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CENTRAL VALLEY REGION

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[Regional Board Website](https://www.waterboards.ca.gov/centralvalley) (<https://www.waterboards.ca.gov/centralvalley>)

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

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**ORDER INFORMATION**

**Order Type(s):** Monitoring & Reporting Program (MRP)  
**Status:** TENTATIVE  
**Program:** Title 27 Discharges to Land  
**Region 5 Office:** Rancho Cordova  
**Discharger(s):** Aqua Clear Farms, a California Corporation &  
Hatch Investments, a California Limited Partnership  
**Facility:** Aqua Clear Farms  
**Address:** 6762 Flannery Road, Rio Vista, California 94571  
**County:** Solano County  
**Parcel Nos.:** 0048-010-090 & 0048-010-100  
**WDID:** L10001773161  
**Prior Order(s):** R5-2014-0105; R5-2002-0120; R5-1993-013; R5-1992-013;  
R5-1981-028; R5-1974-500; Resolution 70-57

**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 \_\_\_\_\_ [Month] 2024.

\_\_\_\_\_  
PATRICK PULUPA,  
Executive Officer

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## TABLE OF CONTENTS

<b>TABLE INDEX</b> .....	v
<b>GLOSSARY</b> .....	vii
<b>PREFACE</b> .....	1
<b>MONITORING &amp; REPORTING PROGRAM</b> .....	2
<b>A. General Provisions</b> .....	2
1. Incorporation of Standard Provisions .....	2
2. Monitoring Provisions in WDRs Order .....	2
3. Compliance with Title 27 .....	2
4. Sample Collection and Analysis Plan (SCAP).....	2
<b>B. Detection Monitoring Program (DMP)</b> .....	2
1. Groundwater .....	3
a. Required Network .....	3
b. Sample Collection and Analysis.....	5
c. Five-Year COCs .....	7
d. Groundwater Conditions .....	8
2. Unsaturated Zone .....	9
a. Required Network .....	9
b. Monthly Lysimeter Inspection .....	9
c. Five-Year COCs .....	11
3. Surface Water .....	12
a. Required Network .....	12
b. Sample Collection and Analysis.....	12

**TABLE OF CONTENTS**

4. Surface Impoundment Monitoring .....	14
a. Required Network .....	14
b. Sample Collection and Analysis.....	15
5. Summary of Water Quality Protection Standard (WQPS) Components .....	17
a. Compliance Period.....	17
b. Monitoring Points .....	17
c. Point of Compliance (POC).....	17
d. Constituents of Concern (COCs) .....	17
e. Monitoring Parameters.....	18
f. Five-Year COCs .....	18
g. Concentration Limits .....	19
h. Retesting Procedures .....	21
<b>C. Corrective Action Monitoring Program (CAMP).....</b>	<b>21</b>
1. Groundwater Extraction Well System.....	22
2. Leachate Collection & Removal System (LCRS) .....	22
a. Annual LCRS Testing .....	22
b. Monthly Sump Inspection.....	23
c. First Detection of Leachate in Sump.....	23
d. Five-Year COCs .....	24
3. Leachate Seepage .....	25
4. Action Leakage Rate .....	26
5. Regular Visual Inspection.....	27
6. Annual Facility Inspections.....	27

**TABLE OF CONTENTS**

7. Major Storm Events.....	28
8. Five-Year Iso-Settlement Surveys (Basins Closed as Landfills).....	28
9. Impoundments Operations Plan.....	28
10. Load Inspection and Monitoring .....	29
<b>D. Reporting Requirements.....</b>	<b>30</b>
1. Semiannual Monitoring Reports (SMRs).....	31
2. Annual Monitoring Reports (AMRs).....	33
3. Leachate Seep Reporting.....	35
4. Annual Facility Inspection Report.....	35
6. Major Storm Event Reports .....	36
7. Survey and Iso-Settlement Map (Closed Landfill Units) .....	36
8. Financial Assurances Report .....	36
9. Water Quality Protection Standard Report .....	36
10. General Reporting Provisions .....	37
a. Transmittal Letters .....	37
b. Monitoring Data and Reports .....	38
c. Compliance with SPRRs.....	39
d. Additional Requirements for Monitoring Reports .....	39
<b>E. Record Retention Requirements.....</b>	<b>39</b>
<b>ATTACHMENT A—VOLATILE ORGANIC COMPOUNDS, SHORT LIST .....</b>	<b>41</b>
<b>ATTACHMENT B—DISSOLVED INORGANICS (FIVE-YEAR COCS) .....</b>	<b>44</b>
<b>ATTACHMENT C—VOLATILE ORGANIC COMPOUNDS, EXTENDED LIST (FIVE-YEAR COCS).....</b>	<b>46</b>

AQUA CLEAR FARMS, INC.  
HATCH INVESTMENTS LIMITED PARTNERSHIP  
AQUA CLEAR FARMS  
SOLANO COUNTY  
**TABLE OF CONTENTS**

**ATTACHMENT D—SEMI-VOLATILE ORGANIC COMPOUNDS (FIVE-YEAR COCS)**  
..... 50

**ATTACHMENT E—CHLOROPHENOXY HERBICIDES (FIVE-YEAR COCS)..... 57**

**ATTACHMENT F—ORGANOPHOSPHOROUS COMPOUNDS (FIVE YEAR COCS) 58**

## TABLE INDEX

Table 1—Groundwater Monitoring Network .....	3
Table 2—Groundwater Detection Monitoring, Physical Parameters.....	6
Table 3—Groundwater Detection Monitoring, Constituent .....	6
Table 4—Groundwater Detection Monitoring, Five-Year COCs .....	7
Table 5—Groundwater Detection Monitoring, Groundwater Conditions.....	8
Table 6—Unsaturated Zone Monitoring Network .....	9
Table 7—Unsaturated Zone Detection Monitoring (Lysimeters), Physical Parameters .	10
Table 8—Unsaturated Zone Detection Monitoring (Lysimeters), Constituents .....	10
Table 9—Unsaturated Zone Detection Monitoring (Lysimeter), Five-Year COCs .....	11
Table 10—Surface Water Detection Monitoring Network.....	12
Table 11—Surface Water Detection Monitoring, Physical Parameters .....	13
Table 12—Surface Water Detection Monitoring, Constituents .....	13
Table 13—Surface Impoundment Capacity And Characteristics Monitoring .....	14
Table 14—Surface Impoundment Monitoring, Physical Parameters .....	15
Table 15—Surface Impoundment Monitoring, Constituents .....	16
Table 16—Notable Concentration Limits, 31 July 2022 First Biannual 2022 Environmental Monitoring Report, Table 25 (WQPS) .....	20
Table 17—Groundwater Corrective Action, Extraction Well Network.....	22
Table 18—LCRS Sump Monitoring, Monthly Inspection Parameters .....	23
Table 19—LCRS Sump Monitoring, Constituents for Subsequent Monitoring .....	24
Table 20—LCRS Sump Monitoring, Five-Year COCs .....	25
Table 21—Leachate Seep Monitoring, Physical Parameters .....	25



Table 22—Leachate Seep Monitoring, Constituent Parameters .....	26
Table 23—Criteria for Regular Visual Inspections.....	27
Table 24—Regular Visual Inspection Schedule .....	27
Table 25—Regular Load Inspection .....	29
Table 26—Summary of Required Reports .....	31

## GLOSSARY

AMR .....	Annual Monitoring Report
CalRecycle .....	California Department of Resources Recycling and Recovery
CAMP .....	Corrective Action Monitoring Program
C.F.R. ....	Code of Federal Regulations
CIWQS .....	California Integrated Water Quality System Project
COCs .....	Constituents of Concern
DMP .....	Detection Monitoring Program
EC .....	Electrical Conductivity
ELAP .....	State Water Board's Environmental Laboratory Accreditation Program (formerly administered by California Department of Public Health)
EMP .....	Evaluation Monitoring Program
EW .....	Extraction Well
Five-Year COCs .....	Five-Year Constituents of Concern
GeoTracker .....	State Water Board's Data Management System for Sites with Potential Groundwater Impact
GP .....	Gas Probe
LCRS.....	Leachate Collection and Removal System
LF .....	Landfill
LFG .....	Landfill Gas
MDL.....	Method Detection Limit
Method TO-15 VOCs.....	Volatile Organic Compounds associated with USEPA Method TO-15

MRP .....	Monitoring and Reporting Program
MSW .....	Municipal Solid Waste
NPL .....	Nonparametric Prediction Limit
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
TDS.....	Total Dissolved Solids
Title 27 .....	California Code of Regulations, Title 27

USEPA.....United States Environmental Protection Agency  
VOCs.....Volatile Organic Compounds  
WDRs.....Waste Discharge Requirements  
WMU .....Waste Management Unit  
WQPS .....Water Quality Protection Standard

**UNITS**

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

## **PREFACE**

Adopted by the California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) pursuant to Water Code section 13267, subdivision (b)(1), this Order establishes a Monitoring and Reporting Program (MRP) for Aqua Clear Farms, a California corporation, and Hatch Investments, a California limited partnership (collectively, Dischargers), which operate and own, respectively, Aqua Clear Farms (Facility) in Solano County. Additional information regarding the Facility is set forth in the enumerated findings of Waste Discharge Requirements Order R5-2024-XXXX (WDRs Order). Except as otherwise provided in the following MRP, these findings are incorporated herein.

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

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

## **MONITORING & REPORTING PROGRAM**

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

### **A. General Provisions**

#### **1. Incorporation of Standard Provisions**

The Dischargers 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 Dischargers shall comply with all “Monitoring Provisions” in the Facility’s operative Title 27 WDRs Order, which are also incorporated herein.

#### **3. Compliance with Title 27**

The Dischargers shall comply with all of Title 27 provisions as they pertain to activities described in this MRP (including SPRRs).

#### **4. Sample Collection and Analysis Plan (SCAP)**

All samples shall be collected, preserved and transported in accordance with the approved Sample Collection and Analysis Plan (SCAP) and the Quality Assurance/Quality Control (QA/QC) standards specified therein. The Dischargers 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 Dischargers shall implement a Detection Monitoring Program (DMP) for groundwater, surface water and the unsaturated zone in accordance with the provisions of Title 27, particularly sections 20415 and 20420.

Groundwater, unsaturated zone and surface water<sup>1</sup> detection monitoring networks shall be revised (as needed) with the construction of each new landfill cell or module.

**1. Groundwater**

**a. Required Network**

The Facility’s groundwater monitoring well network consists of the wells listed in **Table 1**<sup>2</sup>. As of the date of this Order, the network meets the requirements of Title 27. (Title 27, § 20415, subd. (b).)

**Table 1—Groundwater Monitoring Network**

<b>Well</b>	<b>Program</b>	<b>Monitored Unit</b>	<b>Point of Compliance (WQPS)</b>	<b>Zone</b>	<b>Status</b>
MW-5	Background	Site Background	No	Shallow	Decommissioned (1998)
MW-6	Background	Site Background	No	Shallow	Operational
MW-6A	Background	Site Background	No	Deep	Operational
MW-6B	Background	Site Background	No	Shallow	Decommissioned (1998)

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

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

<b>Well</b>	<b>Program</b>	<b>Monitored Unit</b>	<b>Point of Compliance (WQPS)</b>	<b>Zone</b>	<b>Status</b>
MW-14	Background	Site Background	No	Deep	Operational
MW-2D	Detection, Corrective Action	Basins 2-5	Yes	Deep	Operational
MW-2R	Detection, Corrective Action	Basins 2-5	Yes	Shallow	Operational
MW-3R	Groundwater Extraction, Corrective Action	NE Corner Remediation	No	Shallow	Operational
MW-4D	Detection, Corrective Action	Basins 2-5	Yes	Deep	Operational
EMP-5	Detection, Corrective Action	Basins 2-5	Yes	Deep	Operational
EMP-6	Detection, Corrective Action	Basins 2-5	Yes	Shallow	Operational
MW-7	Detection	Basins 7-10	Yes	Shallow	Decommissioned (2000)
MW-7AR	Detection, Corrective Action	Basin 7-8	Yes	Deep	Operational
MW-8	Detection	Basins 7-10	Yes	Shallow	Decommissioned (2000)



Well	Program	Monitored Unit	Point of Compliance (WQPS)	Zone	Status
MW-8R	Detection, Corrective Action	Basins 8-9	Yes	Shallow	Operational
MW-9	Detection	Basins 7-10	Yes	Shallow	Decommissioned (2000)
MW-10R2	Groundwater Extraction, Corrective Action	NE Corner Remediation	No	Shallow	Operational
MW-11R	Detection, Corrective Action	Basin 7-10	Yes	Shallow	Operational
MW-12R	Detection, Corrective Action	Basins 7-10	yes	Shallow	Operational
MW-13	Background	Basins 9-10	No	Deep	Operational as Piezometer-Only
HA-1R	Groundwater Extraction, Corrective Action	NE Corner Remediation	No	Shallow	Operational
HA-3R	Detection, Evaluation	Off-Site Evaluation	No	Shallow	Operational
HA-7	Detection, Evaluation	Off-Site Evaluation	No	Shallow	Operational

See Glossary for definitions of terms and abbreviations in table.

**b. Sample Collection and Analysis**

Groundwater samples shall be collected from each well and analyzed for Monitoring Parameters listed in **Table 2** (Physical Parameters) and **Table 3** (Constituent Parameters), in accordance

with the specified schedule for each parameter. (Title 27, § 20420, subds. (e)-(f).)

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

Physical Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
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**

Constituent	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
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
TPH as Diesel (8015M)	DRO	mg/L	Semiannually	Semiannually
TPH as Oil and Grease (EPA 1664)	HEM	mg/L	Semiannually	Semiannually
Calcium	CA	mg/L	Annually	Semiannually
Magnesium	MG	mg/L	Annually	Semiannually
Potassium	K	mg/L	Annually	Semiannually

Constituent	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Sodium	NA	mg/L	Annually	Semiannually
Dissolved Inorganics (Attachment B <sup>1</sup> )	(various)	µg/L	Annually	Semiannually
Formaldehyde (8315) <sup>2</sup>	FORMALD	µg/L	Annually	Semiannually
Short List VOCs (Attachment A)	(various)	µg/L	Annually	Annually
Semi-Volatile Organic Compounds (Attachment D)	(various)	µg/L	Annually	Annually
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	µg/L	Every 5 Years	Annually

See Glossary for definitions of terms and abbreviations in table.

<sup>1</sup> Arsenic, barium, boron, magnesium, manganese, mercury, nickel, and zinc required dissolved inorganics.

<sup>2</sup> Formaldehyde analysis required for Wells 7AR, 8R, 11R, and 12R, and any new wells required for future double-lined basins.

**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 2024 and every five years thereafter. (Title 27, § 20420, subd. (g).)

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

Five-Year Constituent	GeoTracker Code	Units	Sampling & Reporting Freq.
Total Organic Carbon	TOC	mg/L	Every 5 Years
Dissolved Inorganics (Attachment B)	(various)	µg/L	Every 5 Years

Five-Year Constituent	GeoTracker Code	Units	Sampling & Reporting Freq.
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 Dischargers shall monitor the Groundwater Conditions specified in **Table 5**<sup>3</sup>, with the result of such monitoring being reported semiannually per **Section D.1.** (Title 27, § 20415, subd. (b)(1).)

**Table 5—Groundwater Detection Monitoring, Groundwater Conditions**

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

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<sup>3</sup> To the extent feasible, this information shall be determined separately for: (1) the uppermost aquifer; (2) any zones of perched water; and (3) any additional zone of saturation monitored based upon water level elevations taken prior to the collection of the water quality data submitted in the report. (Title 27, § 20415, subd. (e)(15).)

**2. Unsaturated Zone**

**a. Required Network**

The Facility’s unsaturated zone monitoring network consists of the lysimeter (LYS) 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).). Approved additional unsaturated zone monitoring devices, including unsaturated zone monitoring devices associated with new, reconstructed, or closed waste management units shall be incorporated into the unsaturated zone monitoring network described in **Table 6**.

**Table 6—Unsaturated Zone Monitoring Network**

Monitoring Point	Device Type	Program	Monitored Unit	Status
LYS-7B	Suction Lysimeter / Gypsum Block	Detection	Basin 7	Operational
LYS-9B	Suction Lysimeter / Gypsum Block	Detection	Basin 9	Operational
LYS-10B	Suction Lysimeter / Gypsum Block	Detection	Basin 10	Operational

See Glossary for definitions of terms and abbreviations in table.

**b. Monthly Lysimeter Inspection**

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 lysimeter, the Dischargers 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 Freq.	Reporting Freq.
Electrical Conductivity	SC	µmhos/cm	Semiannually	Semiannually
pH	PH	pH Units	Semiannually	Semiannually
Volume of Removed Liquid	(none)	Gallons	Semiannually	Semiannually
Moisture (Gypsum Block)	MOIST	kilopascals	Semiannually	Semiannually

See Glossary for definitions of terms and abbreviations in table.

**Table 8—Unsaturated Zone Detection Monitoring (Lysimeters),  
Constituents**

Constituent	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
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
Potassium	K	mg/L	Semiannually	Semiannually
Sodium	NA	mg/L	Semiannually	Semiannually
TPH as Diesel (8015M)	DRO	mg/L	Semiannually	Semiannually

Constituent	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
TPH as Oil and grease (EPA 1664)	HEM	mg/L	Semiannually	Semiannually
Dissolved Inorganics (Attachment B <sup>2</sup> )	(various)	µg/L	Annually	Semiannually
Short List VOCs (Attachment A)	(various)	µg/L	Annually	Annually
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	µg/L	Every 5 Years	Biannually

See Glossary for definitions of terms and abbreviations in table.

- <sup>1</sup> Priority on sampling/analysis based on what may be a limited amount of liquid recovered from a suction lysimeter shall be: TDS, chloride, sulfate, VOCs, TPH as diesel, TPH as oil & grease, and then dissolved metals.
- <sup>2</sup> Arsenic, barium, boron, magnesium, manganese, mercury, nickel, and zinc required dissolved inorganics.

**c. Five-Year COCs**

Every five years, liquid from each lysimeter shall be analyzed for the Five-Year COCs listed below in **Table 9**. Five-Year COCs shall be analyzed in 2024 and every five years thereafter. (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

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

See Glossary for definitions of terms and abbreviations in table.

### 3. Surface Water

Runoff from the Facility is collected in one or more sedimentation basins, which periodically flow to “Big Ditch,” a tributary to Lindsay and Cache Sloughs, which may be affected by a release. (See Title 27, § 20415, subd. (c)(1).)

#### a. Required Network

The Facility’s surface water monitoring network consists of the monitoring points listed in **Table 10**. As of the date of this Order, the network meets the requirements of Title 27. (See § 20415, subd. (c).)

**Table 10—Surface Water Detection Monitoring Network**

Monitoring Point	Program or Function	Monitored Unit	Location
SW-1	Detection	Entire Facility	Upstream Side of Culvert at Highway 113 and Flannery Road

See Glossary for definitions of terms and abbreviations in table.

#### b. Sample Collection and Analysis

When surface water is present at monitoring points in **Table 10** at any point during the monitoring period, samples shall be collected from each monitoring point and analyzed for the Monitoring Parameters in **Table 11** (Physical Parameters) and **Table 12** (Constituent Parameters), in accordance with the specified schedule. (Title 27, § 20420, subds. (e)-(f).)



**Table 11—Surface Water Detection Monitoring, Physical Parameters**

Physical Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Temperature	TEMP	°F	Twice per year <sup>1</sup>	Semiannual
Electrical Conductivity	SC	µmhos/cm	Major Storm Events	Semiannual
pH	PH	Std. Units	Twice per year <sup>1</sup>	Semiannual
Turbidity	TURB	NTUs	Twice per year <sup>1</sup>	Semiannual
Presence of Oil & Grease	(none)	Yes / No	Twice per year <sup>1</sup>	Semiannual
Flow to Surface Waters at Time of Sampling	(none)	Yes/No	Twice per year <sup>1</sup>	Semiannual

See Glossary for definitions of terms and abbreviations in table.

<sup>1</sup> Beginning with the first storm event each fall of the rainy season and during other storm events that produces runoff during the wet season.

**Table 12—Surface Water Detection Monitoring, Constituents**

Constituents	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Total Dissolved Solids	TDS	mg/L	Twice per year <sup>1</sup>	Semiannual
Chloride	CL	mg/L	Twice per year <sup>1</sup>	Semiannual
Sulfate	SO4	mg/L	Twice per year <sup>1</sup>	Semiannual

See Glossary for definitions of terms and abbreviations in table.

<sup>1</sup> Beginning with the first storm event each fall of the rainy season and during other storm events that produces runoff during the wet season.

**4. Surface Impoundment Monitoring**

The Dischargers shall collect and analyze liquids from each active class II surface impoundment identified in **Table 13** to quantify and characterize the liquids stored in the class II surface impoundment for the parameters / constituents identified in **Table 14**, and **Table 15** (Title 27, § 20420(g)). The Dischargers shall evaluate the potential risk of water quality degradation associated with each constituent in the event of an unauthorized release (Title 27, § 20420(c)) and verify the liquid wastes are compatible with containment features of the class II surface impoundment. (Title 27, §§ 20200(c), 20320(e)).

**a. Required Network**

The Facility’s surface impoundment capacity monitoring network shall consist of the monitoring features listed in **Table 10**. As of the date of this Order, the network meets the requirements of Title 27. (See § 20415, subd. (c).)

**Table 13—Surface Impoundment Capacity And Characteristics Monitoring**

Basin	Program or Function	Liquid Elevation	Benchmark	Note
Basin 6	Observation / Detection	Permanent Gauge or Markings <sup>1</sup>	See Note 2	Prior to authorization for use
Basin 7	Observation / Detection	Permanent Gauge or Markings <sup>1</sup>	See Note 2	
Basin 9	Observation / Detection	Permanent Gauge or Markings <sup>1</sup>	See Note 2	
Basin 10	Observation / Detection	Permanent Gauge or Markings <sup>1</sup>	See Note 2	Prior to authorization for liquid use
Basin 11	Observation / Detection	Permanent Gauge or Markings <sup>1</sup>	See Note 2	Prior to authorization for use
Basin 12	Observation / Detection	Permanent Gauge or Markings <sup>1</sup>	See Note 2	Prior to authorization for use

Basin	Program or Function	Liquid Elevation	Benchmark	Note
Basin 13	Observation / Detection	Permanent Gauge or Markings <sup>1</sup>	See Note 2	Prior to authorization for use

See Glossary for definitions of terms and abbreviations in table.

<sup>1</sup> Increments no greater than 6-inches.

<sup>2</sup> Lowest point along the top of a surface impoundment dike, berm, levee, or other similar feature.

**b. Sample Collection and Analysis**

When liquids are present in basins identified in **Table 13** at any point during the monitoring period, samples shall be collected from each basin and analyzed for the Monitoring Parameters in **Table 14** (Physical Parameters) and **Table 15** (Constituent Parameters), in accordance with the specified schedule. (Title 27, § 20420, subds. (e)-(f).)

**Table 14—Surface Impoundment Monitoring, Physical Parameters**

Physical Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Precipitation	(none)	Inches	See Note 3	Semiannually
Freeboard	(none)	Feet and tenths	Weekly / Monthly <sup>1</sup>	Semiannually
Remaining Capacity	(none)	Gallons	Monthly	Semiannually
Drilling Mud Elevation	(none)	Feet, msl	Monthly	Semiannually
Discharge Flow <sup>2</sup>	(none)	See Note 2	Monthly	Semiannually
Electrical Conductivity	SC	µmhos/cm	Semiannually	Semiannually
pH	PH	Std. Units	Semiannually	Semiannually

See Glossary for definitions of terms and abbreviations in table.

<sup>1</sup> Freeboard shall be measured weekly from 1 November through 30 April, and monthly otherwise. If there is no water in the impoundment at the time of the measurement, the measurement shall be taken to the lowest elevation of the drilling mud solids and shall be further noted as “dry”. Freeboard measurements are not required for basins that are filled with dried drilling mud and for which the Dischargers have provided

- prior written notice to the Central Valley Water Board of intent to prepare a basin for closure as a landfill (i.e., “pre-closure” basins).
- <sup>2</sup> Volume of drilling mud discharged into Class II surface impoundment in gallons or barrels per month (1 barrel = 42 gallons).
  - <sup>3</sup> Beginning with the first storm event each fall of the rainy season and during other storm events that produces runoff during the wet season.

**Table 15—Surface Impoundment Monitoring, Constituents**

Constituent	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Total Dissolved Solids	TDS	mg/L	Semiannually	Semiannually
Chloride	CL	mg/L	Semiannually	Semiannually
Sulfate	SO4	mg/L	Semiannually	Semiannually
TPH as Diesel (8015M)	DRO	mg/L	Semiannually	Semiannually
TPH as Oil and grease (EPA 1664)	HEM	mg/L	Semiannually	Semiannually
Potassium	K	mg/L	Annually	Annually
Sodium	NA	mg/L	Annually	Annually
Dissolved Inorganics (Attachment B <sup>1</sup> )	(various)	µg/L	Annually	Annually
Formaldehyde (8315)	FORMALD	µg/L	Annually	Annually
Short List VOCs (Attachment A)	(various)	µg/L	Annually	Annually
Semi-Volatile Organic Compounds (Attachment D)	(various)	µg/L	Annually	Annually
1,2,3-Trichloropropane per Method SRL-524M-TCP	TCPR123	µg/L	Every 5 Years	Annually

See Glossary for definitions of terms and abbreviations in table.

<sup>1</sup> Arsenic, barium, boron, magnesium, manganese, mercury, nickel, and zinc required dissolved inorganics.

## 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(a), 20415, 20425.) If a WMU is in corrective action, the period continues until it is demonstrated that the WMU has been in continuous compliance with its WQPS for at least three years. (Id., § 20410, subd. (c).)

### b. Monitoring Points

For WQPS purposes, a "monitoring point" is any well, device, or location where monitoring is conducted, and is specified in the Facility's WDRs and subject to the WQPS. (Title 27, § 20164.) Monitoring Points are listed in **Section B** (Detection Monitoring Program)—specifically **Table 1** (Groundwater), **Table 6** (Unsaturated Zone), and **Table 10** (Surface Water).

### c. Point of Compliance (POC)

The Point of Compliance (POC) is a vertical plane at the WMU's hydraulically downgradient limit, extending through the uppermost underlying aquifer. (Title 27, §§ 10164, 20405(a).) The Facility's POC monitoring wells are listed in **Table 1**.

### d. Constituents of Concern (COCs)

Constituents of Concern (COCs) are waste constituents, reaction products, and hazardous constituents that are reasonably expected

to be in or derived from waste contained in a WMU. (Title 27, §§ 20164, 20395.)

**e. Monitoring Parameters**

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

- i. For **Groundwater**, those in **Table 2** and **Table 3**; and
- ii. For the **Unsaturated Zone**, those in **Table 7** and **Table 8**;
- iii. For **Surface Water**, those in **Table 11** and **Table 12**; and
- iv. For **Surface Impoundment Capacity**, those in **Table 14** and **Table 15**.

**f. Five-Year COCs**

In addition to the Monitoring Parameters described above, this Order requires the quinquennial analysis of samples for a larger range of constituents that are reasonably expected to be found in, or derived from, the waste contained within each unit at the Facility. (Title 27, §§ 20395, 20420(g).) Five-Year COCs shall be analyzed in 2024 and every five years thereafter. 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 1** (*Surface Water*), **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 subdivision (e)(8) of Title 27, section 20415.<sup>4</sup> (Title 27, § 20400, subds. (a), (b).)

The Dischargers proposed in Appendix ‘S’ to the 4 August 2022 Report of Waste Discharge constituent concentration limit determination methods for comparison of background and downgradient data based on the frequency of detection of background data, generally described as “parametric,” “nonparametric – maximum concentration,” and “nonparametric – method detection limit,” as described in the 4 August 2022 Report of Waste Discharge. The proposed Concentration Limits described in Appendix ‘S’ to the 4 August 2022 ROWD shall be incorporated as part of this Order. Several notable Concentration Limits described in Appendix ‘S’ to the 4 August 2022 ROWD, are set forth below in **Table 16**.<sup>5</sup>

WDRs Order R5-2024-XXXX establishes that the Dischargers may propose in Annual Environmental Monitoring Reports revised WQPS which apply the methods described in Appendix ‘S’ to the ROWD and incorporate pooled background water quality data collected from *Monitoring Wells 6A, 14, 5, 6, 7, 8, and 9*. Concentration Limits shall be proposed and/or updated by the Dischargers on an annual basis, in the Annual Monitoring Report (AMR) submitted per **Section D.2** of this MRP.

If the Dischargers fail to submit periodically updated concentration limits, as provided in this MRP, the existing concentration limits

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<sup>4</sup> Concentration Limits are initially proposed by the Dischargers, then reviewed and approved by the Central Valley Water Board (subject to any necessary revisions). The limits specified herein are approved and incorporated as part of the Facility’s WDRs.

<sup>5</sup> The Concentration Limits set forth in **Table 16** is only a partial list of values that are provided for general informational purposes only. These limits shall be superseded once updated values are submitted.

shall remain operative, provided that, where appropriate, the Executive Officer may revert to lower concentrations where warranted based on existing monitoring data.

**Table 16—Notable Concentration Limits, 31 July 2022 First Biannual 2022 Environmental Monitoring Report, Table 25 (WQPS)**

Constituent	Analysis	Value	Units
pH	Intrawell	6.92 – 8.40	Std. units
EC	Intrawell	1,800	µmhos/cm
Chloride	Intrawell	380	mg/L
Sulfate	Intrawell	52.7	mg/L
Total Dissolved Solids	Intrawell	1,230	mg/L
Total Petroleum Hydrocarbons as Diesel	Intrawell	MDL	mg/L
Arsenic	Intrawell	9.8	µg/L
Barium	Intrawell	370	µg/L
Boron	Intrawell	640	µg/L
Magnesium	Intrawell	76,000	µg/L
Manganese	Intrawell	170	µg/L
Mercury	Intrawell	MDL	µg/L
Nickel	Intrawell	12	µg/L
Zinc	Intrawell	57	µg/L
Potassium	Intrawell	3,700	µg/L
Sodium	Intrawell	140,000	µg/L
VOCs	Intrawell	MDL	µg/L



Constituent	Analysis	Value	Units
SVOCs	Intrawell	MDL	µg/L
Formaldehyde	Intrawell	MDL	µg/L

See Glossary for definitions of terms and abbreviations in table.

**h. Retesting Procedures**

If monitoring results indicate measurably significant evidence of a release, as described in Section I.45 of the SPRRs (Standard Monitoring Specifications), the Dischargers 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);
- ii. An alternative non-statistical approach may be used to address the detection of non naturally-occurring constituents such as VOCs and SVOCs, except for those constituents that have a high incidence of false positives (e.g., acetone, methylene chloride, phthalates, etc.) provided the proposed method complies with Title 27, section 20415(e)(8)(E) (See SPRRs, § I.47.). If monitoring data for a certain location indicate either two or more constituents exceeding the MCL, or one constituent exceeding the MRL, two discreet retest samples will be obtained from that monitoring location and analyzed for the detected constituents. Possible evidence of a release is indicated if the subject constituent(s) is detected above the MDL (2 or more constituents) or MRL (one constituent) in either retest sample (SPRRs, § I.44)
- iii. **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 Dischargers shall perform the following additional monitoring in accordance with subdivision (d) of Title 27, section 20430.

## 1. Groundwater Extraction Well System

The Facility's current network of groundwater extraction wells is summarized in **Table 17**. The volumes pumped from each well and the cumulative discharge volumes each time a pump operates for this system shall be recorded and reported as part of the Semiannual Monitoring Report (SMR).

References herein to **Table 17 shall also include** any expansion to groundwater extraction system, including as described in the Dischargers' 30 December 2022 modification to the 2016 Engineering Feasibility Study, and as directed by WDRs R5-2024-XXXX.

**Table 17—Groundwater Corrective Action, Extraction Well Network**

Well	Zone	Monitored Units
3R	Shallow	NE Corner Remediation
10R	Shallow	NE Corner Remediation
HA1R	Shallow	NE Corner Remediation

See Glossary for definitions of terms and abbreviations in table.

## Additional Facility Monitoring

### 2. Leachate Collection & Removal System (LCRS)

The Dischargers 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 18**, the total flow and flow rate for leachate in each sump shall be recorded after each inspection and reported semiannually per **Section D.1**.

**Table 18—LCRS Sump Monitoring, Monthly Inspection Parameters**

Physical Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Presence of Leachate	(none)	Observation	Monthly	Semiannually
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 Dischargers shall notify Central Valley Water Board staff within seven days, and immediately sample and analyze leachate for the parameters in **Table 19**.<sup>6</sup> Thereafter, whenever leachate is present in the same sump, the leachate shall be sampled and analyzed for the same parameters, and in accordance with the specified sampling and reporting schedule in **Table 19**.

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<sup>6</sup> The sampling and reporting schedules in **Table 19** are applicable for subsequent monitoring only. When notifying Central Valley Water Board staff of the first detection of leachate, the Dischargers shall indicate when laboratory results are expected to be available.

**Table 19—LCRS Sump Monitoring, Constituents for Subsequent Monitoring**

Constituent	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Electrical Conductivity	SC	µmhos/cm	Semiannually	Semiannually
pH	PH	pH Units	Semiannually	Semiannually
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
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	µg/L	Every 5 Years	Annually

See Glossary for definitions of terms and abbreviations in table.

**d. Five-Year COCs**

At least once every five years, the Dischargers shall sample and analyze any leachate present in the sump for the Five-Year COCs listed in **Table 20**. Five-Year COCs shall be analyzed in 2024 and every five years thereafter.

**Table 20—LCRS Sump Monitoring, Five-Year COCs**

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

See Glossary for definitions of terms and abbreviations in table.

### 3. Leachate Seepage

Leachate that seeps to the surface from any landfill WMU shall, immediately upon detection, be sampled and analyzed for the Monitoring Parameters in **Table 21** (Physical Parameters) and **Table 22** (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).

**Table 21—Leachate Seep Monitoring, Physical Parameters**

Physical Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Total Flow	(none)	Gallons	Upon Detection	See MRP, § D.3
Flow Rate	FLOW	Gallons/Day	(same)	(same)

Physical Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Electrical Conductivity	SC	µmhos/cm	(same)	(same)
pH	PH	pH Units	(same)	(same)

See Glossary for definitions of terms and abbreviations in table.

**Table 22—Leachate Seep Monitoring, Constituent Parameters**

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

See Glossary for definitions of terms and abbreviations in table.

**4. Action Leakage Rate**

Tabulated monthly leakage rates shall be included in the semiannual monitoring reports. If monthly monitoring of the flow rate into the LCRS

shows an exceedance of the Action Leakage Rate required by the WDRs, the Discharger shall follow the procedures on WDRs under “Facility Specifications C.21.

**5. Regular Visual Inspection**

The Dischargers shall perform regular visual inspections at the Facility in accordance with **Table 23** (Criteria) and **Table 24** (Schedule). Results of these regular visual inspections shall be included in Semiannual Monitoring Reports per **Section D.1**.

**Table 23—Criteria for Regular Visual Inspections**

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

**Table 24—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

**6. Annual Facility Inspections**

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

**7. Major Storm Events**

Within seven days of any storm event capable of causing damage or significant erosion (Major Storm Event), the Dischargers 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 Dischargers shall take photos of any problem areas before and after repairs. See **Section D.5** for Reporting Requirements.

**8. Five-Year Iso-Settlement Surveys (Basins Closed as Landfills)**

Every five years, the Dischargers shall conduct an iso-settlement survey of each basin closed as a landfill unit and produce an iso-settlement map accurately depicting the estimated total change in elevation of each portion of the final cover's low-hydraulic-conductivity layer. For each portion of the landfill, this map shall show the total lowering of the surface elevation of the final cover, relative to the baseline topographic map. (Title 27, §21090, subd. (e)(1)-(2).) See **Section D.6** for Reporting Requirements.

**9. Impoundments Operations Plan**

The Dischargers shall submit an annual Impoundments Operation Plan for operating the surface impoundments over the upcoming 12-month period. The Annual Operations Plan shall identify the surface impoundments scheduled for accepting drilling mud/fluid and the available capacity for the upcoming 12-month period. The plan shall specify the conditions under which drilling mud will be transferred between surface impoundments (e.g., depth of solids in an impoundment, percent moisture of solids, etc.) and conditions under which liquids will be transferred between surface impoundments. Figures/schematics showing a plan view and cross-section of each active surface impoundment shall be provided. The



figures/schematics shall show the total depth of the impoundment; the filling plan showing the change in depth of solids over time; the location for the discharge of waste into the surface impoundments; and the locations for drying and conditioning of solids within each surface impoundment. In addition, the planned location for pooling and evaporation of liquids shall be depicted. The Dischargers shall include a water balance demonstrating that each basin in a “pre-closure” operational status can maintain capacity to contain liquid released from a basin due to compressive forces of accumulated wastes and design precipitation while maintaining the minimum freeboard requirements required by WDRs R5-2024-XXXX. If the Dischargers plan to move solids within a surface impoundment, then the Dischargers shall include relevant information, depiction, and description on the figures/schematics of the planned movement of solids.

#### 10. Load Inspection and Monitoring

Prior to accepting waste for discharge to authorized Waste Management Units the Dischargers shall collect representative samples from vehicles with loads intended for discharge at the Facility. Prior to accepting waste for discharge to authorized Waste Management Units the Dischargers shall, at a minimum, analyze the collected sample in accordance with **Table 25**, record the results, and verify waste is not hazardous or otherwise prohibited. The Dischargers are responsible for performing additional analyses and reporting results necessary to ensure that that the Dischargers do not accept or discharge hazardous waste, or any wastes required to be managed as a hazardous waste, or which are incompatible with Basin containment features. See **Section D.1.m** for Reporting Requirements.

**Table 25—Regular Load Inspection**

Parameter	Units
pH	Std Units
Electrical Conductivity	µmhos/cm
Hydrocarbons	µg/L
Visible sheen	Each

Parameter	Units
Rejected Loads	Each

Field test instruments used to measure pH, electrical conductivity, and presence of volatile gasses may be used provided that:

- a. The operator is trained in proper use and maintenance of the instruments;
- b. The instruments are field calibrated at the frequency recommended by the instrument manufacturer;
- c. The instruments are serviced and/or calibrated at the manufacturer's recommended frequency; and
- d. Instrument calibration reports are available upon request.

Where the Dischargers provide documentation from waste generators in lieu of the Dischargers collecting representative samples from vehicles, the Dischargers are responsible for documenting and verifying waste generators collect representative sample(s) and analyze the collected samples in accordance with **Table 25**, maintain field test instruments in accordance with above requirements. record all results, and verify wastes are not hazardous wastes or otherwise prohibited. The Dischargers shall provide supporting documentation including all laboratory analytical reports (including quality assurance, quality control, and chain of custodies), a written record of the chain of custody from the time the waste leaves generator until it reaches the Facility, and a certification statement by the waste generator that the waste is not a hazardous waste or otherwise prohibited.

#### **D. Reporting Requirements**

**Table 26—Summary of Required Reports**

Section	Report	Deadline
§ D.1	Semiannual Monitoring Reports (SMRs)	<b>1 August</b> (1 January to 30 June) <b>1 February</b> (1 July to 31 December)
§ D.2	Annual Monitoring Reports (AMRs)	1 February
§ D.3	Leachate Seep Reporting	Immediately upon Discovery of Seepage <i>(staff notification)</i> <b>Within 7 Days</b> <i>(written report)</i>
§ D.4	Annual Facility Inspection Reports	15 November
§ D.6	Major Storm Reporting	Immediately after Damage Discovery <i>(staff notification)</i> Within 14 Days of Completing Repairs <i>(written report, photos)</i>
§ D.7	Survey and Iso-Settlement Mapping	<b>Every Five Years</b> (Next Due in 2028)
§ D.8	Financial Assurances Reports	1 June
§ D.9	Water Quality Protection Standard Reports	<b>Proposed Revisions</b> (excluding Concentration Limits)

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

The Dischargers 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.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 C.5** 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.
- m. For load inspection and monitoring results, tabulated summaries of range of results of the parameters described in **Table 25** and any other parameters monitored by the Dischargers. The Dischargers shall also include a description of the nature and circumstances for any rejected load. Load rejection records, including instrument calibration records, shall be available upon request.

## 2. Annual Monitoring Reports (AMRs)

On 1 February of each year,<sup>7</sup> the Dischargers shall submit an Annual Monitoring Report (AMR) containing following materials and information:

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<sup>7</sup> The Annual Monitoring Report may be combined with the Semiannual Monitoring Report for 1 July through 31 December of the same year, provided that the combination is clearly indicated in the title.

- a. In tabulated format, all monitoring data for which annual reporting is required under this MRP. (See **Section 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.<sup>8</sup>
- c. An evaluation of Monitoring Parameters with regard to the cation/anion balance, and graphical presentation of same in a Stiff diagram, Piper graph or Schoeller plot.
- d. All historical monitoring data for which there are detectable results, including data for the previous 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 C.2.a**.

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<sup>8</sup> Each graph shall contain individual data points (not mean values) and be appropriately scaled to accurately depict statistically significant trends or variations in water quality.

- 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 Dischargers 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 21** (*Physical Parameters*) and **Table 22** (*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.6**. The report shall discuss any repair measures implemented, any preparations for winter, and include photographs of any problem areas and repairs.

5. By **1 October** of each year, the Discharger shall submit an **Impoundments Operation Plan** for operating the surface impoundments over the upcoming 12-month period. The Annual Operations Plan shall identify the surface impoundments scheduled for accepting drilling mud/fluid and the available capacity for the upcoming 12-month period. The plan shall specify the conditions under which drilling mud will be transferred between surface impoundments (e.g., depth of solids in an impoundment, percent moisture of solids, etc.) and conditions under which liquids will be transferred between surface impoundments. Figures/schematics showing a plan view and cross-section of each active surface impoundment shall be provided. The figures/schematics shall show the total depth of the

impoundment; the filling plan showing the change in depth of solids over time; the location for the discharge of waste into the surface impoundments; and the locations for drying and conditioning of solids within each surface impoundment. In addition, the planned location for pooling and evaporation of liquids shall be depicted. If solids are planned to be moved around within a surface impoundment, then this information shall be depicted on the figures/schematics.

- 6. Major Storm Event Reports** Immediately following each post-storm inspection described in **Section C.7**, the Dischargers 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.
- 7. Survey and Iso-Settlement Map (Closed Landfill Units)** The Dischargers shall submit all iso settlement maps prepared in accordance with **Section D.6**. (Title 27, § 21090, subd. (e).) The next maps are due on 30 June 2028.
- 8. Financial Assurances Report**

By 1 June of each year, the Dischargers 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.)
- 9. Water Quality Protection Standard Report**

Any proposed changes<sup>9</sup> to the Water Quality Protection Standard (WQPS) components (§ B.4), other than periodic update of the Concentration Limits (§ B.4.g), shall be submitted in a WQPS Report for

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<sup>9</sup> If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to onsite waste management activities, the Dischargers may request modification of the WQPS.



review and approval. The report shall be certified by a “Qualified Professional” (§ B), and contain the following:

- a. *Potentially Affected Waterbodies*—An identification of all distinct bodies of surface water and groundwater potentially affected by a WMU release (including, but not limited to, the uppermost aquifer and any permanent or ephemeral zones of perched groundwater underlying the Facility);
- b. *Map of Monitoring Points*—A map of all groundwater, surface water<sup>10</sup> and unsaturated zone monitoring points (including all background/upgradient and Point of Compliance monitoring points);
- c. *Groundwater Movement*—An evaluation of perennial direction(s) of groundwater movement within the uppermost zone(s);
- d. *Statistical Method for Concentration Limits*—A proposed statistical method for calculating Concentration Limits for Monitoring Parameters and Five-Year COCs (see § f) detected in at least 10 percent of the background data (naturally-occurring constituents) using a statistical procedure from subdivisions (e)(8)(A)-(D) or (e)(8)(E) of Title 27, section 20415; and
- e. *Retesting Procedure*—A retesting procedure to confirm or deny measurably significant evidence of a release (Title 27, §§ 20415(e)(8)(E), 20420(j)(1)-(3)).

## 10. 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

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<sup>10</sup> To the extent that surface water monitoring is included in the Detection Monitoring Program.

(referencing any previously submitted time schedules for compliance), and whether the violations were corrected; and

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

**b. Monitoring Data and Reports**

**i. Electronic Submission via GeoTracker**

All reports with monitoring data (e.g., SMRs and AMRs) shall be submitted electronically via the State Water Board's [Geotracker Database](https://geotracker.waterboards.ca.gov) (<https://geotracker.waterboards.ca.gov>). After uploading a report, the Dischargers shall notify Central Valley Water Board staff via email at [CentralVallySacramento@WaterBoards.ca.gov](mailto:CentralVallySacramento@WaterBoards.ca.gov). The following information shall be included in the body of the email:

Attention:	Title 27 Compliance & Enforcement Unit
Report Title:	[Title of Report]
GeoTracker Upload ID:	L10001773161
Facility Name:	Aqua Clear Farms
County:	Solano County
CIWQS Place ID:	206099

**ii. Data Presentation and Formatting**

In reporting monitoring data, the Dischargers 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 Dischargers 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 Dischargers fail to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to \$1,000 per violation, per day, depending on the violation, pursuant to Water Code section 13268. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

### **ADMINISTRATIVE REVIEW**

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

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

**USEPA Method 8260B,  
Short List**

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

AQUA CLEAR FARMS, INC.

HATCH INVESTMENTS LIMITED PARTNERSHIP

AQUA CLEAR FARMS

SOLANO COUNTY

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

<b>Constituent</b>	<b>Geotracker Code</b>
1,1 Dichloroethane (Ethylidene chloride)	DCA11
1,2 Dichloroethane (Ethylene dichloride)	DCA12
1,1 Dichloroethylene (1,1 Dichloroethene; Vinylidene chloride)	DCE11
cis 1,2 Dichloroethylene (cis 1,2 Dichloroethene)	DCE12C
trans 1,2 Dichloroethylene (trans 1,2 Dichloroethene)	DCE12T
1,2 Dichloropropane (Propylene dichloride)	DCPA12
cis 1,3 Dichloropropene	DCP13C
trans 1,3 Dichloropropene	DCP13T
Di-isopropylether (DIPE)	DIPE
Ethanol	ETHANOL
Ethyltertiary butyl ether	ETBE
Ethylbenzene	EBZ
2 Hexanone (Methyl butyl ketone)	HXO2
Hexachlorobutadiene	HCBU
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

AQUA CLEAR FARMS, INC.

HATCH INVESTMENTS LIMITED PARTNERSHIP

AQUA CLEAR FARMS

SOLANO COUNTY

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

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

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

### Dissolved Inorganics List

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



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

<b>Constituent</b>	<b>Analytical Method</b>	<b>Geotracker Code</b>
Vanadium	USEPA Method 6010	V
Zinc	USEPA Method 6010	ZN

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

**USEPA Method 8260,  
Extended List**

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

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

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

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

<b>Volatile Organic Compound</b>	<b>Geotracker Code</b>
Ethyl methacrylate	EMETHACRY
Hexachlorobutadiene	HCBU
2 Hexanone (Methyl butyl ketone)	HXO2
Isobutyl alcohol	ISOBTOH
Methacrylonitrile	METHACRN
Methyl bromide (Bromomethane)	BRME
Methyl chloride (Chloromethane)	CLME
Methyl ethyl ketone (MEK; 2 Butanone)	MEK
Methyl 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

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

<b>Volatile Organic Compound</b>	<b>Geotracker Code</b>
1,1,2,2 Tetrachloroethane	PCA
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene; PCE)	PCE
Toluene	BZME
1,2,4 Trichlorobenzene	TCB124
1,1,1 Trichloroethane (Methylchloroform)	TCA111
1,1,2 Trichloroethane	TCA112
Trichloroethylene (Trichloroethene; TCE)	TCE
Trichlorofluoromethane (CFC 11)	FC11
1,2,3 Trichloropropane	TCPR123
Vinyl acetate	VA
Vinyl chloride (Chloroethene)	VC
Xylene (total)	XYLENES

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

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

<b>Constituent</b>	<b>Geotracker Code</b>
Acenaphthene	ACNP
Acenaphthylene	ACNPY
Acetophenone	ACPHN
2 Acetylaminofluorene (2 AAF)	ACAMFL2
Aldrin	ALDRIN
4 Aminobiphenyl	AMINOBP4
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)**

<b>Constituent</b>	<b>Geotracker Code</b>
Bis(2 chloroethoxy) methane	BECEM
Bis(2 chloroethyl) ether (Dichloroethyl ether)	BIS2CEE
Bis(2 chloro 1 methylethyl) 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

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

<b>Constituent</b>	<b>Geotracker Code</b>
Dibenz[a,h]anthracene	DBAHA
Dibenzofuran	DBF
Di n butyl phthalate	DNBP
3,3' Dichlorobenzidine	DBZD33
2,4 Dichlorophenol	DCP24
2,6 Dichlorophenol	DCP26
Dieldrin	DIELDRIN
Diethyl phthalate	DEPH
p (Dimethylamino) azobenzene	PDMAABZ
7,12 Dimethylbenz[a]anthracene	DMBZA712
3,3' Dimethylbenzidine	DMBZD33
2,4 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



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

<b>Constituent</b>	<b>Geotracker Code</b>
Endosulfan I	ENDOSULFANA
Endosulfan II	ENDOSULFANB
Endosulfan sulfate	ENDOSULFANS
Endrin	ENDRIN
Endrin aldehyde	ENDRINALD
Ethyl methanesulfonate	EMSULFN
Famphur	FAMPHUR
Fluoranthene	FLA
Fluorene	FL
Heptachlor	HEPTACHLOR
Heptachlor epoxide	HEPT-EPOX
Hexachlorobenzene	HCLBZ
Hexachlorocyclopentadiene	HCCP
Hexachloroethane	HCLEA
Hexachloropropene	HCPR
Indeno(1,2,3 c,d) pyrene	INP123
Isodrin	ISODRIN
Isophorone	ISOP
Isosafrole	ISOSAFR
Kepone	KEP

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

<b>Constituent</b>	<b>Geotracker Code</b>
Methapyrilene	MTPYRLN
Methoxychlor	MTXYCL
3 Methylcholanthrene	MECHLAN3
Methyl methanesulfonate	MMSULFN
2 Methylnaphthalene	MTNPH2
1,4 Naphthoquinone	NAPHQ14
1 Naphthylamine	AMINONAPH1
2 Naphthylamine	AMINONAPH2
o Nitroaniline (2 Nitroaniline)	NO2ANIL2
m Nitroaniline (3 Nitroaniline)	NO2ANIL3
p Nitroaniline (4 Nitroaniline)	NO2ANIL4
Nitrobenzene	NO2BZ
o Nitrophenol (2 Nitrophenol)	NTPH2
p Nitrophenol (4 Nitrophenol)	NTPH4
N Nitrosodi n butylamine (Di n butylNitrosamine)	NNSBU
N Nitrosodiethylamine (Diethylnitrosamine)	NNSE
N Nitrosodimethylamine (Dimethylnitrosamine)	NNSM
N Nitrosodiphenylamine (Diphenylnitrosamine)	NNSPH
N Nitrosodipropylamine (N Nitroso N dipropylamine; Di n propylNitrosamine)	NNSPR
N Nitrosomethylethylamine (Methylethylnitrosamine)	NNSME

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

<b>Constituent</b>	<b>Geotracker Code</b>
N Nitrosopiperidine	NNSPPRD
N Nitrosopyrrolidine	NNSPYRL
5 Nitro o toluidine	TLDNONT5
Pentachlorobenzene	PECLBZ
Pentachloronitrobenzene (PCNB)	PECLNO2BZ
Pentachlorophenol	PCP
Phenacetin	PHNACTN
Phenanthrene	PHAN
Phenol	PHENOL
p Phenylenediamine	ANLNAM4
Polychlorinated biphenyls (PCBs; Aroclors)	PCBS
Pronamide	PRONAMD
Pyrene	PYR
Safrole	SAFROLE
1,2,4,5 Tetrachlorobenzene	C4BZ1245
2,3,4,6 Tetrachlorophenol	TCP2346
o Toluidine	TLDNO
Toxaphene	TOXAP
2,4,5 Trichlorophenol	TCP245
0,0,0 Triethyl phosphorothioate	TEPTH

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

<b>Constituent</b>	<b>Geotracker Code</b>
sym Trinitrobenzene	TNB135

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

**USPEA Method 8151A List**

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

**ATTACHMENT F—ORGANOPHOSPHOROUS COMPOUNDS  
(FIVE YEAR COCS)**

**USEPA Method 8141B List**

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