ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. Water Code Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Reporting responsibilities of waste Dischargers are specified in Sections 13225(a), 13267(b), 13268, 13383 and 13387(b) of the California Water Code and this Regional Water Board's Resolution No. 73-16.

B. The principal purposes of a monitoring program by a waste Discharger, also referred to as self-monitoring program, are: (1) to document compliance with waste discharge requirements and prohibitions established by the Regional Water Board, (2) to facilitate self-policing by the waste Discharger in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of effluent or other limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and (4) to prepare water and wastewater quality inventories.

C. Laboratories analyzing monitoring samples shall be certified by the Department of Health Services, in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

D. Written reports, strip charts, calibration and maintenance records, and other records shall be maintained by the Discharger and accessible and retained for a minimum of five years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Water Board or Regional Administrator of the U.S. Environmental Protection Agency, Region IX. Such records shall show the following for **each** sample:

1. Identity of sampling and observation stations by number.
2. Date and time of sampling and/or observations.
3. Method of sampling.
4. Full report for rainbow trout bioassay test (96-hour static bioassay renewal).
5. Date and time that analyses are started and completed, and name of personnel performing the analyses.
6. Complete procedure used, including method of preserving sample and identity and volumes of reagents used. A reference to a specific section of

Standard Methods (SM) or the standard USEPA method number is satisfactory.

7. Calculations of results.
8. Results of analyses and/or observations.

E. Monthly discharge flow volume shall be recorded, as well as totalized quarterly and annual flow.

F. A tabulation reflecting bypassing and accidental waste spills shall be maintained.

G. A copy of this Order, a complete copy of the Notice of Intent filed, documentation of the authorization to discharge received from the Regional Water Board, a full copy of the O&M Manual, and any other documents relevant to the operation and maintenance of the treatment facility shall be stored at or near the treatment facility. These documents help the Dischargers' staff responsible for compliance assurance activities and shall be made available to Regional Water Board staff during inspections. The Dischargers' staff responsible for compliance assurance activities shall inspect the Facility as frequent as required by the O&M Manual. No O&M Manual shall be submitted to the Regional Water Board office, unless requested.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E.1 Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
--	INF-001	At a point in the extraction system immediately prior to inflow to the treatment unit.
	EFF-001	At a point in the discharge line immediately following treatment and before it joins or is diluted by any other waste stream, body of water, or substance.
	RSW-001U	At a point 50 feet upstream from the point of discharge into the receiving water, or if access is limited, at the first point upstream which is accessible.
	RSW-001D	At a point 50 feet downstream from the point of discharge into the receiving water, or if access is limited, at the first point downstream which is accessible.
	REU-001	At a point immediately prior to reuse location. Not Applicable if reused reclaimed water is the same as effluent or reclamation is in place.
	LDE-001	At a point immediately prior to land discharge. Not Applicable if land discharge groundwater is the same as effluent.

III. INFLUENT MONITORING REQUIREMENTS

The Discharger shall perform sampling and analyses according to the schedule in Table E-2 and E-4 (if applicable) or Table E-3 and E-4 (if applicable), and, if applicable, no Influent samples shall include any treatment system recirculation. No influent monitoring is required for discharges that consist entirely of extracted groundwater, RO concentrate, or a blend of these two (except for RO facility with an unblended RO concentrate of inorganic compounds exceeding the corresponding triggers in the Table 2 of the Order).

IV. EFFLUENT MONITORING REQUIREMENTS

The Discharger shall perform sampling and analyses according to the schedule in Tables E-2 and E-4 (if applicable) or Table E-3 and E-4 (if applicable) in accordance with the following conditions:

A. Samples of effluent shall be collected on days coincident with influent sampling.

B. When any type of bypass of treatment systems occur, grab samples shall be collected on a daily basis for all constituents at all affected discharge points that have effluent limits for the duration of the bypass.

V. WHOLE EFFLUENT ACUTE TOXICITY TESTING REQUIREMENTS

The Discharger shall perform sampling and analyses according to the schedule in Tables E-2 and E-3 in accordance with the following conditions:

A. Fish bioassay samples shall be collected on days coincident with effluent sampling.
B. Bioassay tests should be performed on effluent samples after chlorination-dechlorination.
C. Total ammonia nitrogen of the effluent shall be analyzed and un-ionized ammonia calculated whenever fish bioassay test results fail to meet the specified percent survival.
D. If the final or intermediate results of any single bioassay test indicate a threatened violation (i.e. the percentage of surviving test organisms is less than the required survival percentage), a new test will begin and the Discharger shall investigate the cause of the mortalities and report the finding in the next self-monitoring report.

TABLE E.2 Schedule for Sampling, Measurements, and Analysis for Structural Dewatering Discharges

Sampling Station	Minimum Sampling Frequency for Effluent EFF-001, Effluent for Reuse REU-001, or Effluent for Land Discharge LDE-001	Minimum Sampling Frequency for Receiving Surface Water RSW-001U and RSW-001D	Required Analytical Test Method Number, Technique, Standard Methods (SM), USEPA Report Number, 40 CFR Part (or equivalent)
Unit is "µg/L" and Type of Sample is "Grab" unless noted otherwise	Grab	Grab	
Flow Rate (MGD)	Daily (Meter or calculation based on time and pump capacity)		
Acute Whole Effluent Toxicity (% survival)	Once during the first year of operation and if at least with 90% survival rate for the first year, then every three years thereafter		EPA-821-R-02-012 Test, Method 2019.0
pH	Quarterly during the first year of operation and if in full compliance during the first year, then once a year thereafter		USEPA Methods 150, 9040,or SM 4500-H+
Hardness (mg/L as $CaCO_3$)	Once every three years		USEPA Method 130 or SM 2340
Total Solids (mg/L)	Once every three years		SM 2540
Total Dissolved Solids (mg/L)	Once every three years		SM 2540
Temperature (deg. C)	Once every three years		Field Measurement
Salinity (parts per thousand)	Once every three years		EPA430/9-86-004 or SM 2520
Turbidity	Once every three years	Once every three years	USEPA Method 180 or SM 2130
Chlorine (mg/L)—applicable to Facilities that treat effluent with chlorine	Daily for the first month of operation and if in full compliance then Quarterly thereafter		Field Kit, USEPA Method 330, or SM 4500-Cl
Chlorides (mg/L)	Once every three years		SM 4500 Cl-
Dissolved Oxygen (mg/L)	Once every three years		SM 4500 O
Conductivity (mmhoms/cm)	Once every three years		SM 2510
Antimony Total (See Note 1)	Once during the first year of operation and if not detected or triggered then once every three years thereafter		USEPA Method 206.3
Arsenic Total (See Note 1)	Once during the first year of operation and if not detected or triggered then once every three years thereafter		USEPA Methods using GFAA or ICPMS Techniques
Beryllium Total (See Note 1)	Once during the first year of operation and if not detected or triggered then once		USEPA Methods using GFAA or ICPMS Techniques

Sampling Station	Minimum Sampling Frequency for Effluent EFF-001, Effluent for Reuse REU-001, or Effluent for Land Discharge LDE-001	Minimum Sampling Frequency for Receiving Surface Water RSW-001U and RSW-001D	Required Analytical Test Method Number, Technique, Standard Methods (SM), USEPA Report Number, 40 CFR Part (or equivalent)
	every three years thereafter		
Cadmium Total (See Note 1)	Once during the first year of operation and if not detected or triggered then once every three years thereafter		Standard Method (SM) 3500
Chromium Hexavalent and Total Chromium (See Note 1)	Once during the first year of operation and if not detected or triggered then once every three years thereafter		USEPA Method 200.9
Copper Total (See Note 1)	Once during the first year of operation and if not detected or triggered then once every three years thereafter		SM 4500-CN- C or I
Cyanide Total (See Note 1)	Once during the first year of operation and if not detected or triggered then once every three years thereafter		USEPA Method 200.9
Lead Total (See Note 1)	Once during the first year of operation and if not detected or triggered then once every three years thereafter		USEPA Method 1631
Mercury Total (See Note 1)	Once during the first year of operation and if not detected or triggered then once every three years thereafter		USEPA Method 249.2
Nickel Total (See Note 1)	Once during the first year of operation and if not detected or triggered then once every three years thereafter		SM 3114B or C
Selenium Total (See Note 1)	Once during the first year of operation and if not detected or triggered then once every three years thereafter		USEPA Method 272.2
Silver Total (See Note 1)	Once during the first year of operation and if not detected or triggered then once every three years thereafter		USEPA Method 279.2
Thallium Total (See Note 1)	Once during the first year of operation and if not detected or triggered then once every three years thereafter		USEPA Method 200 or 289

Sampling Station	Minimum Sampling Frequency for Effluent EFF-001, Effluent for Reuse REU-001, or Effluent for Land Discharge LDE-001	Minimum Sampling Frequency for Receiving Surface Water RSW-001U and RSW-001D	Required Analytical Test Method Number, Technique, Standard Methods (SM), USEPA Report Number, 40 CFR Part (or equivalent)
Zinc Total (See Note 1)	Once during the first year of operation and if not detected or triggered then once every three years thereafter		USEPA Method 204.2
Volatile Organic Compounds	Once within first year of operation		USEPA Method 8260
Semi Volatile Organic Compounds except Polynuclear Aromatic Hydrocarbons	Once within first year of operation		USEPA Method 8270
Polynuclear Aromatic Hydrocarbons	Once within first year of operation		USEPA Method 8310
Other Pollutants not listed above but there is evidence to be present in the influent and/or effluent and being treated	Quarterly for first year of operation and if not detected or triggered then once every three years thereafter		40 CFR or USEPA Approved Method, SM, or equivalent
All Applicable Standard Observations (No Unit) (See Note 2)	Quarterly or whenever attending the Facility	Quarterly or whenever sampling the receiving water	

TABLE E.3 Schedule for Sampling, Measurements, and Analysis for Aquifer Protection Well discharges

Sampling Station	Minimum Sampling Frequency for Effluent EFF-001, Effluent for Reuse REU-001, or Effluent for Land Discharge LDE-001	Minimum Sampling Frequency for Receiving Surface Water RSW-001U and RSW-001D	Required Analytical Test Method Number, Technique, Standard Methods (SM), USEPA Report Number, 40 CFR Part (or equivalent)
Unit is "µg/L" and Type of Sample is "Grab" unless noted otherwise	**Grab**	**Grab**	
Flow Rate (MGD)	Daily (Meter or calculation based on time and pump capacity)		
Acute Whole Effluent Toxicity (% survival)	Y		EPA-821-R-02-012 Test, Method 2019.0
pH	Q		USEPA Methods 150, 9040,or SM 4500-H+
Hardness (mg/L as $CaCO_3$)	Y		USEPA Method 130 or SM 2340
Total Solids (mg/L)	Q		SM 2540
Total Dissolved Solids (mg/L)	Q		SM 2540
Temperature (deg. C)	Q		Field Measurement
Salinity (parts per thousand)	Q		EPA430/9-86-004 or SM 2520
Turbidity	Q	Q	USEPA Method 180 or SM 2130
Chlorine (mg/L)—applicable to facilities that treat effluent with chlorine	D		Field Kit, USEPA Method 330, or SM 4500-Cl

Sampling Station	Minimum Sampling Frequency for Effluent EFF-001, Effluent for Reuse REU-001, or Effluent for Land Discharge LDE-001	Minimum Sampling Frequency for Receiving Surface Water RSW-001U and RSW-001D	Required Analytical Test Method Number, Technique, Standard Methods (SM), USEPA Report Number, 40 CFR Part (or equivalent)
Unit is "µg/L" and Type of Sample is "Grab" unless noted otherwise	Grab	Grab	
Chlorides (mg/L)	Q		SM 4500 Cl-
Dissolved Oxygen (mg/L)	Q		SM 4500 O
Conductivity (mmhoms/cm)	Q		SM 2510
Antimony Total (See Note 1)	Y		USEPA Method 206.3
Arsenic Total (See Note 1)	Y		USEPA Methods using GFAA or ICPMS Techniques
Beryllium Total (See Note 1)	Y		USEPA Methods using GFAA or ICPMS Techniques
Cadmium Total (See Note 1)	Y		Standard Method (SM) 3500
Chromium Hexavalent and Total Chromium (See Note 1)	Y		USEPA Method 200.9
Copper Total (See Note 1)	Y		SM 4500-CN- C or I
Cyanide Total (See Note 1)	Y		USEPA Method 200.9
Lead Total (See Note 1)	Y		USEPA Method 1631
Mercury Total (See Note 1)	Y		USEPA Method 249.2
Nickel Total (See Note 1)	Y		SM 3114B or C
Selenium Total (See Note 1)	Y		USEPA Method 272.2
Silver Total (See Note 1)	Y		USEPA Method 279.2
Thallium Total (See Note 1)	Y		USEPA Method 200 or 289
Zinc Total (See Note 1)	Y		USEPA Method 204.2
Volatile Organic Compounds	Once within permit term from each outfall		USEPA Method 8260
Semi Volatile Organic Compounds except Polynuclear Aromatic Hydrocarbons	Once within permit term from each outfall		USEPA Method 8270
Polynuclear Aromatic Hydrocarbons	Once within permit term from each outfall		USEPA Method 8310
Other Pollutants not listed above but there is evidence to be present in the influent and/or effluent	Q		40 CFR or USEPA Approved Method, SM, or equivalent
All Applicable Standard Observations (No Unit) (See Note 2)	Q or whenever attending the Facility	Q or whenever sampling the receiving water	

Notes for Table E-3 Legends: Q Once each quarter and Y Once each year.

Note 1: Inorganic compounds samples shall be analyzed for total (unfiltered) constituents with the reporting levels not exceeding the following: 0.002 ug/l for Mercury; 0.25 ug/l for Cadmium and Silver; 1 ug/l for Nickel, Thallium, and Zinc; 2.0 ug/l for Arsenic and Selenium; 1 ug/l for Cyanide; and 0.5 ug/l for Antimony, Beryllium, Total Chromium, Copper, and Lead (SIP Appendix 4 Minimum Levels http://www.waterboards.ca.gov/iswp/docs/final.pdf). If the Discharger exceeds the trigger for mercury of 0.025, the Discharger may consider re-sampling and re-analyzing another sample using ultra-clean techniques as described in USEPA methods 1669 and 1631 to eliminate the possibility of artifactual contamination of the sample.

Note 2: Standard Observations are explained in Provisions IX.C through IX.E of this document.

Definitions: ug/L = microgram per liter or parts per billion (ppb), g/day = grams per day, gpm = gallons per minute, mg/L = milligram per liter or parts per million (ppm), gpd = gallons per day, MFL = million fibers per liter

GC = Gas Chromatography; GCMS = Gas Chromatography/Mass Spectrometry; FAA = Flame Atomic Absorption; GFAA = Graphite Furnace Atomic Absorption; Hydride = Gaseous Hydride Atomic Absorption; ICP = Inductively Coupled Plasma; and ICPMS = Inductively Coupled Plasma/Mass Spectrometry.

TABLE E.4 Schedule for Sampling, Measurements, and Analysis for RO Concentrate

Sampling Station	Minimum Sampling Frequency for Effluent EFF-001, Effluent for Reuse REU-001, or Effluent for Land Discharge LDE-001	Minimum Sampling Frequency for Receiving Surface Water RSW-001U and RSW-001D)	Required Analytical Test Method Number, Technique, Standard Methods (SM), USEPA Report Number, 40 CFR Part (or equivalent)
Unit is "µg/L" and Type of Sample is "Grab" unless noted otherwise	Grab	Grab	
Flow Rate (MGD)	Daily (Meter or calculation based on time and pump capacity)		
Acute Whole Effluent Toxicity (% survival)	M/Q		EPA-821-R-02-012 Test, Method 2019.0
pH	M		USEPA Methods 150, 9040,or SM 4500-H+
Hardness (mg/L as $CaCO_3$)	Q		USEPA Method 130 or SM 2340
Total Solids (mg/L)	M		SM 2540
Total Dissolved Solids (mg/L)	M		SM 2540
Temperature (deg. C)	M		Field Measurement
Salinity (parts per thousand)	M		EPA430/9-86-004 or SM 2520
Turbidity (NTU)	Q	Q	USEPA Method 180 or SM 2130
Chlorine (mg/L)—applicable to facilities that treat effluent with chlorine	D		Field Kit, USEPA Method 330, or SM 4500-Cl
Chlorides (mg/L)	M		SM 4500 Cl-
Dissolved Oxygen (mg/L)	M		SM 4500 O
Conductivity (mmhoms/cm)	M		SM 2510
Antimony Total (See Note 1)	Q		USEPA Method 204.2
Arsenic Total (See Note 1)	Q		USEPA Method 206.3
Beryllium Total (See Note 1)	Q		USEPA Methods using GFAA or ICPMS Techniques
Cadmium Total (See Note 1)	Q		USEPA Methods using GFAA or ICPMS Techniques
Chromium Hexavalent and Total Chromium (See Note 1)	Q		Standard Method (SM) 3500
Copper Total (See Note 1)	Q		USEPA Method 200.9
Cyanide Total (See Note 1)	Q		SM 4500-CN- C or I
Lead Total (See Note 1)	Q		USEPA Method 200.9
Mercury Total (See Note 1)	Q		USEPA Method 1631
Nickel Total (See Note 1)	Q		USEPA Method 249.2
Selenium Total (See Note 1)	Q		SM 3114B or C
Silver Total (See Note 1)	Q		USEPA Method 272.2
Thallium Total (See Note 1)	Q		USEPA Method 279.2

Sampling Station	Minimum Sampling Frequency for Effluent EFF-001, Effluent for Reuse REU-001, or Effluent for Land Discharge LDE-001	Minimum Sampling Frequency for Receiving Surface Water RSW-001U and RSW-001D)	Required Analytical Test Method Number, Technique, Standard Methods (SM), USEPA Report Number, 40 CFR Part (or equivalent)
Unit is "µg/L" and Type of Sample is "Grab" unless noted otherwise	Grab	Grab	
Zinc Total (See Note 1)	Q		USEPA Method 200 or 289
Volatile Organic Compounds	Once within first year,,		USEPA Method 8260
Semi Volatile Organic Compounds except Polynuclear Aromatic Hydrocarbons	Once within first year		USEPA Method 8270
Polynuclear Aromatic Hydrocarbons	Once within first year		USEPA Method 8310
Other Pollutants not listed above but there is evidence to be present in the influent and/or effluent	Q		40 CFR or USEPA Approved Method, SM, or equivalent
All Applicable Standard Observations (No Unit) (See Note 2)	Q or whenever attending the Facility	Q or whenever sampling the receiving water	

Notes for Table E-4

Note 1: Inorganic compounds samples shall be analyzed for total (unfiltered) constituents with the reporting levels not exceeding the following: 0.002 ug/l for Mercury; 0.25 ug/l for Cadmium and Silver; 1 ug/l for Nickel, Thallium, and Zinc; 2.0 ug/l for Arsenic and Selenium; 1 ug/l for Cyanide; and 0.5 ug/l for Antimony, Beryllium, Total Chromium, Copper, and Lead (SIP Appendix 4 Minimum Levels http://www.waterboards.ca.gov/iswp/docs/final.pdf). If the Discharger exceeds the trigger for mercury of 0.025, the Discharger may consider re-sampling and re-analyzing another sample using ultra-clean techniques as described in USEPA methods 1669 and 1631 to eliminate the possibility of artifactual contamination of the sample.

Note 2: Standard Observations are explained in Provisions IX.C through IX.E of this document.

Definitions: ug/L = microgram per liter or parts per billion (ppb), g/day = grams per day, gpm = gallons per minute, mg/L = milligram per liter or parts per million (ppm), gpd = gallons per day, MFL = million fibers per liter

GFAA = Graphite Furnace Atomic Absorption and ICPMS = Inductively Coupled Plasma/Mass Spectrometry.

Legends

D Once each day.
M Once each month.
Q Once each quarter.
Y Once each year.
M/Q Monthly for first year of operation, Quarterly thereafter.

TABLE E.5 Additional Monitoring Requirements: Applicable when Limit or Trigger Value Exceeded in Previous Sample Set

Monitoring per this table is required for up to two quarters (as specified below) following an exceedance of an effluent limit or trigger value.

Sampling Station	Minimum Sampling Frequency for Influent INF-001	Minimum Sampling Frequency for Effluent EFF-001	Minimum Sampling Frequency for Receiving Surface Water RSW-001U and RSW-001D	Required Analytical Test Method Number, Technique, Standard Methods (SM), USEPA Report Number, 40 CFR Part (or equivalent)
Unit is "µg/L" and Type of Sample is "Grab" unless noted otherwise	Grab	Grab	Grab	
	The monitoring requirements in these two columns apply when any constituent in the effluent of a discharge, as monitored per Table E-2 or E-3, exceeds the corresponding trigger as listed in the Table 2 of the Order:			
Flow Rate (MGD)		Daily (Meter or calculation		

Sampling Station	Minimum Sampling Frequency for Influent INF-001	Minimum Sampling Frequency for Effluent EFF-001	Minimum Sampling Frequency for Receiving Surface Water RSW-001U and RSW-001D	Required Analytical Test Method Number, Technique, Standard Methods (SM), USEPA Report Number, 40 CFR Part (or equivalent)
Unit is "µg/L" and Type of Sample is "Grab" unless noted otherwise	Grab	Grab	Grab	
	The monitoring requirements in these two columns apply when any constituent in the effluent of a discharge, as monitored per Table E-2 or E-3, exceeds the corresponding trigger as listed in the Table 2 of the Order:			
		based on time and pump capacity)		
Acute Whole Effluent Toxicity (% survival)		V		EPA-821-R-02-012 Test, Method 2019.0
pH	V	V	V, Q[4]	USEPA Methods 150, 9040,or SM 4500-H+
Hardness (mg/L as $CaCO_3$)			Q[5]	USEPA Method 130 or SM 2340
Total Solids (mg/L)			Q[4]	SM 2540
Total Dissolved Solids (mg/L)	3 per Q	3 per Q	3 per Q[3]	SM 2540
Temperature (deg. C)			Q[4]	Field Measurement
Salinity (parts per thousand)		M[4]	M[4]	EPA430/9-86-004 or SM 2520
Turbidity (NTU)	3 per Q	3 per Q	3 per Q[3]	USEPA Method 180 or SM 2130
Chlorine (mg/L)—applicable to facilities that treat effluent with chlorine		V		Field Kit, USEPA Method 330, or SM 4500-Cl
Chlorides (mg/L)	3 per Q	3 per Q	3 per Q[3]	SM 4500 Cl-
Dissolved Oxygen (mg/L)			3 per Q[3]	SM 4500 O
Conductivity (mmhoms/cm)	3 per Q	3 per Q	3 per Q[3]	SM 2510
Antimony Total (See Note 1)	3 per Q	3 per Q	3 per Q[3]	USEPA Method 204.2
Arsenic Total (See Note 1)	3 per Q	3 per Q	3 per Q[3]	USEPA Method 206.3
Beryllium Total (See Note 1)	3 per Q	3 per Q	3 per Q[3]	USEPA Methods using GFAA or ICPMS Techniques
Cadmium Total (See Note 1)	3 per Q	3 per Q	3 per Q[3]	USEPA Methods using GFAA or ICPMS Techniques
Chromium Hexavalent and Total Chromium (See Note 1)	3 per Q	3 per Q	3 per Q[3]	Standard Method (SM) 3500
Copper Total (See Note 1)	3 per Q	3 per Q	3 per Q[3]	USEPA Method 200.9
Cyanide Total (See Note 1)	3 per Q	3 per Q	3 per Q[3]	SM 4500-CN- C or I
Lead Total (See Note 1)	3 per Q	3 per Q	3 per Q[3]	USEPA Method 200.9
Mercury Total (See Note 1)	3 per Q	3 per Q	3 per Q[3]	USEPA Method 1631
Nickel Total (See Note 1)	3 per Q	3 per Q	3 per Q[3]	USEPA Method 249.2

Sampling Station	Minimum Sampling Frequency for Influent INF-001	Minimum Sampling Frequency for Effluent EFF-001	Minimum Sampling Frequency for Receiving Surface Water RSW-001U and RSW-001D	Required Analytical Test Method Number, Technique, Standard Methods (SM), USEPA Report Number, 40 CFR Part (or equivalent)
Unit is "µg/L" and Type of Sample is "Grab" unless noted otherwise	Grab	Grab	Grab	
	The monitoring requirements in these two columns apply when any constituent in the effluent of a discharge, as monitored per Table E-2 or E-3, exceeds the corresponding trigger as listed in the Table 2 of the Order:			
Selenium Total (See Note 1)	3 per Q	3 per Q	3 per Q[3]	SM 3114B or C
Silver Total (See Note 1)	3 per Q	3 per Q	3 per Q[3]	USEPA Method 272.2
Thallium Total (See Note 1)	3 per Q	3 per Q	3 per Q[3]	USEPA Method 279.2
Zinc Total (See Note 1)	3 per Q	3 per Q	3 per Q[3]	USEPA Method 200 or 289
Volatile Organic Compounds	3 per Q	3 per Q	3 per Q[3]	USEPA Method 8260
Semi Volatile Organic Compounds except Polynuclear Aromatic Hydrocarbons	3 per Q	3 per Q	3 per Q[3]	USEPA Method 8270
Polynuclear Aromatic Hydrocarbons	3 per Q	3 per Q	3 per Q[3]	USEPA Method 8310
All Applicable Standard Observations, No Unit (See Note 2)	Q or whenever attending the Facility	Q or whenever attending the Facility	Q or whenever sampling the receiving water	

Legend:
V: Sampling should be performed within 24 hours after an effluent limit violation is confirmed in E-001.
Q Once each quarter

Notes for Table E-5
1: Inorganic compounds samples shall be analyzed for total (unfiltered) constituents with the reporting levels not exceeding the following: 0.002 ug/l for Mercury; 0.25 ug/l for Cadmium and Silver; 1 ug/l for Nickel, Thallium, and Zinc; 2.0 ug/l for Arsenic and Selenium; 1 ug/l for Cyanide; and 0.5 ug/l for Antimony, Beryllium, Total Chromium, Copper, and Lead (SIP Appendix 4 Minimum Levels http://www.waterboards.ca.gov/iswp/docs/final.pdf). If the Discharger exceeds the trigger for mercury of 0.025, the Discharger may consider re-sampling and re-analyzing another sample using ultra-clean techniques as described in USEPA methods 1669 and 1631 to eliminate the possibility of artifactual contamination of the sample.
2: Standard Observations are explained in Provisions IX.B through IX.D of this document.
3: In addition to the monitoring required per Note 3, during the same period, the Discharger shall take three additional samples (three up-gradient receiving surface water (RSW-001U) and three down-gradient receiving surface water (RSW-001D)) for each exceeded constituent.
4: This parameter should monitored if changes in this parameter may cause changes in the concentration of the triggered constituent
5: Sampling should be performed when Cadmium, Chromium (total), Copper, Lead, Nickel, Silver, or Zinc triggers are exceeded.
Definitions: ug/L = microgram per liter or parts per billion (ppb), g/day = grams per day, gpm = gallons per minute, mg/L = milligram per liter or parts per million (ppm), gpd = gallons per day, MFL = million fibers per liter
GFAA = Graphite Furnace Atomic Absorption and ICPMS = Inductively Coupled Plasma/Mass Spectrometry.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

The same as effluent and see section IX-E.

VII. RECLAMATION MONITORING REQUIREMENTS

The same as effluent and see section IX-E.

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER

A. The Discharger is required to perform sampling and analyses according to the schedule in Tables E-2 through E-4 as applicable.

IX. OTHER MONITORING REQUIREMENTS

A. **Chemical Additives Monitoring**: If applicable, monitoring related to chemical usage shall be conducted by the Discharger as required in its treatment system design specification and Operation and Maintenance Manual.

B. **Standard Observations for Receiving Water**

1. Floating and suspended materials of waste origin (to include oil, grease, algae, and other macroscopic particulate matter): presence or absence, source, and size of affected area.
2. Discoloration and turbidity: description of color, source, and size of affected area.
3. Odor: presence or absence, characterization, source, distance of travel, and wind direction.
4. Evidence of beneficial water use: presence of waterfowl or wildlife, people fishing, and other recreational activities in the vicinity of the site.
5. Hydrographic condition, if relevant:
    a. Time and height of corrected high and low tides (corrected to nearest National Oceanic and Atmospheric Administration (also known as NOAA) location for the sampling date and time of sample and collection).
    b. Depth of water columns and sampling depths.
6. Weather condition:
    a. Air temperature.
    b. Wind direction and estimated velocity.
    c. Total precipitation during the previous five days and on the day of observation.

C. **Standard Observations for Onsite Usage of Reclaimed Water**

1. Floating and suspended materials of waste origin (to include oil, grease, algae, and other macroscopic particulate matter): presence or absence, source, and size of affected area.
2. Discoloration and turbidity: description of color, source, and size of affected area.
3. Odor: presence or absence, characterization, source, distance of travel, and wind direction.
4. Weather condition:
    a. Air temperature.
    b. Wind direction and estimated velocity.
    c. Total precipitation during the previous five days and on the day of observation.

5. Deposits, discolorations, and/or plugging in the conveyance system that could adversely affect the system reliability and performance.
6. Operation of the valves, outlets, sprinkler heads, and/or pressure shutoff valves in conveyance system.

E. Standard Observations for Groundwater Treatment and/or Discharge System

1. Odor: presence or absence, characterization, source, distance of travel, and wind direction.
2. Weather condition: wind direction and estimated velocity.
3. Deposits, discolorations, and/or plugging in the treatment system (stripping tower, carbon filters, etc.) that could adversely affect the system reliability and performance.
4. Operation of the float and/or pressure shutoff valves installed to prevent system overflow or bypass.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

The Discharger shall comply with all Standard Provisions in Attachment D and in this document related to monitoring, reporting, and recordkeeping.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Dischargers to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site, and will also provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal (http://www.waterboards.ca.gov/ciwqs/index.html).

2. The Dischargers shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Dischargers shall submit quarterly SMRs, no later than 45 days after end of each calendar quarter, including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E.6 Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	Effective start up date	All	See Note 1
Daily	Effective start up date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	See Note 1
Weekly	Effective start up date	Effective start up day through one week after Effective start up date	See Note 1
Monthly	First day of calendar month following the last day of the start up date	1st day of calendar month through last day of calendar month	See Note 1
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) the last day of the start up date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	See Note 1
Semiannually	Closest of January 1 or July 1 following (or on) the last day of the start up date	January 1 through June 30 July 1 through December 31	See Note 1
Annually	January 1 following (or on) the last day of the start up date	January 1 through December 31	See Note 1
Note 1: Quarterly Self-Monitoring Reports shall also be submitted the Regional Water Board on a quarterly calendar basis, no later than forty five (45) days following the last day of the quarter. Annual Reports shall be submitted by February 15 of each year, covering the previous calendar year. The annual report shall contain all data required for the fourth quarter in addition to summary data required for annual reporting. This report may be submitted in lieu of the report for the fourth quarter of a calendar year.			

4. Reporting Protocols. The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136. The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported. For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

   c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

   d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical

data derived from *extrapolation* beyond the lowest point of the calibration curve.

5. The Discharger shall submit SMRs in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with the effluent limitations.

   b. The Discharger shall attach a cover letter to the monitoring reports. The information contained in the cover letter shall clearly identify violations of the permit; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

   c. Monitoring reports must be submitted to the Regional Water Board signed, and certified as required by the Standard Provisions (Attachment D) to the address listed below:

      California Regional Water Quality Control Board
      San Francisco Bay Region
      1515 Clay Street, Suite 1400
      Attn: NPDES Wastewater Division
      General NPDES NO. CAG912004

   d. The monitoring reports shall also include a description of operation and maintenance (O&M) of the groundwater extraction and treatment system consistent with the O&M manual, which shall be available to all personnel who are responsible for operation and maintenance activities.

   e. The monitoring reports shall include the results of analyses and observations as follows:
      1. Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.
      2. A table identifying by method number the analytical procedures used for analyses. Any special methods shall be identified and should have prior approval of the Regional Water Board's Executive Officer.
      3. Laboratory results shall be summarized in tabular form but do not need to be included in the report. A summary of quality assurance/quality control activities data such as field,

travel, and laboratory blanks shall be reported for each analyzed constituent or group of constituents.

4. A summary of the monitoring data to include information such as source of the sample (influent, effluent, or receiving water); the constituents; the methods of analysis used; the laboratory reporting limits in ug/l; the sample results (ug/l); the date sampled; and the date sample was analyzed.
5. Flow (in gpm) and mass removal data (in kilograms).
6. Summary of treatment system status during the reporting period (e.g. in operation/on standby) and reason(s) for non-routine treatment system shut down.
7. The annual reports shall contain tabular summary of the monitoring data obtained during the previous year. In addition, the annual reports shall contain a comprehensive discussion of the compliance record and the corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements. The annual report shall document that the annual fee has been paid.

C. Discharge Monitoring Reports (DMRs) Not Applicable

D. Other Reports

1. Trigger Study Report: The Discharger shall report the results of any trigger study required by Special Provisions – VI.C.6 and the progress in satisfaction of compliance schedule dates specified in Special Provisions VI.C.7, VI.C.8, and VI.C.9 of this Order.

2. Spill Reports: If any hazardous substance is discharged in or on any waters of the state, or discharged and deposited where it is, or probably will be discharged in or on any waters of the state, the Discharger shall report such a discharge to this Regional Water Board, at (510) 622-2300 on weekdays during office hours from 8 a.m. to 12 p.m. and 1 p.m. to 5 p.m, and to the Office of Emergency Services at (800) 852-7550 during non-office hours. A written report shall be submitted, with a confirmation email to staff, within five (5) working days and shall contain information relative to:
   a. Nature of waste or pollutant,
   b. Quantity involved,
   c. Duration of incident,
   d. Cause of spilling,
   e. Spill Prevention, Control, and Countermeasure Plan (SPCC) in effect, if any,
   f. Estimated size of affected area,
   g. Nature of effects (i.e., fish kill, discoloration of receiving water, etc.),

h. Corrective measures that have been taken or planned, and a schedule of these activities, and
i. Persons/agencies notified.

3. Reports of Treatment Unit Bypass and Permit Violation: In the event the Discharger violates or threatens to violate the conditions of the waste discharge requirements and prohibitions or intends to permit a treatment unit bypass due to:
   a. Maintenance work, power failures, or breakdown of waste treatment equipment,
   b. Accidents caused by human error or negligence,
   c. The self-monitoring program results exceeding effluent limitations,
   d. Any activity that would result in a frequent or routine discharge of any toxic pollutant not limited by this Order, or
   e. Other causes, such as acts of nature.

   The Discharger shall notify the Regional Water Board within 24 hours of when the Discharger or Discharger's agent has knowledge of the incident and confirm this notification in writing and with a confirmation email to staff, within 5 working days of the initial notification. The written report shall include time, date, duration and estimated volume of waste bypassed, method used in estimating volume and person notified of the incident. The report shall include pertinent information explaining reasons for the noncompliance and shall indicate what steps were taken to prevent the problem from recurring.