane (Trimethylene dichloride)	DCPA13
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Ethyl methacrylate EMETHACRY Hexachlorobutadiene	Ethyltertiary butyl ether	ETBE
Hexachlorobutadiene	Ethylbenzene	EBZ
2 Hexanone (Methyl butyl ketone)HXO2Isobutyl alcoholISOBTOHMethacrylonitrileMETHACRNMethyl bromide (Bromomethane)BRMEMethyl chloride (Chloromethane)CLMEMethyl ethyl ketone (MEK; 2 Butanone)MEKMethyl iodide (Iodomethane)IMEMethyl t-butyl etherMTBEMethyl methacrylateMMTHACRY4 Methyl 2 pentanone (Methyl isobutyl ketone)MIBKMethylene bromide (Dibromomethane)DBMAMethylene chloride (Dichloromethane)DCMANaphthaleneNAPHPropionitrile (Ethyl cyanide)PACN	Ethyl methacrylate	EMETHACRY
Isobutyl alcoholISOBTOHMethacrylonitrileMETHACRNMethyl bromide (Bromomethane)BRMEMethyl chloride (Chloromethane)CLMEMethyl ethyl ketone (MEK; 2 Butanone)MEKMethyl iodide (Iodomethane)IMEMethyl t-butyl etherMTBEMethyl methacrylateMMTHACRY4 Methyl 2 pentanone (Methyl isobutyl ketone)MIBKMethylene bromide (Dibromomethane)DBMAMethylene chloride (Dichloromethane)DCMANaphthaleneNAPHPropionitrile (Ethyl cyanide)PACN	Hexachlorobutadiene	HCBU
MethacrylonitrileMETHACRNMethyl bromide (Bromomethane)BRMEMethyl chloride (Chloromethane)CLMEMethyl ethyl ketone (MEK; 2 Butanone)MEKMethyl iodide (Iodomethane)IMEMethyl t-butyl etherMTBEMethyl methacrylateMMTHACRY4 Methyl 2 pentanone (Methyl isobutyl ketone)MIBKMethylene bromide (Dibromomethane)DBMAMethylene chloride (Dichloromethane)DCMANaphthaleneNAPHPropionitrile (Ethyl cyanide)PACN	2 Hexanone (Methyl butyl ketone)	HXO2
Methyl bromide (Bromomethane)BRMEMethyl chloride (Chloromethane)CLMEMethyl ethyl ketone (MEK; 2 Butanone)MEKMethyl iodide (Iodomethane)IMEMethyl t-butyl etherMTBEMethyl methacrylateMMTHACRY4 Methyl 2 pentanone (Methyl isobutyl ketone)MIBKMethylene bromide (Dibromomethane)DBMAMethylene chloride (Dichloromethane)DCMANaphthaleneNAPHPropionitrile (Ethyl cyanide)PACN	Isobutyl alcohol	ISOBTOH
Methyl chloride (Chloromethane)CLMEMethyl ethyl ketone (MEK; 2 Butanone)MEKMethyl iodide (Iodomethane)IMEMethyl t-butyl etherMTBEMethyl methacrylateMMTHACRY4 Methyl 2 pentanone (Methyl isobutyl ketone)MIBKMethylene bromide (Dibromomethane)DBMAMethylene chloride (Dichloromethane)DCMANaphthaleneNAPHPropionitrile (Ethyl cyanide)PACN	Methacrylonitrile	METHACRN
Methyl ethyl ketone (MEK; 2 Butanone)MEKMethyl iodide (Iodomethane)IMEMethyl t-butyl etherMTBEMethyl methacrylateMMTHACRY4 Methyl 2 pentanone (Methyl isobutyl ketone)MIBKMethylene bromide (Dibromomethane)DBMAMethylene chloride (Dichloromethane)DCMANaphthaleneNAPHPropionitrile (Ethyl cyanide)PACN	Methyl bromide (Bromomethane)	BRME
Methyl iodide (Iodomethane)IMEMethyl t-butyl etherMTBEMethyl methacrylateMMTHACRY4 Methyl 2 pentanone (Methyl isobutyl ketone)MIBKMethylene bromide (Dibromomethane)DBMAMethylene chloride (Dichloromethane)DCMANaphthaleneNAPHPropionitrile (Ethyl cyanide)PACN	Methyl chloride (Chloromethane)	CLME
Methyl t-butyl ether.MTBEMethyl methacrylateMMTHACRY4 Methyl 2 pentanone (Methyl isobutyl ketone)MIBKMethylene bromide (Dibromomethane)DBMAMethylene chloride (Dichloromethane)DCMANaphthaleneNAPHPropionitrile (Ethyl cyanide)PACN	Methyl ethyl ketone (MEK; 2 Butanone)	MEK
Methyl methacrylateMMTHACRY4 Methyl 2 pentanone (Methyl isobutyl ketone)MIBKMethylene bromide (Dibromomethane)DBMAMethylene chloride (Dichloromethane)DCMANaphthaleneNAPHPropionitrile (Ethyl cyanide)PACN	Methyl iodide (lodomethane)	IME
4 Methyl 2 pentanone (Methyl isobutyl ketone) MIBK  Methylene bromide (Dibromomethane) DBMA  Methylene chloride (Dichloromethane) DCMA  Naphthalene NAPH  Propionitrile (Ethyl cyanide) PACN	Methyl t-butyl ether	MTBE
Methylene bromide (Dibromomethane)	Methyl methacrylate	MMTHACRY
Methylene chloride (Dichloromethane)	4 Methyl 2 pentanone (Methyl isobutyl ketone)	MIBK
Naphthalene	Methylene bromide (Dibromomethane)	DBMA
Propionitrile (Ethyl cyanide)PACN	Methylene chloride (Dichloromethane)	DCMA
	Naphthalene	NAPH
Styrene	Propionitrile (Ethyl cyanide)	PACN
	Styrene	STY

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

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
Toluene	BZME
1,2,4 Trichlorobenzene	TCB124
1,1,1 Trichloroethane (Methylchloroform)	TCA111
1,1,2 Trichloroethane	TCA112
Trichloroethylene (Trichloroethene; TCE)	TCE
Trichlorofluoromethane (CFC 11)	FC11
1,2,3 Trichloropropane	TCPR123
Vinyl acetate	VA
Vinyl chloride (Chloroethene)	VC
Xylene (total)	XYLENES

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

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

Constituent	GeoTracker Code
Acenaphthene	ACNP
Acenaphthylene	ACNPY
Acetophenone	ACPHN
2 Acetylaminofluorene (2 AAF)	ACAMFL2
Aldrin	ALDRIN
4 Aminobiphenyl	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
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
Dibenzofuran	DBF
Di n butyl phthalate	DNBP
3,3' Dichlorobenzidine	DBZD33
2,4 Dichlorophenol	DCP24
2,6 Dichlorophenol	DCP26
Dieldrin	DIELDRIN
Diethyl phthalate	DEPH
p (Dimethylamino) azobenzene	PDMAABZ
7,12 Dimethylbenz[a]anthracene	DMBZA712
3,3' Dimethylbenzidine	DMBZD33
2,4 Dimethylphenol (m Xylenol)	DMP24
Dimethyl phthalate	DMPH
m Dinitrobenzene	DNB13
4,6 Dinitro o cresol (4,6 Dinitro 2 methylphenol)	DN46M
2,4 Dinitrophenol	
2,4 Dinitrotoluene	
2,6 Dinitrotoluene	

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Di n octyl phthalate	DNOP
Diphenylamine	DPA
Endosulfan I	ENDOSULFANA
Endosulfan II	ENDOSULFANB
Endosulfan sulfate	ENDOSULFANS
Endrin	ENDRIN
Endrin aldehyde	ENDRINALD
Ethyl methanesulfonate	EMSULFN
Famphur	FAMPHUR
Fluoranthene	FLA
Fluorene	FL
Heptachlor	HEPTACHLOR
Heptachlor epoxide	HEPT-EPOX
Hexachlorobenzene	HCLBZ
Hexachlorocyclopentadiene	HCCP
Hexachloroethane	HCLEA
Hexachloropropene	HCPR
Indeno(1,2,3 c,d) pyrene	INP123
Isodrin	ISODRIN
Isophorone	ISOP
Isosafrole	ISOSAFR
Kepone	KEP
Methapyrilene	MTPYRLN
Methoxychlor	MTXYCL
3 Methylcholanthrene	MECHLAN3
Methyl methanesulfonate	MMSULFN
2 Methylnaphthalene	MTNPH2
1,4 Naphthoquinone	NAPHQ14
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 propylnitrosa	amine)NNSPR
N Nitrosomethylethylamine (Methylethylnitrosamine)	NNSME
N Nitrosopiperidine	NNSPPRD
N Nitrosospyrrolidine	NNSPYRL
5 Nitro o toluidine	TLDNONT5
Pentachlorobenzene	PECLBZ
Pentachloronitrobenzene (PCNB)	PECLNO2BZ
Pentachlorophenol	PCP
Phenacetin	PHNACTN
Phenanthrene	PHAN
Phenol	PHENOL
p Phenylenediamine	ANLNAM4
Polychlorinated biphenyls (PCBs; Aroclors)	PCBS
Pronamide	PRONAMD
Pyrene	PYR
Safrole	SAFROLE
1,2,4,5 Tetrachlorobenzene	C4BZ1245
2,3,4,6 Tetrachlorophenol	TCP2346
o Toluidine	TLDNO
Toxaphene	ТОХАР

2,4,5 Trichlorophenol	TCP245
0,0,0 Triethyl phosphorothioate	TEPTH
sym Trinitrobenzene	TNB135

# ATTACHMENT E—CHLOROPHENOXY HERBICIDES (FIVE-YEAR COCS)

#### **USEPA Method 8151A**

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

# ATTACHMENT F—ORGANOPHOSPHOROUS COMPOUNDS (FIVE-YEAR COCS) USEPA Method 8141B

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