CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

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

[TENTATIVE] MONITORING & REPORTING PROGRAM (MRP) R5-2023-XXXX

ORDER INFORMATION

Order Type(s):	Monitoring & Reporting Program (MRP)
Status:	TENTATIVE
Program:	Title 27 Discharges to Land
Region 5 Office:	Sacramento (Rancho Cordova)
Discharger(s):	Waste Management of Alameda County, Inc.
Facility:	Altamont Solidification Facility
Address:	10840 Altamont Pass Road
County:	Alameda County
Parcel Nos.:	99B-6275-1-1
GeoTracker ID:	L10005834311
Place ID:	888337
WDID:	5B01TI00001
Prior Order(s):	(none)

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 _____ December 2023.

_____

PATRICK PULUPA,
Executive Officer

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GLOSSARY

ALRRF	Altamont Landfill and Resource & Recovery Facility
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

GLOSSARY

MDL	Method Detection Limit
Method TO-15 VOCs	Volatile Organic Compounds associated with USEPA Method TO-15
MRP	Monitoring and Reporting Program
MSW	Municipal Solid Waste
MSWLF	Municipal Solid Waste Landfill
N/A	Not Applicable
PID	Photo Ionization Detector
POC	Point of Compliance for Water Quality Protection Standard
QA/QC	Quality Assurance/Quality Control
Qualified Professional	Professional Civil Engineer or Geologist licensed by the State of California
RCRA	Resource Conservation and Recovery Act, 42 U.S.C. § 6901 et seq.
RL	Reporting Limit
ROWD / JTD	Report of Waste Discharge / Joint Technical Document
SCAP	Sample Collection and Analysis Plan
SGP	Soil Pore Gas
SI	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

TBD .....To Be Determined

TDS .....Total Dissolved Solids

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

USEPA .....United States Environmental Protection Agency

VOCs.....Volatile Organic Compounds

WDRs.....Waste Discharge Requirements

WMU .....Waste Management Unit

WQPS .....Water Quality Protection Standard

UNITS

ft3 / 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/cm3 .....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 Waste Management of Alameda County, Inc. (Discharger), which owns and/or operates the new proposed Altamont Solidification Facility (Facility) in Alameda County. The proposed Facility is related to the Altamont Landfill and Resource & Recovery Facility (ALRRF), also owned and operated by the Discharger. Additional information regarding the Facility is set forth in the enumerated findings of Waste Discharge Requirements Order R5-20XX-XXXX (WDRs Order). Except as otherwise provided in the following MRP, these findings are incorporated herein.

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

Although adopted with the WDRs Order, this is a separate order. which may be separately revised by the Executive Officer. (See Wat. Code, § 13223.) For the purposes of effectuating Title 27, any 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 the Discharger, and all agents, employees, and successors thereto, shall comply with the following:

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 Requirements" in the Facility's operative WDRs Order, which are also incorporated herein.

3. Compliance with Title 27

The Discharger shall comply with all 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 an approved Sample Collection and Analysis Plan (SCAP) and the Quality Assurance/Quality Control (QA/QC) standards specified therein. The Discharger may maintain separate SCAP volumes for detection monitoring and for liquid waste monitoring. The SCAP shall include proposed methodology for collecting representative composite samples from the Yellow Flag Basin and the Blue Flag Basin. 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 detection monitoring networks shall be revised, as needed.

1. Groundwater

a. Required Network

The Facility's groundwater monitoring well network consists of the known wells listed in **Table 1**[1] and additional planned monitoring points required by WDRs Order R5-20XX-XXXX. The planned additional monitoring points required pursuant to WDRs Order R5-20XX-XXXX are incorporated into **Table 1** and subject to requirements described herein for all monitoring well points listed in **Table 1**.

As of the date of this Order, the network does not meet the requirements of Title 27. (Title 27, § 20415, subd. (b).) WDRs Order R5-20XX-XXXX authorizes the Discharger to use ALRRF MW-19 and ALRRF MW-52 to develop interim background water quality data for the purposes of satisfaction Title 27 section 21750(g)(7). The Executive Officer, upon reviewing the proposed Detection Monitoring Program required by WDRs Order R5-20XX-XXXX Monitoring Requirements G.3, may determine whether ALRRF MW-19, ALRRF MW-52, and MW-60 are "background" or "detection" monitoring wells for the Solidification Facility, within the meaning of Title 27 sections 20415 and 20420.

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

Table 1—Groundwater Monitoring Network

Well	Program	Monitored Unit	Point of Compliance (WQPS)	Zone	Status
ALRRF MW-19	Detection	Solidification Facility, TBD	Interim Background	Unweathered Bedrock	Active
ALRRF MW-52	Detection	Solidification Facility, TBD	Interim Background	Weathered/Unweathered Bedrock	Active
MW-60	Detection	Solidification Facility, TBD	Interim Background	Undetermined	Active
MW-TBD[1]	Detection[1]	Varies	TBD[1]	Undetermined	Planned

See Glossary for definitions of terms and abbreviations in table.

[1] The Discharger shall incorporate the planned additional monitoring points into the Facility Monitoring and Reporting.

b. Sample Collection and Analysis

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

Table 2—Groundwater Detection Monitoring, Physical Parameters

Physical Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Temperature	TEMP	°F	Quarterly / seminannual[1]	Semiannual
Electrical Conductivity	SC	µmhos/cm	Quarterly / seminannual[1]	Semiannual

Physical Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
pH	PH	pH Units	Quarterly / seminannual[1]	Semiannual
Turbidity	TURB	NTUs	Quarterly / seminannual[1]	Semiannual

See Glossary for definitions of terms and abbreviations in table.
[1] One year of quarterly sampling, semianually thereafter.

Table 3—Groundwater Detection Monitoring, Constituent Parameters

Constituent Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
TDS	TDS	mg/L	Quarterly / seminannual[1]	Semiannual
Chloride	CL	mg/L	Quarterly / seminannual[1]	Semiannual
Carbonate	CACO3	mg/L	Quarterly / seminannual[1]	Semiannual
Bicarbonate	BICACO3	mg/L	Quarterly / seminannual[1]	Semiannual
Sulfate	SO4	mg/L	Quarterly / seminannual[1]	Semiannual
Calcium	CA	mg/L	Quarterly / seminannual[1]	Semiannual
Magnesium	MG	mg/L	Quarterly / seminannual[1]	Semiannual
Potassium	K	mg/L	Quarterly / seminannual[1]	Semiannual
Sodium	NA	mg/L	Quarterly / seminannual[1]	Semiannual

Constituent Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Cadmium	CD	mg/L	Quarterly / seminannual[1]	Semiannual
Copper	CU	mg/L	Quarterly / seminannual[1]	Semiannual
Lead	PB	mg/L	Quarterly / seminannual[1]	Semiannual
Nickel	NI	mg/L	Quarterly / seminannual[1]	Semiannual
Zinc	ZN	mg/L	Quarterly / seminannual[1]	Semiannual
Nitrate (as Nitrogen)	NO3	mg/L	Quarterly / seminannual[1]	Semiannual
Short List VOCs (Attachment A)	(various)	µg/L	Semiannual	Semiannual
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	µg/L	Every 5 Years	Every 5 Years

See Glossary for definitions of terms and abbreviations in table.
[1] One year of quarterly sampling, semianually thereafter.

c. Five-Year COCs

The Dischargers 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 shall be analyzed in 2025. (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

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

See Glossary for definitions of terms and abbreviations in table.

d. Groundwater Conditions

Each quarter, the Discharger shall monitor the Groundwater Conditions specified in **Table 5**, with the result of such monitoring being reported semiannually per **Section D.1**.[2] (Title 27, § 20415, subd. (b)(1).)

Table 5—Groundwater Detection Monitoring, Groundwater Conditions

Groundwater Condition	GeoTracker Code	Monitoring Freq.	Reporting Freq.
Elevation (Well-Specific)	ELEV	Quarterly	Semiannually
Gradient	(none)	Quarterly	Semiannually

[2] 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).)

Groundwater Condition	GeoTracker Code	Monitoring Freq.	Reporting Freq.
Flow Rate	(none)	Quarterly	Semiannually

2. Unsaturated Zone

a. Required Network

The Facility's unsaturated zone monitoring network consists of the lysimeter (LYS) monitoring points specified in **Table 6** and potential additional planned unsaturated zone monitoring points described by WDRs Order R5-20XX-XXXX, Finding 83 and required by WDRs Order R5-20XX-XXXX, Monitoring Requirement G.7. The planned additional unsaturated zone monitoring points required pursuant to WDRs Order R5-20XX-XXXX are incorporated into **Table 1** and subject to requirements described herein for all monitoring well points listed in **Table 6**.

Table 6—Unsaturated Zone Monitoring Network

Monitoring Point	Device Type	Program	Monitored Unit	Status
LYS YFB	Pan Lysimeter	Detection	Yellow Flag Basin	Planned
LYS BFB	Pan Lysimeter	Detection	Blue Flag Basin	Planned

See Glossary for definitions of terms and abbreviations in table.

b. Lysimeter Inspection

Each lysimeters shall be inspected with each sampling event 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 lysimeter, the Discharger shall notify Central Valley Water Board staff within seven days of the detection. If liquid is detected in a previously dry lysimeter, the Discharger shall perform monthly monitoring of the Physical Parameters in **Table 7.**

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

Physical Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Electrical Conductivity	SC	µmhos/cm	Quarterly	Semiannual
pH	PH	pH Units	Quarterly	Semiannual
Volume of Removed Liquid	(none)	Gallons	Quarterly	Semiannual
Depth of Liquids	(none)	Inches	Quarterly	Semiannual

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 Freq.	Reporting Freq.
TDS	TDS	mg/L	Quarterly	Semiannual
Chloride	CL	mg/L	Quarterly	Semiannual
Carbonate	CACO3	mg/L	Quarterly	Semiannual
Bicarbonate	BICACO3	mg/L	Quarterly	Semiannual
Sulfate	SO4	mg/L	Quarterly	Semiannual
Calcium	CA	mg/L	Quarterly	Semiannual
Magnesium	MG	mg/L	Quarterly	Semiannual
Potassium	K	mg/L	Quarterly	Semiannual
Sodium	NA	mg/L	Quarterly	Semiannual
Cadmium	CD	mg/L	Quarterly	Semiannual
Copper	CU	mg/L	Quarterly	Semiannual

Constituent Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Lead	PB	mg/L	Quarterly	Semiannual
Nickel	NI	mg/L	Quarterly	Semiannual
Zinc	ZN	mg/L	Quarterly	Semiannual
Nitrate (as Nitrogen)	NO3	mg/L	Quarterly	Semiannual
Short List VOCs (Attachment A)	(various)	µg/L	Semiannual	Semiannual
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	µg/L	Every 5 Years	Every 5 Years

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 we shall be analyzed 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 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

Five-Year Constituent	GeoTracker Code	Units	Sampling & Reporting Freq.
Organophosphorus Compounds (Attachment F)	(various)	µg/L	Every 5 Years

See Glossary for definitions of terms and abbreviations in table.

3. Surface Impoundment Sampling

Within 60 days of Central Valley Water Board authorization to commence the discharge of wastes to the Class II surface impoundments, the Discharger shall collect a composite sample of liquid wastes intended for discharge to each basin and analyze and characterize the liquid wastes for the constituents identified in **Table 2**, **Table 3**, and **Table 4** (Title 27, § 20420, subd. (g)). Composite samples shall be collected and analyzed pursuant to procedures described in the approved SCAP pertaining to liquid waste monitoring (See General Provision A.4). The Discharger shall evaluate the potential risk of water quality degradation associated with each constituent in the event of an unauthorized release (Title 27, § 20420, subd. (c)) and verify the liquid wastes are compatible with containment features of the class II surface impoundment (Title 27, §§ 20200, subd. (c), 20320, subd. (e)). The Discharger shall periodically repeat sample collection and analysis no less frequently than annually.

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

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

a. Compliance Period

The "compliance period" is the minimum time for which a water quality monitoring will be required—i.e., equal to the sum of active years and the closure period. (Title 27, § 20410.) The period restarts each time an Evaluation Monitoring Program (EMP) is

initiated for a given WMU. (Id., §§ 20410, 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 not defined pending development of the Detection Monitoring Program required by WDRs Order R5-20XX-XXXX Monitoring Requirements G.3.

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 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).[3](Title 27, § 20400, subds. (a), (b).) The Discharger has yet to complete background sampling or submit a complete set of Concentration Limits for the Monitoring Parameters. WDRs Order R5-20XX-XXXX authorizes the Discharger to use ALRRF MW-19, ALRRF MW-52, and MW-60 to develop interim background water quality data for the purposes of satisfaction Title 27 section 20415, subdiviions (e)(6) and section 21750, subdivision (g)(7).

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[3] 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.

To develop Concentration Limits for the Solidification Facility, the Discharger proposes using the same methods employed for developing Concentration Limits for the ALRRF, as described in *2022 2-Year Groundwater Concentration Limits Update for Fill Area 1 and Fill Area 2*, dated 27 October 2022. These methods are based primarily on the Shewhart-CUSUM statistical method described in ASTM Standard D 6312-984 and the most recent site-specific MRP for the ALRRF and which is incorporated into the ALRRF Joint Technical Document dated 30 July 2015. The Concentration Limits are well-specific (i.e., intrawell), incorporating baseline monitoring data, and are designed to be updated every two years as additional data are collected.

Concentration Limits developed for the Solidification Facility shall have the primary purpose of supporting the WQPS for the waste management units identified in **WDRs Order R5-20XX-XXXX, Table 1.** Notwithstanding, the Discharger may endeavor to synchronize development of the Concentration Limits for the Solidification Facility, and revisions made thereto, with the schedule for collection of background data and development of concentration limits periodic concentration limit to all detection monitoring wells for the ALRRF provided such efforts do not conflict with the requirements of WDRs Order R5-20XX-XXXX.

Concentration Limits shall be proposed and/or updated by the Discharger every two years, in the corresponding Annual Monitoring Report (AMR) submitted per **Section D.2** here. Unless expressly rejected by the Executive Officer in writing, the proposed Concentration Limits shall be incorporated as part of this Order.

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

WDRs Order R5-20XX-XXXX requires the Discharger to provide all required WQPS elements prior to placement of wastes in the waste management units identified in WDRs Order R5-20XX-XXXX, Table 1.

h. Retesting Procedures

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

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

viii. **Statistical Retesting Procedures (SPRRs, § I.47)** for analytes detected in 10 percent or greater of background samples (e.g., naturally occurring COCs).

C. Additional Facility Monitoring

1. Leachate Collection & Removal System (LCRS)

The Discharger shall operate and maintain leachate collection and removal system (LCRS), conveyance pipelines, sumps, and conduct monitoring of any detected leachate in accordance with Title 27 and the following provisions.

a. Annual LCRS Testing

All LCRSs 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. All LCRSs shall be equipped with a means of observing and measuring volume of leachate in conveyance lines (e.g., pressure gauge, sight glass, level indicator, or other device). Each LCRS conveyance line shall also be equipped with a dedicated flow measurement device maintained and calibrated pursuant to the manufacturer's specifications and a dedicated sample port to facilitate sample collection from the primary carrier containment pipe.

Any liquids conveyed by a secondary containment pipe in a dual contain pipe system shall be 1.) Assumed to be leachate lost due to a failure of the primary carrier containment pipe system unless and

until proven otherwise; and 2.) Trigger inspection of and appropriate corrective action to the primary containment pipe system. Secondary containment pipe systems of a dual contained pipe system shall terminate in a manner which allows for observation and containment of liquids conveyed by the secondary containment pipe and facilitates sample collection liquids.

Sump inspection shall include recorded observations of the total flow and flow rate for leachate, and maximum liquid height in each conveyance line measured in vertical feet above a fixed datum such as the pump flowline or the lowest hydraulic elevation in the system (whichever is lower in elevation) as provided in **Table 10**, reported semiannually per **Section D.1**. Semi-annual reports shall also include a description of any liquids conveyed by a secondary containment pipe and the outcome of inspection conducted and corrective action taken, if any.

Table 10—LCRS Sump Monitoring, Monthly Inspection Parameters

Physical Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Total Volume	(none)	Gallons	Monthly	Semiannually
Flow Rate	FLOW	Gallons/Day	Monthly	Semiannually
Liquid Height	(none)	Inches	Monthly	Semiannually
Volume of Liquid Detected in Secondary Containment Pipe of a Dual Contain Pipe System	(none)	Gallons	On Observation	Semiannually

See Glossary for definitions of terms and abbreviations in table.

c. Detection of Secondary Leachate at the Sump

Upon detecting secondary leachate at the 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**.[4] Thereafter, whenever secondary leachate is present in the same sump, the secondary leachate shall be sampled and analyzed for the same parameters, and in accordance with the specified sampling and reporting schedule in **Table 11**.

Table 11—LCRS Sump Monitoring, Parameters for Subsequent Monitoring

Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Electrical Conductivity	SC	µmhos/cm	Quarterly	Semiannually
pH	PH	pH Units	Quarterly	Semiannually
TDS	TDS	mg/L	Quarterly	Semiannually
Chloride	CL	mg/L	Quarterly	Semiannually
Carbonate	CACO3	mg/L	Quarterly	Semiannually
Bicarbonate	BICACO3	mg/L	Quarterly	Semiannually
Nitrate (as Nitrogen)	NO3N	mg/L	Quarterly	Semiannually
Sulfate	SO4	mg/L	Quarterly	Semiannually
Calcium	CA	mg/L	Quarterly	Semiannually
Magnesium	MG	mg/L	Quarterly	Semiannually
Potassium	K	mg/L	Quarterly	Semiannually
Sodium	NA	mg/L	Quarterly	Semiannually

[4] 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.

Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Cadmium	CD	mg/L	Quarterly	Semiannual
Copper	CU	mg/L	Quarterly	Semiannual
Lead	PB	mg/L	Quarterly	Semiannual
Nickel	NI	mg/L	Quarterly	Semiannual
Zinc	ZN	mg/L	Quarterly	Semiannual
Short List VOCs (Attachment A)	(various)	µg/L	Quarterly	Semiannually
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	µg/L	Quarterly	Every 5 Years

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 and shall be analyzed in 2025.

Table 12—LCRS Sump Monitoring, Five-Year COCs

Parameter	GeoTracker Code	Units	Sampling & Reporting Freq.
Total Organic Carbon	TOC	mg/L	Every 5 Years
Dissolved Inorganics (Attachment B)	(various)	µg/L	Every 5 Years
Extended List VOCs (Attachment C)	(various)	µg/L	Every 5 Years

Parameter	GeoTracker Code	Units	Sampling & Reporting Freq.
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

Leachate that seeps to the surface or daylights from any WMU shall, immediately upon detection, be sampled and analyzed for the Monitoring Parameters in **Table 13** (Physical Parameters) and **Table 14** (Constituent Parameters). See **Section D.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). Leachate seepage monitoring shall include regular visual inspection of the perimeter of the Extender Stockpile Work Area for evidence of leachate seepage.

Table 13—Leachate Seep Monitoring, Physical Parameters

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

See Glossary for definitions of terms and abbreviations in table.

Table 14—Leachate Seep Monitoring, Constituent Parameters

Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
TDS	TDS	mg/L	Upon Detection	See MRP, § E.3
Chloride	CL	mg/L	(same)	(same)
Carbonate	CACO3	mg/L	(same)	(same)
Bicarbonate	BICACO3	mg/L	(same)	(same)
Nitrate as Nitrogen	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)
Cadmium	CD	mg/L	Quarterly	Semiannual
Copper	CU	mg/L	Quarterly	Semiannual
Lead	PB	mg/L	Quarterly	Semiannual
Nickel	NI	mg/L	Quarterly	Semiannual
Zinc	ZN	mg/L	Quarterly	Semiannual
Short List VOCs (Attachment A)	(various)	µg/L	(same)	(same)
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	µg/L	(same)	(same)

See Glossary for definitions of terms and abbreviations in table.

3. Regular Visual Inspection

The Discharger shall perform regular visual inspections at the Facility in accordance with **Table 15** (Criteria) and **Table 16** (Schedule). Results of these regular visual inspections shall be included in Semiannual Monitoring Reports per **Section D.1**.

Table 15—Criteria for Regular Visual Inspections

Category	Criteria
Within Unit	• Evaluation of installed reinforced concrete liner systems for evidence damage including inspection for evidence of cracks, concrete spalling, corrosion of reinforcing steel, or other conditions of deterioration which could reduce the hydraulic conductivity of the primary liner system. • Evaluation of drainage channels for evidence of ponding, debris obstruction, and other conditions which reduce design functionality of a waste management unit. • Evidence of erosion and/or subgrade or foundation failure of a waste management unit. • Maximum elevation of stockpiled materials against Extender Stockpile Area Containment Wall. • Evidence of uncontained materials due to overtopping of stockpiled materials over the Extender Stockpile Area Containment Wall, explanation of circumstances resulting in any overtopping events (operations, wind effects, or other means) and measures employed to remove uncontained materials.
Unit Perimeter	• Evidence of leachate seep. • Estimated size of affected area (record on map) and flow rate. • Evidence of erosion and/or Unit failure. • Perimeter of the Extender Stockpile Area. • Perimeter of the surface impoundments. • All observable LCRS and Lysimeter piping. • LCRS and Lysimeter storage tanks. • LCRS and Lysimeter storage tank concrete pad, including down slope (north, east and west) perimeter.

Category	Criteria
Surface 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, and preparedness for winter conditions (e.g., erosion and sedimentation control), the items identified in Table 15, evidence of settlement including, but not limited to cracks, spalling, deterioration, oxidation, settlement, or any other condition which could affect the ability of a unit to perform as designed and contain wastes. 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 D.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 D.5** for Reporting Requirements.

D. Reporting Requirements

Table 17—Summary of Required Reports

Section	Report	Deadline
§ D.1	Semiannual Monitoring Reports (SMRs)	**15 September** (1 January to 30 June) **15 March** (1 July to 31 December)
§ D.2	Annual Monitoring Reports (AMRs)	1 February
§ D.3	Leachate Seep Reporting	Immediately upon Discovery of Seepage (*staff notification*) **Within 7 Days** (*written report*)
§ D.4	Annual Facility Inspection Reports	15 November
§ D.5	Major Storm Reporting	Immediately after Damage Discovery (*staff notification*) Within 14 Days of Completing Repairs (*written report, photos*)
§ D.6	Financial Assurances Reports	1 June
§ D.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 D.9.b** for additional requirements.)

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

   i. The times each water level measurement was taken;

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

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

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

   v. Methods for disposing of purged water; and

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

e. Evaluation of concentrations for all Constituent Parameters and Five-Year COCs (when analyzed), comparison to current Concentration Limits, and results of any Retesting Procedures per **Section B.4.h**.

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

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

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

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

2. Annual Monitoring Reports (AMRs)

On 1 February of each year,[5] 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 D.9.b** for additional requirements for monitoring reports.)

b. Graphs of historical trends for all Monitoring Parameters and Five-Year COCs (if such analyses were performed) with respect to each monitoring point over the five prior calendar years.[6]

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. Upon request of the Central Valley Water Board, cumulative historical monitoring data organized as described in General Reporting Provisions 8.b in an electronic data format (e.g., Excel) amenable to statistical analysis.

e. For each groundwater well, quarterly hydrographs showing the elevation of groundwater *and a table showing the elevations of the top and bottom of the screened interval, the elevation of the pump intake, and the groundwater elevation*,

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[5] 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.

[6] Each graph shall contain individual data points (not mean values) and be appropriately scaled to accurately depict statistically significant trends or variations in water quality.

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

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

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

i. Updates to the Concentration Limits for all Monitoring Parameters and WQPS Monitoring Points, in accordance with **Section B.4.g** of this Order.

3. Leachate Seep Reporting

Upon discovery of seepage from any area related to the Facility, including but not limited to the perimeter of the Extender Stockpile Area, perimeter of the surface impoundments, LCRS or Lysimeter piping, LCRS and Lysimeter storage tanks, LCRS and Lysimeter storage tank concrete pad, including down slope (north, east and west) perimeter, the Discharger shall immediately notify the Central Valley Water Board via telephone or email; and within seven days, submit a written report with the following information:

a. Map(s) depicting the location(s) of seepage;

b. Estimated flow rate(s);

c. A description of the nature of the discharge (e.g., all pertinent observations and analyses);

d. Verification that samples have been submitted for analyses of the Monitoring Parameters in **Table 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 C.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 C.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 an annual financial assurances report to the Central Valley Water Board that reports the balance of the closure funds and the adjustments to funds for inflation in accordance with Title 27 section 22236 (See WDRs Order).

7. Water Quality Protection Standard Report

Any proposed changes[7] to the Water Quality Protection Standard (WQPS) components (§ B.4), other than periodic update of the Concentration Limits (§ B.4.g), shall be submitted in a WQPS Report for review and approval. The report shall be certified by a "Qualified Professional" (§ B), and contain the following:

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

[7] 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[8] 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 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, subd. (e)(8)(E), 20420, subd. (j)(1)-(3)).

8. General Reporting Provisions

a. Transmittal Letters

Each report submitted under this MRP shall be accompanied by a Transmittal Letter providing a brief overview of the enclosed report, as well as the following:

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

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

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

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 CentralVallySacramento@WaterBoards.ca.gov. The following information shall be included in the body of the email:

Attention:	Title 27 Compliance & Enforcement Unit
Report Title:	[Report Title]
GeoTracker Upload ID:	L10005834311
Facility Name:	Altamont Solidification Facility
County:	Alameda County
CIWQS Place ID:	888337

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 [§ 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.

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:

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

2. Date, time, and manner of sampling;

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

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

5. A calculation of results; and

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

LIST OF ATTACHMENTS

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

ENFORCEMENT

If, in the opinion of the Executive Officer, the Discharger fail to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to $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 State Water Board website (http://www.waterboards.ca.gov/public_notices/petitions/water_quality). Copies will also be provided upon request.

ATTACHMENT A—VOLATILE ORGANIC COMPOUNDS, SHORT LIST

USEPA Method 8260B,
Short List

Constituent	Geotracker Code
Acetone	ACE
Acrylonitrile	ACRAMD
Benzene	BZ
Bromochloromethane	BRCLME
Bromodichloromethane	BDCME
Bromoform (Tribromomethane)	TBME
Carbon disulfide	CDS
Carbon tetrachloride	CTCL
Chlorobenzene	CLBZ
Chloroethane (Ethyl chloride)	CLEA
Chloroform (Trichloromethane)	TCLME
Dibromochloromethane (Chlorodibromomethane)	DBCME
1,2 Dibromo 3 chloropropane (DBCP)	DBCP
1,2 Dibromoethane (Ethylene dibromide; EDB)	EDB
o Dichlorobenzene (1,2 Dichlorobenzene)	DCBZ12
m Dichlorobenzene (1,3 Dichlorobenzene)	DCBZ13
p Dichlorobenzene (1,4 Dichlorobenzene)	DCBZ14
trans l ,4 Dichloro 2 butene	DCBE14T
Dichlorodifluoromethane (CFC-12)	FC12

ATTACHMENT A—VOLATILE ORGANIC COMPOUNDS, SHORT LIST

Constituent	Geotracker Code
1,1 Dichloroethane (Ethylidene chloride)	DCA11
1,2 Dichloroethane (Ethylene dichloride)	DCA12
1,1 Dichloroethylene (1,1 Dichloroethene; Vinylidene chloride)	DCE11
cis 1,2 Dichloroethylene (cis 1,2 Dichloroethene)	DCE12C
trans 1,2 Dichloroethylene (trans 1,2 Dichloroethene)	DCE12T
1,2 Dichloropropane (Propylene dichloride)	DCPA12
cis 1,3 Dichloropropene	DCP13C
trans 1,3 Dichloropropene	DCP13T
Di-isopropylether (DIPE)	DIPE
Ethanol	ETHANOL
Ethyltertiary butyl ether	ETBE
Ethylbenzene	EBZ
2 Hexanone (Methyl butyl ketone)	HXO2
Hexachlorobutadiene	HCBU
Methyl bromide (Bromomethene)	BRME
Methyl chloride (Chloromethane)	CLME
Methylene bromide (Dibromomethane)	DBMA
Methylene chloride (Dichloromethane)	DCMA
Methyl ethyl ketone (MEK: 2 Butanone)	MEK
Methyl iodide (Iodomethane)	IME
Methyl t-butyl ether	MTBE

ATTACHMENT A—VOLATILE ORGANIC COMPOUNDS, SHORT LIST

Constituent	Geotracker Code
4-Methyl 2 pentanone (Methyl isobutylketone)	MIBK
Naphthalene	NAPH
Styrene	STY
Tertiary amyl methyl ether	TAME
Tertiary butyl alcohol	TBA
1,1,1,2 Tetrachloroethane	TC1112
1,1.2,2 Tetrachloroethane	PCA
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene)	PCE
Toluene	BZME
1,2,4-Trichlorobenzene	TCB124
1,1,1 Trichloroethane (Methylchloroform)	TCA111
1,1,2 Trichloroethane	TCA112
Trichloroethylene (Trichloroethene)	TCE
Trichlorofluoromethane (CFC 11)	FC11
1,2,3 Trichloropropane	TCPR123
Vinyl acetate	VA
Vinyl chloride	VC
Xylenes	XYLENES

ATTACHMENT B—DISSOLVED INORGANICS (FIVE-YEAR COCS)

Dissolved Inorganics List

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

ATTACHMENT B—DISSOLVED INORGANICS (FIVE-YEAR COCS)

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

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

USEPA Method 8260, Extended List

Volatile Organic Compound	Geotracker Code
Acetone	ACE
Acetonitrile (Methyl cyanide)	ACCN
Acrolein	ACRL
Acrylonitrile	ACRAMD
Allyl chloride (3 Chloropropene)	CLPE3
Benzene	BZ
Bromochloromethane (Chlorobromomethane)	BRCLME
Bromodichloromethane (Dibromochloromethane)	DBCME
Bromoform (Tribromomethane)	TBME
Carbon disulfide	CDS
Carbon tetrachloride	CTCL
Chlorobenzene	CLBZ
Chloroethane (Ethyl chloride)	CLEA
Chloroform (Trichloromethane)	TCLME
Chloroprene	CHLOROPRENE
Dibromochloromethane (Chlorodibromomethane)	DBCME
1,2 Dibromo 3 chloropropane (DBCP)	DBCP
1,2 Dibromoethane (Ethylene dibromide; EDB)	EDB

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

Volatile Organic Compound	Geotracker Code
o Dichlorobenzene (1,2 Dichlorobenzene)	DCBZ12
m Dichlorobenzene(1,3 Dichlorobenzene)	DCBZ13
p Dichlorobenzene (1,4 Dichlorobenzene)	DCBZ14
trans 1,4 Dichloro 2 butene	DCBE14T
Dichlorodifluoromethane (CFC 12)	FC12
1,1 Dichloroethane (Ethylidene chloride)	DCA11
1,2 Dichloroethane (Ethylene dichloride)	DCA12
1,1 Dichloroethylene (1, l Dichloroethene; Vinylidene chloride)	DCE11
cis l ,2 Dichloroethylene (cis 1,2 Dichloroethene)	DCE12C
trans l ,2 Dichloroethylene (trans 1,2 Dichloroethene)	DCE12T
1,2 Dichloropropane (Propylene dichloride)	DCPA12
1,3 Dichloropropane (Trimethylene dichloride)	DCPA13
2,2 Dichloropropane (Isopropylidene chloride)	DCPA22
1,1 Dichloropropene	DCP11
cis 1,3 Dichloropropene	DCP13C
trans l ,3 Dichloropropene	DCP13T
Di-isopropylether (DIPE)	DIPE
Ethanol	ETHANOL
Ethyltertiary butyl ether	ETBE
Ethylbenzene	EBZ
Ethyl methacrylate	EMETHACRY

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

Volatile Organic Compound	Geotracker Code
Hexachlorobutadiene	HCBU
2 Hexanone (Methyl butyl ketone)	HXO2
Isobutyl alcohol	ISOBTOH
Methacrylonitrile	METHACRN
Methyl bromide (Bromomethane)	BRME
Methyl chloride (Chloromethane)	CLME
Methyl ethyl ketone (MEK; 2 Butanone)	MEK
Methyl iodide (Iodomethane)	IME
Methyl t-butyl ether	MTBE
Methyl methacrylate	MMTHACRY
4 Methyl 2 pentanone (Methyl isobutyl ketone)	MIBK
Methylene bromide (Dibromomethane)	DBMA
Methylene chloride (Dichloromethane)	DCMA
Naphthalene	NAPH
Propionitrile (Ethyl cyanide)	PACN
Styrene	STY
Tertiary amyl methyl ether	TAME
Tertiary butyl alcohol	TBA
1,1,1,2 Tetrachloroethane	TC1112
1,1,2,2 Tetrachloroethane	PCA
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene; PCE)	PCE

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

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

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

USEPA Methods 8270C or 8270D
Base, Neutral & Acids Extractables List

Constituent	Geotracker Code
Acenaphthene	ACNP
Acenaphthylene	ACNPY
Acetophenone	ACPHN
2 Acetylaminofluorene (2 AAF)	ACAMFL2
Aldrin	ALDRIN
4 Aminobiphenyl	AMINOBPH4
Anthracene	ANTH
Benzo[a]anthracene (Benzanthracene)	BZAA
Benzo[b]fluoranthene	BZBF
Benzo[k]fluoranthene	BZKF
Benzo[g,h,i]perylene	BZGHIP
Benzo[a]pyrene	BZAP
Benzyl alcohol	BZLAL
Bis(2 ethylhexyl) phthalate	BIS2EHP
alpha BHC	BHCALPHA
beta BHC	BHCBETA
delta BHC	BHCDELTA
gamma BHC (Lindane)	BHCGAMMA

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

Constituent	Geotracker Code
Bis(2 chloroethoxy) methane	BECEM
Bis(2 chloroethyl) ether (Dichloroethyl ether)	BIS2CEE
Bis(2 chloro 1 methyethyl) ether (Bis(2 chloroisopropyl) ether; DCIP)	BIS2CIE
4 Bromophenyl phenyl ether	BPPE4
Butyl benzyl phthalate (Benzyl butyl phthalate)	BBP
Chlordane	CHLORDANE
p Chloroaniline	CLANIL4
Chlorobenzilate	CLBZLATE
p Chloro m cresol (4 Chloro 3 methylphenol)	C4M3PH
2 Chloronaphthalene	CNPH2
2 Chlorophenol	CLPH2
4 Chlorophenyl phenyl ether	CPPE4
Chrysene	CHRYSENE
o Cresol (2 methylphenol)	MEPH2
m Cresol (3 methylphenol)	MEPH3
p Cresol (4 methylphenol)	MEPH4
4,4' DDD	DDD44
4,4' DDE	DDE44
4,4' DDT	DDT44
Diallate	DIALLATE
Dibenz[a,h]anthracene	DBAHA

Constituent	Geotracker Code
Dibenzofuran	DBF
Di n butyl phthalate	DNBP
3,3' Dichlorobenzidine	DBZD33
2,4 Dichlorophenol	DCP24
2,6 Dichlorophenol	DCP26
Dieldrin	DIELDRIN
Diethyl phthalate	DEPH
p (Dimethylamino) azobenzene	PDMAABZ
7,12 Dimethylbenz[a]anthracene	DMBZA712
3,3' Dimethylbenzidine	DMBZD33
2,4 Dimehtylphenol (m Xylenol)	DMP24
Dimethyl phthalate	DMPH
m Dinitrobenzene	DNB13
4,6 Dinitro o cresol (4,6 Dinitro 2 methylphenol)	DN46M
2,4 Dinitrophenol	DNP24
2,4 Dinitrotoluene	DNT24
2,6 Dinitrotoluene	DNT26
Di n octyl phthalate	DNOP
Diphenylamine	DPA
Endosulfan I	ENDOSULFANA
Endosulfan II	ENDOSULFANB

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

Constituent	Geotracker Code
Endosulfan sulfate	ENDOSULFANS
Endrin	ENDRIN
Endrin aldehyde	ENDRINALD
Ethyl methanesulfonate	EMSULFN
Famphur	FAMPHUR
Fluoranthene	FLA
Fluorene	FL
Heptachlor	HEPTACHLOR
Heptachlor epoxide	HEPT-EPOX
Hexachlorobenzene	HCLBZ
Hexachlorocyclopentadiene	HCCP
Hexachloroethane	HCLEA
Hexachloropropene	HCPR
Indeno(1,2,3 c,d) pyrene	INP123
Isodrin	ISODRIN
Isophorone	ISOP
Isosafrole	ISOSAFR
Kepone	KEP
Methapyrilene	MTPYRLN
Methoxychlor	MTXYCL
3 Methylcholanthrene	MECHLAN3

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

Constituent	Geotracker Code
Methyl methanesulfonate	MMSULFN
2 Methylnaphthalene	MTNPH2
1,4 Naphthoquinone	NAPHQ14
1 Naphthylamine	AMINONAPH1
2 Naphthylamine	AMINONAPH2
o Nitroaniline (2 Nitroaniline)	NO2ANIL2
m Nitroaniline (3 Nitroaniline)	NO2ANIL3
p Nitroaniline (4 Nitroaniline)	NO2ANIL4
Nitrobenzene	NO2BZ
o Nitrophenol (2 Nitrophenol)	NTPH2
p Nitrophenol (4 Nitrophenol)	NTPH4
N Nitrosodi n butylamine (Di n butylnitrosamine)	NNSBU
N Nitrosodiethylamine (Diethylnitrosamine)	NNSE
N Nitrosodimethylamine (Dimethylnitrosamine)	NNSM
N Nitrosodiphenylamine (Diphenylnitrosamine)	NNSPH
N Nitrosodipropylamine (N Nitroso N dipropylamine; Di n propylnitrosamine)	NNSPR
N Nitrosomethylethylamine (Methylethylnitrosamine)	NNSME
N Nitrosopiperidine	NNSPPRD
N Nitrosospyrrolidine	NNSPYRL
5 Nitro o toluidine	TLDNONT5
Pentachlorobenzene	PECLBZ

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

Constituent	Geotracker Code
Pentachloronitrobenzene (PCNB)	PECLNO2BZ
Pentachlorophenol	PCP
Phenacetin	PHNACTN
Phenanthrene	PHAN
Phenol	PHENOL
p Phenylenediamine	ANLNAM4
Polychlorinated biphenyls (PCBs; Aroclors)	PCBS
Pronamide	PRONAMD
Pyrene	PYR
Safrole	SAFROLE
1,2,4,5 Tetrachlorobenzene	C4BZ1245
2,3,4,6 Tetrachlorophenol	TCP2346
o Toluidine	TLDNO
Toxaphene	TOXAP
2,4,5 Trichlorophenol	TCP245
0,0,0 Triethyl phosphorothioate	TEPTH
sym Trinitrobenzene	TNB135

ATTACHMENT E—CHLOROPHENOXY HERBICIDES (FIVE-YEAR COCS)

USPEA Method 8151A List

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

ATTACHMENT F—ORGANOPHOSPHOROUS COMPOUNDS (FIVE YEAR COCS)

USEPA Method 8141B List

Constituent	GeoTracker Code
Atrazine	ATRAZINE
Chlorpyrifos	CLPYRIFOSME
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