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)

[TENTATIVE] MONITORING & REPORTING PROGRAM R5-2025-XXXX

ORDER INFORMATION

Order Type(s):	Monitoring & Reporting Program (MRP)
Status:	TENTATIVE
Program:	Title 27
Region 5 Office:	Fresno
Discharger(s):	County of Madera and Red Rock Environmental
Facility:	Fairmead Landfill
Address:	21739 Road 19, Chowchilla
County:	Madera County
Parcel Nos.:	027-192-008-000, 027-192-024-000, 027-192-025-000, 027-192-026-000, 027-192-027-000 and 027-192-031-000
WDID:	5C200300001
Prior Order(s):	87-109, 91-124, 93-028, 96-160, 97-228, R5-2004-0161, R5-2015-0052, R5-2022-0012

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 _____ April 2025.

_____

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

TABLE OF CONTENTS

Table Index iv

Glossary v

Preface 1

Monitoring & Reporting Program 1

A. General Provisions 1

1. Incorporation of Standard Provisions 1
2. Monitoring Provisions in WDRs Order 1
3. Compliance with Title 27 1
4. Sample Collection and Analysis Plan (SCAP) 1

B. Detection Monitoring Program (DMP) 2

1. Groundwater 2

a. Required Network 2

a. Sample Collection and Analysis 4

b. Five-Year COCs 5

c. Groundwater Conditions 5

3. Unsaturated Zone 6

a. Required Network 6

b. Monthly Lysimeter Inspection 7

c. Five-Year COCs 8

4. Surface Water 9
5. Summary of Water Quality Protection Standard (WQPS) Components 9

a. Compliance Period 9

TABLE OF CONTENTS

b. Monitoring Points 9
c. Point of Compliance (POC) 9
d. Constituents of Concern (COCs) 9
e. Monitoring Parameters 9
f. Five-Year COCs 10
g. Concentration Limits 10
h. Retesting Procedures 11
C. Corrective Action Monitoring Program (CAMP) 11
1. Landfill Gas Corrective Action 11
D. Additional Facility Monitoring 12
1. Leachate Collection & Removal System (LCRS) 12
a. Annual LCRS Testing 12
b. Monthly Sump Inspection 12
c. First Detection of Leachate in Sump 12
d. Five-Year COCs 13
2. Leachate Seepage 14
3. Regular Visual Inspection 15
4. Annual Facility Inspections 16
5. Major Storm Events 16
E. Reporting Requirements 17
1. Semiannual Monitoring Reports (SMRs) 17
2. Annual Monitoring Reports (AMRs) 19
3. Leachate Seep Reporting 20

TABLE OF CONTENTS

4. Annual Facility Inspection Report 21
5. Major Storm Event Reports 21
6. Financial Assurances Report 21
7. Water Quality Protection Standard Report 21
8. General Reporting Provisions 22
a. Transmittal Letters 22
b. Monitoring Data and Reports 22
c. Compliance with SPRRs 23
d. Additional Requirements for Monitoring Reports 23
F. Record Retention Requirements 23
Attachment A—Volatile Organic Compounds, Short-List 26
Attachment B—Dissolved Inorganics (Five-Year COCs) 29
Attachment C—Volatile Organic Compounds, Extended List (Five-Year COCs)... 30
Attachment D—Semi-Volatile Organic Compounds (Five-Year COCs) 34
Attachment E—Chlorophenoxy Herbicides (Five-Year COCs)..... 40
Attachment F—OrganoPhosphorous Compounds (Five-Year COCs)..... 41

TABLE INDEX

Table 1—Groundwater Monitoring Network 2

Table 2—Groundwater Detection Monitoring, Physical Parameters 4

Table 3—Groundwater Detection Monitoring, Constituent Parameters 4

Table 4—Groundwater Detection Monitoring, Five-Year COCs 5

Table 5—Groundwater Detection Monitoring, Groundwater Conditions 6

Table 6—Unsaturated Zone Monitoring Network 6

Table 7—Unsaturated Zone Detection Monitoring (Lysimeters), Physical Parameters 7

Table 8—Unsaturated Zone Detection Monitoring (Lysimeters), Constituent Parameters 7

Table 9—Unsaturated Zone Detection Monitoring (Lysimeter), Five-Year COCs 8

Table 10—LCRS Sump Monitoring, Monthly Inspection Parameters 12

Table 11—LCRS Sump Monitoring, Parameters for Subsequent Monitoring 13

Table 12—LCRS Sump Monitoring, Five-Year COCs 14

Table 13—Leachate Seep Monitoring, Physical Parameters 14

Table 14—Leachate Seep Monitoring, Constituent Parameters 15

Table 15—Criteria for Regular Visual Inspections 15

Table 16—Regular Visual Inspection Schedule 16

Table 17—Summary of Required Reports 17

GLOSSARY

AMR .....Annual Monitoring Report

CalRecycle .....California Department of Resources Recycling and Recovery

CAMP.....Corrective Action Monitoring Program

COCs .....Constituents of Concern

DMP .....Detection Monitoring Program

EC .....Electrical Conductivity

EMP .....Evaluation Monitoring Program

Five-Year COCs .....Five-Year Constituents of Concern

GeoTracker .....State Water Board's Data Management System for Sites with Potential Groundwater Impact

LCRS .....Leachate Collection and Removal System

LFG.....Landfill Gas

MDL .....Method Detection Limit

MRP .....Monitoring and Reporting Program

POC .....Point of Compliance for Water Quality Protection Standard

Qualified Professional .....Professional Civil Engineer or Geologist licensed by the State of California

RL .....Reporting Limit

SCAP .....Sample Collection and Analysis Plan

SI.....Surface Impoundment

SMR .....Semiannual Monitoring Report

GLOSSARY

SPRRs / Standard Provisions ...*Standard Provisions and Reporting Requirements for Nonhazardous Solid Waste Discharges Regulated by Subtitle D and/or Title 27 Municipal Solid Waste Facilities*, December 2015 Edition

TDS.....Total Dissolved Solids

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

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

USEPA.....United States Environmental Protection Agency

VOCs .....Volatile Organic Compounds

WDRs.....Waste Discharge Requirements

WMU .....Waste Management Unit

WQPS .....Water Quality Protection Standard

UNITS

°F .....Degrees Fahrenheit

mg/L.....Milligrams per Liter

µg/L.....Micrograms per Liter

µmhos/cm .....Microsiemens per Centimeter

ng/L.....Nanograms per Liter

NTUs.....Nephelometric Turbidity Units

PREFACE

Adopted by the California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) pursuant to Water Code section 13267, subdivision (b)(1), this Order establishes a Monitoring and Reporting Program (MRP) for the County of Madera (Discharger), which owns and operates the Fairmead Landfill (Facility) in Madera County. Additional information regarding the Facility is set forth in the enumerated findings of Waste Discharge Requirements Order R5-2025- (WDRs Order). Except as otherwise provided in the following MRP, these findings are incorporated herein.

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

Although adopted with the WDRs Order, this is a separate order subject to subsequent revision by the Executive Officer in accordance with delegated authority per Water Code section 13223. For the purposes of Title 27, such revisions shall be automatically incorporated as part of the WDRs Order.

MONITORING & REPORTING PROGRAM

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

A. General Provisions

1. **Incorporation of Standard Provisions and Reporting Requirements (SPRRs)**—The Discharger shall comply with all relevant provisions of the *Standard Provisions and Reporting Requirements for Nonhazardous Solid Waste Discharges Regulated by Subtitle D and/or Title 27 Municipal Solid Waste Facilities, December 2015 Edition* (SPRRs 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 WDRs Order, which are also incorporated herein.

3. **Compliance with Title 27**—The Discharger shall comply with all provisions of Title 27 as they pertain to activities described in this MRP (including SPRRs).

4. **Sample Collection and Analysis Plan (SCAP)**—All samples shall be collected, preserved and transported in accordance with the approved Sample Collection and Analysis Plan (SCAP) and the Quality Assurance/Quality Control (QA/QC) standards specified therein. The Discharger may use alternative analytical test methods (including new USEPA-approved methods), provided that the alternative methods have method detection limits (MDLs) equal to or lower than the analytical methods specified in this MRP and are identified in the approved SCAP.

B. Detection Monitoring Program (DMP) —To detect a release at the earliest possible time (see Title 27, § 20420, subd. (b)), the Discharger shall implement a Detection Monitoring Program (DMP) for groundwater, surface water, and the unsaturated zone in accordance with the provisions of Title 27, particularly sections 20415 and 20420. 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] The current monitoring well network does not provide coverage for WMU 4. An updated DMP will need to be submitted, approved, and implemented prior to the construction of WMU 4. As of the date of this Order, the network does not meet the requirements of Title 27. (Title 27, § 20415, subd. (b).) The Discharger is currently evaluating their DMP and will submit a work plan to bring the DMP into compliance.

Table 1—Groundwater Monitoring Network

Well	Program	Zone	Point of Compliance (POC)
TW-1-145	Background	Shallow	No
TW-1ED-265	Detection	Regional	Yes
TW-1ED-265R	Detection	Regional	Yes
TW-1ND-280	Detection	Regional	Yes
TW-2-150	Corrective Action	Shallow	Yes
TW-2E-150	Corrective Action	Shallow	Yes
TW-2ED-215	Background	Regional	No

[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	Zone	Point of Compliance (POC)
TW-2N-135	Corrective Action	Shallow	Yes
TW-2ND-260	Background	Regional	No
TW-2ND-260R	Background	Regional	No
TW-2S-150	Corrective Action	Shallow	Yes
TW-3-150	Corrective Action	Shallow	Yes
TW-3-250R	Background	Regional	No
TW-3E-140	Corrective Action	Shallow	Yes
TW-3S-135	Corrective Action	Shallow	Yes
TW-3S-135R	Corrective Action	Shallow	Yes
TW-3W-150	Corrective Action	Shallow	Yes
TW-4N-115	Corrective Action	Perched	Yes
TW-4ND-315	Detection	Regional	Yes
TW-4W-170	Detection	Shallow	Yes
TW-4W-170R	Detection	Shallow	Yes
TW-4WD-290	Background	Regional	No
TW-5-150	Detection	Shallow	Yes
TW-5ED-245	Detection	Regional	Yes
TW-5W-135	Detection	Perched	Yes
TW-6D-225	Detection	Regional	Yes
TW-6SD-225	Detection	Regional	Yes
LP-1-200 (Planned)	Detection	Shallow	Yes
LP-2-200 (Planned)	Detection	Shallow	Yes
LP-3-200 (Planned)	Detection	Shallow	Yes

See Glossary for definitions of terms and abbreviations in table.

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

Table 2—Groundwater Detection Monitoring, Physical Parameters

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

See Glossary for definitions of terms and abbreviations in table.

Table 3—Groundwater Detection Monitoring, Constituent Parameters

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

See Glossary for definitions of terms and abbreviations in table.

b. **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 2020 and shall be analyzed again in **2025**. (Title 27, § 20420, subd. (g).)

Table 4—Groundwater Detection Monitoring, Five-Year COCs

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

See Glossary for definitions of terms and abbreviations in table.

c. **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).)

[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).)

Table 5—Groundwater Detection Monitoring, Groundwater Conditions

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

3. 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, the network meets the requirements of Title 27. (Title 27, § 20415, subd. (d).)

Table 6—Unsaturated Zone Monitoring Network

Monitoring Point	Device Type	Program	Monitored Unit	Status
LYS-1	Pan Lysimeter	Detection	WMU 2 (Cells 1-4)	Operational
LYS-2	Pan Lysimeter	Detection	WMU 3 (Cells 1A-1B)	Operational
LYS-3	Pan Lysimeter	Detection	WMU 3 (Cells 2A-2C)	Operational
LYS-4	Pan Lysimeter	Detection	WMU 3 – Cell 3 WMU 4 – Cell 1	Planned
LYS-5	Pan Lysimeter	Detection	WMU 4 (Remaining Cells)	Planned
LYS-6	Pan Lysimeter	Detection	Surface Impoundment 1	Planned

See Glossary for definitions of terms and abbreviations in table.

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

Table 7—Unsaturated Zone Detection Monitoring (Lysimeters), Physical Parameters

Physical Parameter	GeoTracker Code	Units	Sampling Frequency	Reporting Frequency
Electrical Conductivity	SC	µmhos/cm	Semiannually	Semiannually
pH	PH	pH Units	Semiannually	Semiannually
Volume of Removed Liquid	(*none*)	Gallons	Monthly	Semiannually

See Glossary for definitions of terms and abbreviations in table.

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

Constituent Parameter	GeoTracker Code	Units	Sampling Frequency	Reporting Frequency
TDS	TDS	mg/L	Semiannually	Semiannually
Chloride	CL	mg/L	Semiannually	Semiannually
Carbonate	CACO3	mg/L	Semiannually	Semiannually
Bicarbonate	BICACO3	mg/L	Semiannually	Semiannually
Sulfate	SO4	mg/L	Semiannually	Semiannually
Calcium	CA	mg/L	Semiannually	Semiannually
Magnesium	MG	mg/L	Semiannually	Semiannually
Nitrate (as Nitrogen)	NO3N	mg/L	Semiannually	Semiannually

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

See Glossary for definitions of terms and abbreviations in table.

c. **Five-Year COCs**—Every five years, liquid from each pan lysimeter shall be analyzed for the Five-Year COCs listed below in **Table 9**. Five-Year COCs were last monitored in 2020 and shall be analyzed again in 2025. (Title 27, § 20420, subd. (g).)

Table 9—Unsaturated Zone Detection Monitoring (Lysimeter), Five-Year COCs

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

See Glossary for definitions of terms and abbreviations in table.

4. **Surface Water**—As of the date of this Order, there are no surface water monitoring requirements for this Facility.

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

   a. **Compliance Period**—The "compliance period" is the minimum time for which a water quality monitoring will be required—i.e., equal to the sum of active years and the closure period. (Title 27, § 20410.) The period restarts each time an Evaluation Monitoring Program (EMP) is initiated for a given WMU. (*Id*., §§ 20410, subd. (a), 20415, 20425.) If a WMU is in corrective action, the period continues until it is demonstrated that the WMU has been in continuous compliance with its WQPS for at least three years. (*Id*., § 20410, subd. (c).)

   b. **Monitoring Points**—For WQPS purposes, a "monitoring point" is any well, device, or location where monitoring is conducted, and is specified in the Facility's WDRs and subject to the WQPS. (Title 27, § 20164.) Monitoring Points are listed in **Section B** (*Detection Monitoring Program*)—specifically **Table 1** (*Groundwater*) 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, subd. (a).) The Facility's POC monitoring wells are listed below in **Table 1**.

   d. **Constituents of Concern (COCs)**—Constituents of Concern (COCs) are waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in a WMU. (Title 27, §§ 20164, 20395.)

   e. **Monitoring Parameters**—Monitoring Parameters are a predetermined set of COCs and measurable physical

characteristics (e.g., temp., electrical conductivity, pH), which serve as reliable indicators of a WMU release, and for which samples will therefore be routinely analyzed. (Title 27, §§ 20164, 20395, subd. (a), 20420, subds. (e)-(f).) For the purposes of this MRP, the Monitoring Parameters are:

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

ii. For the **Unsaturated Zone**, those in Table 7 and Table 8.

f. Five-Year COCs—In addition to the Monitoring Parameters described above, this Order requires the *quinquennial analysis* of samples for a larger range of constituents that are reasonably expected to be found in, or derived from, the waste contained within each unit at the Facility. (Title 27, §§ 20395, 20420, subd. (g).) Analytical results for Five-Year COCs were last submitted to the Central Valley Water Board as part of the 2020 Annual Monitoring Report and are due again in 2025. For the purposes of this MRP, the Five-Year COCs are listed in:

i. **Attachment B** (*Dissolved Inorganics*);

ii. **Attachment C** (*Extended List VOCs*);

iii. **Attachment D** (*Semi-Volatile Organic Compounds*);

iv. **Attachment E** (*Chlorophenoxy Herbicides*);

v. **Attachment F** (*Organophosphorus Compounds*); and

vi. Any other COCs listed in **Table 4** (*Groundwater*) and **Table 9** (*Unsaturated Zone*)

g. Concentration Limits—The Concentration Limit for each COC is the "background concentration," as determined by the statistical methods outlined in Title 27, section 20415, subdivision (e)(8)[4] (Title 27, § 20400, subds. (a), (b).) Methods for calculating

[4] 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.

Concentration Limits were proposed in the most recent WQPS Report. The approved methods use interwell statistical analysis.

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

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

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

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

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

ii. **Statistical Retesting Procedures (SPRRs, § I.46)** for analytes detected in at least 10 percent of background samples (e.g., naturally occurring COCs).

C. **Corrective Action Monitoring Program (CAMP)**—To demonstrate the effectiveness of ongoing correction action at the Facility, the Discharger shall conduct monitoring in accordance with the requirements listed in **Section B.1** and with of subdivision (d) of Title 27, section 20430.

1. **Landfill Gas Corrective Action**—The Facility's landfill gas (LFG) corrective action system currently consists of enhanced landfill gas control, which includes the installation of vapor extraction wells. These wells are designed to remove landfill gas at and immediately above the saturated zone and are tied into the LFG collection system and flare. The Discharger shall log all system shutdowns (including causes and stop/start dates), monthly downtime and monthly runtime. The Discharger shall collect quarterly PID readings from each vapor extraction well. All shutdowns, regardless of the type of restart, shall be recorded. This information shall be reported semiannually per **Section E.1**.

D. Additional Facility Monitoring

1. Leachate Collection & Removal System (LCRS)—The Discharger shall operate and maintain leachate collection and removal system (LCRS) sumps, and conduct monitoring of any detected leachate seeps in accordance with Title 27 and the following provisions.

a. Annual LCRS Testing—All Leachate Collection and Removal Systems (LCRS) shall be tested annually to demonstrate proper operation, with the results of each test being compared to the results of prior testing. (See Title 27, § 20340, subd. (d).)

b. Monthly Sump Inspection—All LCRS sumps shall be inspected monthly for the presence of leachate. As provided in **Table 10**, 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 10—LCRS Sump Monitoring, Monthly Inspection Parameters

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

See Glossary for definitions of terms and abbreviations in table.

c. First Detection of Leachate in Sump—Upon detecting leachate in a previously dry sump, the Discharger shall notify Central Valley Water Board staff **within seven days**, and immediately sample and analyze leachate for the parameters in **Table 11**.[5] 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 11.

[5] The sampling and reporting schedules in Table 11 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.

Table 11—LCRS Sump Monitoring, Parameters for Subsequent Monitoring

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

See Glossary for definitions of terms and abbreviations in table.

d. **Five-Year COCs**—At least once every five years, the Discharger shall sample and analyze any leachate present in the sump for the Five-Year COCs listed in **Table 12**. Five-Year COCs were last monitored in 2020 and shall be analyzed again in 2025.

Table 12—LCRS Sump Monitoring, Five-Year COCs

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

See Glossary for definitions of terms and abbreviations in table.

2. **Leachate Seepage**— Upon detection of any leachate seeping to the surface from any landfill WMU, the Discharger shall immediately sample and analyze the leachate for the Monitoring Parameters in **Table 13** (*Physical Parameters*) and **Table 14** (*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 13—Leachate Seep Monitoring, Physical Parameters

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

See Glossary for definitions of terms and abbreviations in table.

Table 14—Leachate Seep Monitoring, Constituent Parameters

Constituent Parameter	GeoTracker Code	Units	Sampling Frequency	Reporting Frequency
TDS	TDS	mg/L	Upon Detection	See MRP, § E.3
Chloride	CL	mg/L	Upon Detection	See MRP, § E.3
Carbonate	CACO3	mg/L	Upon Detection	See MRP, § E.3
Bicarbonate	BICACO3	mg/L	Upon Detection	See MRP, § E.3
Nitrate as N	NO3N	mg/L	Upon Detection	See MRP, § E.3
Sulfate	SO4	mg/L	Upon Detection	See MRP, § E.3
Calcium	CA	mg/L	Upon Detection	See MRP, § E.3
Magnesium	MG	mg/L	Upon Detection	See MRP, § E.3
Potassium	K	mg/L	Upon Detection	See MRP, § E.3
Sodium	NA	mg/L	Upon Detection	See MRP, § E.3
Short List VOCs (Attachment A)	(various)	µg/L	Upon Detection	See MRP, § E.3
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	ng/L	Upon Detection	See MRP, § E.3

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 15** (*Criteria*) and **Table 16** (*Schedule*). Results of these regular visual inspections shall be included in Semiannual Monitoring Reports per **Section E.1.**

Table 15—Criteria for Regular Visual Inspections

Category	Criteria
Within Unit	• Evidence of ponded water at any point on unit outside of any contact storm water/leachate diversions structures on the active face of unit (record affected areas on map). • Evidence of erosion and/or of day-lighted refuse.

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

Table 16—Regular Visual Inspection Schedule

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

4. **Annual Facility Inspections**—Prior to **30 September** of each year, the Discharger shall inspect the Facility to assess repair and maintenance needs for drainage control systems, cover systems and groundwater monitoring wells, as well as preparedness for winter conditions (e.g., erosion and sedimentation control). If repairs are made as result of the annual inspection, problem areas shall be photographed before and after repairs. Any necessary construction, maintenance, or repairs shall be completed by 31 October. See **Section E.4** for Reporting Requirements.

5. **Major Storm Events**—Within **seven days** of any storm event capable of causing damage or significant erosion (Major Storm Event), the Discharger shall inspect the Facility for damage to any precipitation, diversion and drainage facilities, and all landfill side slopes. Necessary repairs shall be completed within 30 days of the inspection. the Discharger shall take photos of any problem areas before and after repairs.
See **Section E.5** for Reporting Requirements.

E. Reporting Requirements

Table 17—Summary of Required Reports

Section	Report	Deadline
§ E.1	*Semiannual Monitoring Reports (SMRs)*	**1 August** (1 January to 30 June) **1 February** (1 July to 31 December)
§ E.2	*Annual Monitoring Reports (AMRs)*	**1 February**
§ E.3	*Leachate Seep Reporting*	**Immediately upon Discovery of Seepage** (*staff notification*) **Within 7 Days** (*written report*)
§ E.4	*Annual Facility Inspection Reports*	**15 November**
§ E.5	*Major Storm Reporting*	**Immediately after Damage Discovery** (*staff notification*) **Within 14 Days of Completing Repairs** (*written report, photos*)
§ E.6	*Financial Assurances Reports*	**1 June**
§ E.7	*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.8.b for additional requirements.)

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

   i. The times each water level measurement was taken;

   ii. The type of pump or other device used to purge and elevate pump intake level relative to screening interval;

   iii. The purging methods used to stabilize water in the well bore before sampling (including pumping rate);

   iv. The equipment and methods used for monitoring pH, temperature and electrical conductivity (EC) during purging activity, and the results of such monitoring;

   v. Methods for disposing of purged water; and

   vi. The type of device used for sampling, if different than the one used for purging.

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

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

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

h. For lined landfill units, a summary of any instances where leachate on the landfill liner system exceeded a depth of 30 cm (excluding the leachate sump), and information about the required notification

and corrective action in Section E.13 of the SPRRs (*Standard Facility Specifications*).

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

j. For closed landfills, summaries of inspections, leak searches and final cover repairs conducted in accordance with an approved Post-Closure Maintenance Plan per 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. For any Corrective Action systems at the Facility, tabulated summaries of:

i. Operating hours;

ii. Monthly runtimes and downtimes; and

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

2. Annual Monitoring Reports (AMRs)—On **1 February** of each year,[6] 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.8.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.[7]

---

[6] 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.

[7] 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.

c. An evaluation of Monitoring Parameters with regard to the cation/anion balance, and graphical presentation of same in a Stiff diagram, Piper graph or Schoeller plot.

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

e. For each groundwater well, quarterly hydrographs showing the elevation of groundwater with respect to the top and bottom of the screened interval, and the elevation of the pump intake,

f. A comprehensive discussion of the Facility's compliance record, and the result of any corrective actions taken or planned which may be needed to attain full compliance with the WDRs.

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

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

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

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

3. **Leachate Seep Reporting**—Upon discovery of seepage from any disposal area within the Facility, the Discharger shall i**mmediately 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 13 (*Physical Parameters*) and

Table 14 (*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. **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.)

7. **Water Quality Protection Standard Report**—Any proposed changes[8] to the WQPS components (§ B.5), other than periodic update of the Concentration Limits (§ B.5.g), shall be submitted in a WQPS Report for review and approval. The report shall be certified by a "Qualified Professional" (see § B), and contain the following:

a. *Potentially Affected Waterbodies*—An identification of all distinct bodies of surface water and groundwater potentially affected by a WMU release (including, but not limited to, the uppermost aquifer and any permanent or ephemeral zones of perched groundwater underlying the Facility);

[8] 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.

b. *Map of Monitoring Points*—A map of all groundwater, surface water[9], and unsaturated zone monitoring points (including all background/upgradient and Point of Compliance monitoring points);

c. *Groundwater Movement*—An evaluation of perennial direction(s) of groundwater movement within the uppermost zone(s);

d. *Statistical Method for Concentration Limits*—A proposed statistical method for calculating Concentration Limits for Monitoring Parameters and Five-Year COCs (see § f) detected in at least 10 percent of the background data (naturally-occurring constituents) using a statistical procedure described in Title 27 section 20415, subdivisions (e)(8)(A)-(D) or (e)(8)(E); and

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

8. General Reporting Provisions

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

i. Descriptions of any violations found since the last report was submitted, all actions undertaken to correct the violations (referencing any previously submitted time schedules for compliance), and whether the violations were corrected; and

ii. A statement from the submitting party, or its authorized agent, signed under penalty of perjury, certifying that, to the best of the signer's knowledge, the contents of the enclosed report are true, accurate and complete.

b. Monitoring Data and Reports

i. Electronic Submission via GeoTracker—All reports with monitoring data (e.g., SMRs and AMRs) shall be submitted electronically via the State Water Board's Geotracker

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

Database (https://geotracker.waterboards.ca.gov). After uploading a report, the Discharger shall notify Central Valley Water Board staff via email at CentralValleyFresno@WaterBoards.ca.gov. The following information shall be included in the body of the email:

Attention:	Title 27 Unit
Report Title:	[Title of Report]
GeoTracker Upload ID:	L10002595927
Facility Name:	Fairmead Landfill
County:	Madera County
WDID:	5C200300001

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

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

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

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

d. **Additional Requirements for Monitoring Reports**—Every monitoring report submitted pursuant to this MRP (e.g., SMRs [§ E.1], AMRs [§ E.2]) shall include a discussion of relevant field and laboratory tests, and the results of all monitoring conducted at the site shall be reported to the Central Valley Water Board in accordance with the reporting schedule above for the calendar period in which samples were taken or observations made.

F. **Record Retention Requirements**—The Discharger shall maintain permanent records of all monitoring information, including without limitation: calibration and maintenance records, original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this MRP, and records of all

data used to complete the application for WDRs. Such records shall be legible, and show the following for each sample:

1. Sample identification and the monitoring point or background monitoring point from which it was taken, along with the identity of the individual who obtained the sample;

2. Date, time and manner of sampling;

3. Date and time that analyses were started and completed, and the name of the personnel and laboratory performing each analysis;

4. A complete list of procedures used (including method of preserving the sample, and the identity and volumes of reagents used);

5. A calculation of results; and

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

LIST OF ATTACHMENTS

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

ENFORCEMENT

If, in the opinion of the Executive Officer, the Discharger 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 $5,000 per violation, per day, 5 pursuant to the Water Code, including section 13268. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

ADMINISTRATIVE REVIEW

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

ATTACHMENT A—VOLATILE ORGANIC COMPOUNDS, SHORT-LIST

USEPA Method 8260B

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
1,1 Dichloroethane (Ethylidene chloride)	DCA11

ATTACHMENT A—VOLATILE ORGANIC COMPOUNDS, SHORT-LIST

Constituent	Geotracker Code
1,2 Dichloroethane (Ethylene dichloride)	DCA12
1,1 Dichloroethylene (1,1 Dichloroethene; Vinylidene chloride)	DCE11
cis 1,2 Dichloroethylene (cis 1,2 Dichloroethene)	DCE12C
trans 1,2 Dichloroethylene (trans 1,2 Dichloroethene)	DCE12T
1,2 Dichloropropane (Propylene dichloride)	DCPA12
cis 1,3 Dichloropropene	DCP13C
trans 1,3 Dichloropropene	DCP13T
Di-isopropylether (DIPE)	DIPE
Ethanol	ETHANOL
Ethyltertiary butyl ether	ETBE
Ethylbenzene	EBZ
2 Hexanone (Methyl butyl ketone)	HXO2
Hexachlorobutadiene	HCBU
Methyl bromide (Bromomethene)	BRME
Methyl chloride (Chloromethane)	CLME
Methylene bromide (Dibromomethane)	DBMA
Methylene chloride (Dichloromethane)	DCMA
Methyl ethyl ketone (MEK: 2 Butanone)	MEK
Methyl iodide (Iodomethane)	IME
Methyl t-butyl ether	MTBE
4-Methyl 2 pentanone (Methyl isobutylketone)	MIBK
Naphthalene	NAPH

ATTACHMENT A—VOLATILE ORGANIC COMPOUNDS, SHORT-LIST

Constituent	Geotracker Code
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)

Constituent	Analytical Method	Geotracker Code
Aluminum	USEPA Method 6010	AL
Antimony	USEPA Method 7041	SB
Arsenic	USEPA Method 7062	AS
Barium	USEPA Method 6010	BA
Beryllium	USEPA Method 6010	BE
Cadmium	USEPA Method 7131A	CD
Chromium	USEPA Method 6010	CR
Cobalt	USEPA Method 6010	CO
Copper	USEPA Method 6010	CU
Cyanide	USEPA Method 9010C	CN
Iron	USEPA Method 6010	FE
Lead	USEPA Method 7421	PB
Manganese	USEPA Method 6010	MN
Mercury	USEPA Method 7470A	HG
Nickel	USEPA Method 7521	NI
Selenium	USEPA Method 7742	SE
Silver	USEPA Method 6010	AG
Sulfide	USEPA Method 9030Bx	S
Thallium	USEPA Method 7841	TL
Tin	USEPA Method 6010	SN
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
o Dichlorobenzene (1,2 Dichlorobenzene)	DCBZ12

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

Volatile Organic Compound	Geotracker Code
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
Hexachlorobutadiene	HCBU

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

Volatile Organic Compound	Geotracker Code
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
Toluene	BZME

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

Volatile Organic Compound	Geotracker Code
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

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

Constituent	Geotracker Code
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

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

Constituent	Geotracker Code
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
Endosulfan sulfate	ENDOSULFANS
Endrin	ENDRIN

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

Constituent	Geotracker Code
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

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

Constituent	Geotracker Code
1 Naphthylamine	AMINONAPH1
2 Naphthylamine	AMINONAPH2
o Nitroaniline (2 Nitroaniline)	NO2ANIL2
m Nitroaniline (3 Nitroaniline)	NO2ANIL3
p Nitroaniline (4 Nitroaniline)	NO2ANIL4
Nitrobenzene	NO2BZ
o Nitrophenol (2 Nitrophenol)	NTPH2
p Nitrophenol (4 Nitrophenol)	NTPH4
N Nitrosodi n butylamine (Di n butylnitrosamine)	NNSBU
N Nitrosodiethylamine (Diethylnitrosamine)	NNSE
N Nitrosodimethylamine (Dimethylnitrosamine)	NNSM
N Nitrosodiphenylamine (Diphenylnitrosamine)	NNSPH
N Nitrosodipropylamine (N Nitroso N dipropylamine; Di n propylnitrosamine)	NNSPR
N Nitrosomethylethylamine (Methylethylnitrosamine)	NNSME
N Nitrosopiperidine	NNSPPRD
N Nitrosospyrrolidine	NNSPYRL
5 Nitro o toluidine	TLDNONT5
Pentachlorobenzene	PECLBZ
Pentachloronitrobenzene (PCNB)	PECLNO2BZ
Pentachlorophenol	PCP
Phenacetin	PHNACTN

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

Constituent	Geotracker Code
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)

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