California Regional Water Quality Control Board
North Coast Region

MONITORING AND REPORTING REQUIREMENTS
Order No. R1-2023-0010

for

COUNTY OF SONOMA

ANNAPOLIS SOLID WASTE DISPOSAL SITE
WDID No. 1B78064OSON

Sonoma County

The County of Sonoma (Discharger) shall maintain water quality monitoring systems that are appropriate for detection monitoring and corrective action, and that comply with California Code of Regulations, title 27, subchapter 3, chapter 3, subdivision 1, division 2, title 27, and any other applicable provisions therein.

The Annapolis Class III Solid Waste Disposal Site (SWDS) shall be monitored for leak detection and corrective action because groundwater contamination has been detected and the SWDS is currently in corrective action. Monitoring wells which are known to contain volatile organic compounds (VOCs) and naturally occurring compounds at levels above background shall be monitored as corrective action wells. All additional monitoring locations that have not shown impact shall be monitored for leak detection.

This Monitoring and Reporting Program (MRP) is issued pursuant to California Water Code Section 13267 (b) and requires monitoring of groundwater and submission of technical reports necessitated by the fact that the SWDS is a solid waste disposal site. The objective of monitoring conducted under this monitoring program is to provide the Discharger and the Regional Water Quality Control Board (Regional Water Board) with information concerning vadose zone, surface water, groundwater quality and whether the SWDS is responsible for any impacts to their quality; status of waste control measures; status of corrective action measures; and status of compliance with California Code of Regulations, title 27 at the SWDS. The burden, including costs, of these reports bears a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

The failure to furnish any of the required reports, or false information, is a misdemeanor, and may result in additional enforcement actions being taken against the County, including issuance of an Administrative Civil Liability (ACL) Complaint pursuant to Water Code section 13268. Liability may be imposed pursuant to Water Code section 13268 in an amount not to exceed one thousand dollars ($1,000) for each day in which the violation occurs.

Under the authority of California Water Code Section 13267(b), the Discharger named above is required to comply with the requirements outlined in this MRP:

I. REPORTING REQUIREMENTS

The Discharger shall report monitoring data and information as required in this MRP and as required in Waste Discharge Requirements (WDRs) Order No. R1-2023-0010. The Discharger shall submit a copy of the monitoring report in an electronic format, with transmittal letter, text, tables, figures, laboratory analytical data, and appendices in PDF format (one PDF for the entire report). The Discharger shall enter all monitoring data and monitoring reports into the online Geotracker database as required by California Code of Regulations, title 27, division 3 and title 23, division 3, chapter 30. The Discharger shall notify the Regional Water Board staff assigned to the facility of the upload via email.

All testing, other than field parameters, shall be performed at a laboratory certified by the State Water Resources Control Board Division of Drinking Water or approved by the Regional Water Board Executive Officer. Instruments used for field parameters shall be kept in good condition and calibrated according to manufacturer's requirements. Reports that do not comply with the required format will be rejected, and the Discharger shall be deemed to be in noncompliance with the WDRs.

The results of any monitoring done more frequently than required at the locations specified herein shall be reported to the Regional Water Board in the monitoring report(s) for that period. Method detection limits and practical quantification limits shall be reported. All peaks shall be reported, including those that cannot be quantified and/or specifically identified.

Monitoring Reports (MRs) must include, but shall not be limited to the following:

A. Letter of Transmittal:

A letter transmitting the essential points shall accompany each report. The letter must include a discussion of violations since submittal of the last such report. If the Discharger has not observed any violations since the last submittal, the Discharger must state this in the transmittal letter.

Both the monitoring report and the transmittal letter must be signed by a principal executive officer, ranking elected official, or responsible corporate officer. Documents may be signed by a duly authorized representative provided the authorization is requested in writing by a principal executive officer, ranking elected official, or responsible corporate officer prior to or with document submittal and the authorization specifies an individual or position having responsibility for the overall operation of the

regulated facility. The transmittal letter must contain the following statement by the authorized official:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

B. Compliance Summary:

The summary shall contain a narrative discussion of the monitoring results, including a discussion of compliance with concentration limits, any water quality violations, or other monitoring results of potential significance to water quality and describe any corrective actions taken to correct the violations and to prevent future similar violations.

C. Tabular Presentation of Data:

In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner as to clearly illustrate the compliance with WDRs or the lack thereof.

D. Graphical Presentation of Data (Annual Report):

For each monitoring point in each medium, the Discharger shall submit, in graphical format, the complete history of laboratory analytical data. Graphs must effectively illustrate trends and/or variations in the laboratory analytical data. Each graph must plot a single constituent concentration over time at one (for intra-well comparison) or more (for inter-well comparisons) monitoring points in a single medium. Where applicable, the monitoring report should include concentration limits along with graphs of constituent concentrations. When multiple samples are taken, graphs must plot each datum, rather than plotting mean values. Graphs are not required until a minimum of two samples of a given analyte have been taken at a given sampling point or when an analyte at a given sampling point has always been non-detect. The Discharger must also determine horizontal gradients, groundwater flow rate, and flow direction for each respective groundwater body. The Discharger must present these data on a figure that depicts groundwater contours, flow directions, and gradient. For each water level measuring period, the Discharger must include one figure.

E. Corrective Action Summary:

The Discharger shall discuss significant aspects of any corrective action measures conducted during the monitoring period and the status of any ongoing corrective action efforts, including constituent trend analysis.

F. Laboratory Results:

The Discharger shall summarize and report laboratory results and statements demonstrating compliance with Part II. Required Reports. Monitoring reports must include results of analyses performed at the facility that are outside of the requirements of this MRP.

G. Sampling Summary:

1. For each monitoring point, the monitoring report shall include a description of: 1) the method and time of water level measurement; 2) the method of purging and purge rate and well recovery time; and 3) field parameter readings.

2. For each monitoring point, the monitoring report shall include: 1) a description of the type of sampling device used; 2) its placement for sampling; and 3) a description of the sampling procedure (number of samples, field blanks, travel blanks, and duplicate samples taken; the date and time of sampling; the name and qualifications of the person collecting the samples and/or making the measurement; and description of any anomalies).

H. Leachate Detection and Collection:

A summary of results from leachate detection monitoring and sampling shall be reported in the monitoring report. In addition, the estimated monthly volume of leachate collection (in gallons) shall be reported and receipts from leachate disposal shall be included in the monitoring report.

I. Standard Observations:

The Discharger shall document standard observations in the monitoring report and submit a written incident report, if necessary. The Discharger shall comply with the following when documenting and reporting standard observations:

1. Each monitoring report shall include a summary and certification of completion of all standard observations for the entire facility including the waste management unit (WMU); the perimeter of the WMU; the slide debris/spoils management operations and for the receiving waters.

2. The standard observations shall be performed quarterly throughout the year and following any rainfall event of more than 1.0 inch in a 24-hour period. Standard observation reports shall be included in each semi-annual monitoring report.

3. Daily rainfall shall be tracked at either an on-site weather gauge or at the nearest NOAA weather station and the daily rainfall data shall be included in each semi-annual monitoring report.

4 The standard observations shall include: condition of WMU cover; exposed low permeability liner, whether storm water drainage ditches and sedimentation ponds contain liquids; condition of drainage facilities; condition of sedimentation ponds; whether there are any leachate seeps present, including estimates of seep size and flow; presence of odors; evidence of ponding; freeboard in leachate holding facilities; evidence of erosion or potential erosion; slope failures or potential slope failures; differential settlement, inspection of storm water discharge locations for evidence of non-storm water discharges; evidence of floating and suspended material or plastics, discoloration or turbidity in the receiving waters; presence of odors in the receiving waters; condition of access roads; other problems which could affect compliance with the WDRs; and weather conditions during the standard observations and the precipitation during the five days preceding the observations that were made during the monitoring period.

J. Map(s):

The base map for the monitoring report shall consist of a current aerial photograph or include relative topographical features (including receiving waters) along with monitoring points and features of the SWDS.

K. Report Preparation

These reports shall be prepared by, or under the direction of, California Registered Civil Engineer, or Certified Engineering Geologist, or registered Professional Geologist; and shall be signed and stamped by this professional.

II. REQUIRED REPORTS

A. Detection and Corrective Action Monitoring Report

Monitoring Reports shall be prepared and submitted to the Regional Water Board semi-annually, by the reporting dates listed below. Groundwater sampling shall occur in the 2nd quarter (April-June) and the 4th quarter (October-December) of each year. Leachate sampling shall occur between the months of December and March of each

year. Surface water, storm water, and unsaturated zone monitoring (both discrete vapor sampling and landfill gas sampling) shall be sampled as described and reported in the appropriate semi-annual report. The reports shall include the results of all monitoring programs listed herein. The established monitoring and reporting periods are as follows:

Table A: Monitoring and Reporting Periods

SEMI-ANNUAL	PERIOD NO.	REPORTING DATE
January through June	1	August 15
July through December	2	February 15

B. Annual Monitoring and Corrective Action Summary Report

An annual report, which summarizes the monitoring results for the prior two semi-annual periods, shall be submitted to the Regional Water Board by February 15, annually. The annual report may be combined with the semi-annual report that is also due February 15. The annual report shall contain the following:

1. Tabular and graphical summaries of the detection and, if applicable, corrective action monitoring data and a discussion of the progress toward re-establishment of compliance with WDRs and the Water Quality Protection Standard (WQPS).

2. Proof of adequate assurances of financial responsibility for closure, post-closure maintenance, and corrective action for all known or reasonably foreseeable releases from a WMU at the facility in accordance with California Code of Regulations, title 27, sections 20380(b), 20950(f), 22210, 22211, 22212, 22220, 22221, and 22222, and include annual accounting for inflation.

3. By February 15, 2025, the Discharger shall provide as part of the annual monitoring report updated post-closure costs and corrective action cost estimates Regional Water Board staff for review. The Discharger shall demonstrate to CalRecycle and report to the Executive Officer that it has established an acceptable financial assurance mechanism described in California Code of Regulations, title 27, section 22228 in at least the amount of the cost estimate approved by the Executive Officer. The Discharger shall include an annual update of the required insurance policy demonstrating that the cap manufacturer’s maintenance policy or an equivalent policy subject to Executive Officer approval is in effect and in good standing. The Executive Officer may delete the requirement of submitting updated cost estimates, with the exception of inflation adjustments, upon finding that the need for further

corrective action is unlikely and that post-closure costs are likely to remain constant.

C. Surface Water and Storm Water Sampling Report

Surface water and storm water monitoring shall be sampled as described herein and reported in the appropriate semi-annual report.

The report shall include the following:

1. A narrative discussion of water quality sampling and any seep detection and response, including notations of any water quality violations, tabular summaries of the water quality data for the sampling locations. The data shall be summarized in such a manner as to clearly illustrate compliance, or lack thereof, with the WDRs.

2. Tabular summaries that include notations to clearly identify specific: results that indicate an exceedance of water quality standards for naturally occurring compounds; an exceedance of detection limits for all man-made compounds; or any other violation of the SWDS's WDR prohibition to discharge to surface water, surface water drainage systems, or groundwater; or both. Any of these conditions is a violation of the WDRs. Any detection of a man-made compound in the facility drainage or surface water is a potential discharge violation. To determine if the facility has contributed to the discharge for naturally occurring compounds, data shall be compared to results from the background sampling location. Any discharge of a naturally occurring compound at a level statistically significant and greater than background is a violation. The calculation of background shall include consideration of variations that occur due to rainfall.

3. Available records from daily rainfall measurements in tabular form.

4. Copies of the field sampling log, chain of custody, including the date and time of sample collection, the name of the person collecting the samples, the signed lab sheets including quality assurance/quality control (QA/QC), daily field logs, and leachate seep inspection logs.

D. Water Quality Protection Standard Report

As noted above, a discussion of compliance and any changes to the WQPS are to be included in the Annual Report.

E. Five Year Iso-Settlement Map

The Discharger shall produce an iso-settlement map of the Class III waste footprint and submit it by February 15, 2025, which will represent the final iso-settlement survey within the 30-year post closure maintenance period. Findings from this analysis will inform whether future differential settlement is likely to be of such magnitude as to impair the unit's containment features (e.g., final cover system) or the free drainage of surface flow. The corresponding findings shall be evaluated to determine whether additional 5-year iso settlement analyses are warranted.

When maintenance grading or reconstruction is complete, a new as-built elevation contour map shall be submitted. The next iso-settlement map shall be due 5 years after the completion of the cap maintenance and re-construction. These maps shall be submitted to the Regional Water Board with the annual report for that year.

The iso-settlement maps shall:

1. Accurately depict the estimated total change in elevation of the final cover's low-hydraulic-conductivity layer for any portion of the SWDS footprint closed by the time of mapping.

2. Show the total lowering of the surface elevation of the final cover, relative to the baseline topographic map submitted in the original closure report for that phase of closure and shall indicate all areas where visually noticeable differential settlement may have been obscured by grading operations.

3. Be drawn to the same scale and contour interval as the topographic map in the closure report for that phase of closure, but showing the current topography of the final cover, and featuring overprinted isopleths indicating the total settlement to date. Land surveying rather than aerial surveying may be substituted to produce the iso-settlement map [California Code Regulations, title 27, section 21090(e) (2)].

4. Be prepared by, or under the direction of, a California Registered Civil Engineer or Certified Engineering Geologist and shall be stamped and signed.

F. Annual Erosion Control Report with Slide Debris/Spoils Management

By December 15, annually, the Discharger shall submit a report to the Regional Water Board Executive Officer describing any measures taken to comply with erosion control requirements. The report shall include a description of any erosion control measures implemented, and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities. Upon request, the Executive Officer may exempt the

Discharger from the requirement for submitting annual erosion control reports if the Executive Officer determines that no erosion control work is necessary prior to the return of winter rains.

The Discharger shall monitor and manage all incoming slide debris/spoils, rock and vegetation generated by road maintenance activities. All slide debris and spoils materials shall be stockpiled within the designated areas located as shown in Attachments B, C and D. Vegetation and woody materials shall be removed for reuse/recycling and/or processing at the transfer station. Inert soils and rocky materials shall be stockpiled for summer grading/incorporation into the borrow area for future uses. All unsuitable materials shall be removed for legal disposal. Total volume of placed spoils shall be recorded monthly and shall not exceed the borrow area capacity.

G. Emergency Response Plan

The most recent emergency response plan for the facility is dated May 2020 and is incorporated into the May 2020 Final Post-Closure Maintenance Plan prepared by Geosyntec Consultants. The emergency response plan shall be updated and submitted in the event that it does not provide an adequate response to a failure or a release, changes occur in the post closure land use or onsite structures, or upon written notification by the Executive Officer that the emergency plan is inadequate, or if during its implementation, problems were found or after key emergency response personnel changes are needed to the plan.

H. Constituents of Concern (COCs)

The Discharger shall submit reports of the results of groundwater, surface water, and leachate sample test results for the COCs every 5 years, or more frequently if required. The monitoring for COC report shall alternate between fall and spring seasons in conjunction with the regular semi-annual sampling; spring 2027, fall 2032 and every five years thereafter. The COC monitoring results shall be submitted with, or reported in, the MR for the period the sampling took place.

I. Notification of Release and Re-test

For any WMU, if the results of a detection monitoring program show that there is a measurably significant increase in an indicator parameter or waste constituents over the WQPS at or beyond the points of compliance (i.e., measurably and/or statistically significant evidence of an exceedance or release), the Discharger shall:

1. Immediately notify the Regional Water Board staff by telephone or fax of the exceedance,

2. Within seven days of the initial findings, follow up with written notification (or acknowledgment of the Regional Water Board's finding),

3. Within 30 days of the initial finding, re-sample for the constituent(s) or parameter(s) at the point where the standard was exceeded, and

4. Within 60 days of the initial finding, submit the results of the re-sampling and statistical analysis, indicating whether or not an exceedance or release was confirmed by the re-test.

J. Detection of a Release

Immediately following detection of a release, or after completion of the retest, the Discharger:

1. Shall immediately sample all monitoring points in the affected medium at the WMU and determine the concentration of all COCs. Because this COC scan does not involve statistical testing, the Discharger need collect and analyze only a single water sample from each monitoring point in the affected medium. The Regional Water Board can approve an appropriate subset of monitoring points to be sampled for all COCs, based upon the hydrogeologic conditions at the WMU. [California Code of Regulations, title 27, section 20420(k)(1)]

2. Within 90 days of determining measurably significant evidence of release, submit an amended Report of Waste Discharge (ROWD) to establish an evaluation monitoring program, in accordance with California Code of Regulations, title 27, section 20420(k)(5).

3. Within 180 days of verifying measurably significant evidence of a release from a WMU, submit an engineering feasibility study for a corrective action program. The corrective action program shall, at a minimum, meet the requirements of the California Code of Regulations, title 27, section 20430. [California Code of Regulations, title 27, section 20420(k)(6)]

K. Responding to a Release Discovery

Upon verifying measurably significant evidence of a release from a WMU according to California Code of Regulations, title 27, section 20420(j), the Discharger shall follow the procedures and timeline described in California Code of Regulations, title 27, section 20420(k).

L. Post Closure Reports

Any post closure construction activities for the constructed cap shall be prepared and certified by the Construction Quality Assurance (CQA) Officer and submitted, under penalty of perjury, to the Regional Water Board and other appropriate agencies in accordance with California Code of Regulations, title 27, sections 20324(c), 20324(d), and 21880. The CQA officer must be a Registered Civil Engineer or a Certified Engineering Geologist licensed in the State of California. The reports, at a minimum, shall include daily summary reports; material acceptance reports; photo logs of closure activities; final CQA documentation; laboratory testing results; field testing results; and an as-built topographic map of the capped area, prepared at a scale of one-inch to 100 feet, with a contour interval of two feet.

During times of active construction or any periods of repair to the waste containment, drainage, or monitoring facilities, legible copies of the daily CQA field notes and summary reports shall be submitted to the Regional Water Board at: NorthCoast@waterboards.ca.gov. The guidelines for electronic submittal of documents can be found on the Regional Water Board website. (https://www.waterboards.ca.gov/northcoast/publications_and_forms/available_documents/pdf/2014/ECM_Letter-Guidelines.pdf). Email shall be addressed to the Regional Water Board, Land Disposal Program.

III. GENERAL MONITORING PROGRAM REQUIREMENTS

A. ROUTINE MAINTENANCE

The SWDS shall be inspected quarterly and following any rainfall events of more than 1.0 inches in 24 hours per Section I. Standard Observations. Standard observation inspection logs, problem areas, special occurrences, and corrective actions taken shall be included in the corresponding semi-annual monitoring reports.

B. CONSTITUENTS OF CONCERN

Except as otherwise indicated in this Order, the Discharger shall monitor each medium of the SWDS for applicable COC (per State Water Resources Control Board Resolution 93-62). The monitoring locations, analytical methods, and frequencies of analysis are as follows:

1. Monitoring Locations

   a) Leachate – Leachate tank farm, any new or replacement lysimeters and any new leachate lysimeter/well/extraction well(s) if installed.

   b) Groundwater –Monitoring wells MW-1R, MW-4R, MW-5R, MW-6A, and any subsequent or replacement wells (MW-9R, MW-10R are proposed thus far).

c) Surface Water/Storm Water – SW-1, SW-2, SW-3.

d) Unsaturated Zone – MP-1, MP-2, MP-3, MP-4, MP-5 and MP-6 and any new landfill gas well(s) once they are installed.

2. Monitoring Schedule

a) Groundwater monitoring wells shall be sampled for COCs in Spring 2027, Fall 2032, and every five years thereafter alternating between seasons.

C. LEACHATE MONITORING

Samples shall be taken from the Leachate Tank Farm at the respective sampling port and any new leachate sampling wells once installed. Leachate shall be vacuum pumped from storage tanks and transported to an approved wastewater treatment facility and/or other legal place of disposal. Any results from leachate sampling required by the wastewater treatment facility shall be reported to the Regional Water Board.

There are not any leachate seep monitoring locations currently established. Any seeps located during inspections shall be sampled as soon as possible, but no more than 7 days after the discovery. The seep shall be reported to Regional Water Board staff within 24 hours via telephone or by email.

The volume of leachate collected each month since the previous monitoring report shall be reported in accordance with California Code of Regulations, title 27, section 20340(h). Results from the samples, any district sampling, leachate collection volume, and any leachate seeps shall be reported in the semi-annual monitoring reports.

D. DETECTION AND CORRECTIVE ACTION MONITORING

For each monitoring medium, samples from all monitoring points assigned to detection monitoring or corrective action monitoring shall be collected and tested per Tables E and F for the monitoring parameters listed in this program.

For any given monitored medium, a sufficient number of samples shall be taken from all monitoring points to satisfy the data analysis requirements for a given Reporting Period and shall be taken in a manner that ensures sample independence to the greatest extent feasible.

Statistical analyses shall be performed as soon as the monitoring data are available. Intra-well statistical data analyses shall be performed for the aquifer as the current approved method. Concentration limits for man-made chemicals shall be set at method detection limits (MDLs) for individual analytes. Concentration limits for naturally occurring compounds are determined statistically for groundwater and surface water

monitoring programs using the tolerance interval method or other appropriate statistical method as approved by the Executive Officer.

E. GROUNDWATER ELEVATION MONITORING

The groundwater surface elevation (in feet and hundredths) as compared to mean sea level (MSL) in all wells and piezometers shall be measured on a semi-annual basis for each monitored groundwater body and used to determine the velocity and direction of groundwater flow. Monitoring shall include the times of expected highest and lowest elevations of the water level for the respective groundwater body. Groundwater elevations for all upgradient and downgradient wells for a given groundwater body shall be measured within a period of time short enough to avoid temporal variations in groundwater flow which could preclude accurate determination of groundwater gradient and direction. This information shall be included in the monitoring reports.

F. UNSATURATED ZONE MONITORING

The existing landfill gas monitoring wells that will be used for unsaturated zone monitoring are MP-1, MP-2, MP-3, MP-4, MP-5, and MP-6.

IV. MONITORING REQUIREMENTS

A. GENERAL

The Discharger shall perform detection monitoring and corrective action monitoring (per Cal. Code Regs., title 27, section 20420 and 20430) on all media potentially affected by a release, including surface water and groundwater, and the unsaturated zone. For any given monitored medium, a sufficient number of samples shall be taken from all monitoring points and background monitoring points to satisfy the data analysis requirements for a given reporting period, and samples shall be collected in a manner that ensures sample independence to the greatest extent feasible.

As set forth in California Code of Regulations, title 27, section 20415(e)(8), the Discharger shall use an approved statistical (or non-statistical) procedure to determine whether there has been a measurably significant increase in a constituent over the WQPS.

Method detection limits and practical quantitation limits shall be reported. All peaks shall be reported, including those that cannot be quantified and/or specifically identified.

The Discharger may, with approval of the Executive Officer, use alternative analytical test methods, including new U.S. EPA approved methods, provided the methods have method detection limits equal to or lower than those for the analytical methods specified in this MRP (Attachment 1).

B. UNSATURATED ZONE

Monitoring Locations and Monitoring Schedule

Monitoring points for the unsaturated zone are MP-1, MP-2, MP-3, MP-4, MP-5 and MP-6 and any new probes or sampling stations installed for cap monitoring. Provisions to sample and test unsaturated zone monitoring locations for VOC vapors shall be required in all probes which methane is detected above 1% by volume using field landfill gas meter and/or total organic vapors are detected above 0.05 parts per million by volume (ppm/v) using a calibrated photoionization detector (PID) during a monitoring event.

These gas probes will be used for perimeter landfill-gas monitoring and monitoring of the waste mass. All wells with vapor concertation exceedances, as noted above, shall be sampled using discrete VOC monitoring by U.S. EPA Method TO-15.

Regular perimeter landfill-gas sampling will be conducted as required by CalRecycle. The landfill-gas sampling reports for CalRecycle shall also be submitted to the Regional Water Board.

The results for the discrete vapor monitoring shall be reported to the Regional Water Board in the semi-annual monitoring reports. Landfill-gas monitoring reports, conducted as required by CalRecycle, may be submitted as a stand-alone report or as part of the semi-annual monitoring reports.

Table B: UNSATURATED ZONE DETECTION MONITORING PROGRAM

Parameter	Units	Frequency
VOCs by US EPA Method TO-15	ug/cm3	As required by field vapor testing exceedance noted in B.1 above.
Methane	%	Semi-annual

C. LEACHATE SAMPLING

1. Monitoring Locations

Leachate – Samples will be taken from the Leachate Tank Farm at the sampling port located within the collection system storage area once per year annually. If any additional leachate samples are taken at the request of the approved

wastewater treatment plant, these results shall also be reported to the Regional Water Board.

If new seeps are detected, the Discharger shall immediately sample the seepage and test for field parameters and monitoring parameters listed in Table C and continue to sample seepage and report test results at frequencies listed in Table A. If the seep has been determined to contain leachate, the Discharger shall abate the discharge.

2. Monitoring Schedule

The parameters and frequency of leachate and seep monitoring are as follows:

Table C: LEACHATE MONITORING PROGRAM

Parameter	Units	Frequency[1]
pH*	pH units	Annually
Specific Conductance*	Mhos/cm	Annually
Temperature*	°C	Annually
Total Flow* (for entire leachate collection system)	Gallons/Month	Monthly
Bicarbonate/Carbonate Alkalinity	ug/l	Annually
Chloride**	ug/l	Annually
Calcium (dissolved)	ug/l	Annually
Iron (dissolved)	ug/l	Annually
Magnesium (dissolved)	ug/l	Annually
Potassium (dissolved)	ug/l	Annually
Sodium (dissolved)	ug/l	Annually
Sulfate**	ug/l	Annually
Nitrate as Nitrogen**	mg/l	Annually

Parameter	Units	Frequency[1]
Manganese**	mg/l	Annually
Total Dissolved Solids**(TDS)	mg/l	Annually
Chemical Oxygen Demand**	mg/l	Annually
VOCs	ug/l	Annually
Inorganics*** (dissolved)	mg/l	Five years
VOCs***	ug/l	Five years
Semi-VOCs***	ug/l	Five years
Chlorophenoxy Herbicides***	ug/l	Five years
Organophosphorus Pesticides***	ug/l	Five years
Polychlorinated Biphenyls***	ug/l	Five years

Table Notes:

1. Frequency shown is for the regular leachate collection removal system sampling. Leachate seep samples shall be taken for the annual leachate constituents whenever seeps are present both at first occurrence and weekly thereafter until the seep is corrected and ceases to discharge.

* Field Parameters
** Monitoring Parameters
*** Constituents of Concern (See Attachment 1)

D. SURFACE WATER AND STORM WATER

1. Monitoring Locations

Monitoring locations, SW-1, SW-2 and SW-3 are located as shown in Attachment B and within an unnamed tributary of the Wheatfield Fork of the Gualala River. SW-1 is upstream, and SW-2 is immediate below the sedimentation pond outfall and SW-3 is downstream of the facility. The downgradient storm water sampling

point acts as the point of compliance for surface water. Rainfall shall be measured onsite or at the closest weather station to the SWDS.

2. Monitoring Schedule (Sampling and Laboratory Analysis)

Samples shall be collected at surface water and storm water monitoring points and analyzed in accordance with the schedule presented in the following table:

Table D: SURFACE WATER MONITORING PROGRAM

Parameter	Units	Frequency
pH*	pH units	Annually
Specific Conductance*	Mhos/cm	Annually
Turbidity*	turbidity units	Annually[1]
Temperature*	°C	Annually
Rainfall*	inches	Daily
Erosion*	visual scour	Annually
Chloride**	ug/l	Annually
Total Suspended Solids** (TSS)	mg/l	Annually[1]
Total Dissolved Solids** (TDS)	mg/l	Annually
Bicarbonate/Carbonate Alkalinity**	mg/l	Annually
Calcium** (dissolved)	mg/l	Annually
Iron** (dissolved)	mg/l	Annually
Magnesium** (dissolved)	mg/l	Annually
Potassium** (dissolved)	mg/l	Annually
Sodium** (dissolved)	mg/l	Annually

Parameter	Units	Frequency
VOCs**	ug/l	Annually
Manganese** (dissolved)	mg/l	Annually
Nitrate as Nitrogen**	ug/l	Annually
Sulfate**	ug/l	Annually
Oil and Grease**	mg/l	Annually
Total Petroleum as Gasoline**	ug/l	Annually
Total Petroleum as Diesel**	ug/l	Annually
Total Petroleum as Motor Oil**	ug/l	Annually
Inorganics*** (dissolved)	mg/l	After a release[2]
Semi-VOCs***	ug/l	After a release[32]
Chlorophenoxy Herbicides***	ug/l	After a release[2]
Organophosphorus Pesticides***	ug/l	After a release[2]
Polychlorinated Biphenyls***	ug/l	After a release[2]
Organochlorine Pesticides***	ug/l	After a release[2]

Table Notes:

1. Turbidity and Total Suspended Solids may be substituted for each other depending on which sampling method is more readily available.
2. Sampling shall take place during the next flow event after a verified measurably significant release in surface water/stormwater. Verification shall be determined according to California Code of Regulations, title 27, section 20420(j).

* Field Parameters
** Monitoring Parameters (See Attachment 1)
*** Constituents of Concern (See Attachment 1)

E. GROUNDWATER

The groundwater surface elevation (in feet and hundredths) as compared to MSL in all wells shall be measured on a semi-annual basis and used to determine the velocity and direction of groundwater flow. The Discharger has submitted documentation demonstrating that semi-annual monitoring will cover the times of expected highest and lowest elevations of the water level for the respective groundwater body in compliance with California Code of Regulations, title 27, section 20415(e)(15).

The amount of siltation in all wells shall be measured as needed during pump maintenance. Siltation information shall be used to make recommendations for well maintenance or replacement. In the event a monitoring well is no longer operational or damaged the wells shall be replaced and any additional monitoring wells shall be added to the program as needed. Samples shall be collected from wells at the frequency and for the parameters specified below.

1. Monitoring Locations

Monitoring points included in the current groundwater monitoring system consist of corrective action wells, detection monitoring wells, and background wells.

The groundwater monitoring points for the SWDS, shown in Attachment B, are as follows:

Table E: Groundwater Detection and Corrective Action Monitoring Program Sampling Frequency

Semi-annual and Five Year COC:	MW-1R, MW-4R, MW-5R, MW-6A, and proposed replacement wells MW-9R, MW10R, And all new wells

Sampling at the above-listed groundwater monitoring locations shall occur on the following schedule:

2. Monitoring Schedule

The analytes and frequency of groundwater monitoring are as follows:

Table F: Groundwater Detection and Corrective Action Monitoring Program

Parameter	Units	Frequency
Groundwater Elevations*	Ft./tenths TOC[2]	Semi-Annual
Turbidity*	Turbidity units	Semi-Annual[1]
Siltation in Well Casing*	Ft./tenths	As needed and during pump maintenance
Chloride**	ug/l	Semi-Annual[1]
Sodium** (dissolved)	ug/l	Semi-Annual[1]
Calcium** (dissolved)	ug/l	Semi-Annual[1]
Sulfate**	ug/l	Semi-Annual[1]
Magnesium** (dissolved)	ug/l	Semi-Annual[1]
Iron**	ug/l	Semi-Annual[1]
Potassium** (dissolved)	ug/l	Semi-Annual[1]
Manganese**	ug/l	Semi-Annual[1]
Nitrate as Nitrogen**	ug/l	Semi-Annual[1]
Bicarbonate/Carbonate Alkalinity**	ug/l	Semi-Annual[1]
Fluoride**	ug/l	Annually
Total Dissolved Solids**(TDS)	mg/l	Semi-Annual[1]
VOCs**	ug/l	Semi-Annual[1]
Chemical Oxygen Demand**	mg/l	Semi-Annual[1]
Inorganics*** (dissolved)	ug/l	Five years

Parameter	Units	Frequency
Semi-VOCs***	ug/l	Five years
Chlorophenoxy Herbicides***	ug/l	Annually
Organophosphorus Pesticides***	mg/l	Five years
Polychlorinated Biphenyls***	ug/l	Five years
Organochlorine Pesticides***	ug/l	Five years

Table Notes:

1. These analytes shall be sampled for wells and shall be sampled semiannually.
2. TOC: top of casing.
3. Metals analyses are for dissolved concentrations.

* Field Parameters
** Monitoring Parameters (See Attachment 1)
*** Constituents of Concern (See Attachment 1)

V. WATER QUALITY PROTECTION STANDARD

A. The WQPS consists of the following elements:

Constituents of Concern, Concentrations Limits, Monitoring Points, Points of Compliance, and Compliance Period.

Each of these is described as follows:

B. Constituents of Concern

The COCs, as required under California Code of Regulations, title 27, section 20395, shall include all constituent groups identified in Attachment 1. The Discharger shall test samples for all COCs every five years or more frequently, as required under the monitoring program.

C. Concentration Limits

The concentration limit for any given COC or monitoring parameter in a given monitored medium (i.e., the uppermost aquifer) at the SWDS shall be as follows, and shall be used as the basis of comparison with data from the monitoring points in that monitored medium:

1. The background value established in the WDRs by the Regional Water Board for that constituent and medium.

2. The constituent's background value, from the background monitoring points for that monitored medium. When using background monitoring results to determine background concentrations, the background concentration will be calculated using one of the following methods:

   a) The mean (or median, or other measure of central tendency, as appropriate) and standard deviation (or other measure of variation) of the constituent's background data; or

   b) The constituent's MDL, in cases where less than 10 percent of the background samples exceed the constituent's MDL; or

   c) A concentration limit greater than background, as approved by the Regional Water Board for use during or after corrective action.

D. Monitoring Points

1. Unsaturated Zone - As listed in Section IV.B.1.

2. Surface Water - As listed in Section IV.D.1.

3. Groundwater - As listed in Section IV.E.1.

E. Points of Compliance

The point of compliance for each WMU is the vertical surface located at the downgradient limit of the WMU that extends through the uppermost aquifer underlying the WMU.

The wells currently located closest to the point of compliance at the SWDS are MW-4R, MW6A, and upgradient wells MW-1R, MW-5R, (MW-9, MW10, MW-11 are not functional). Replacement wells are proposed as MW-9R and MW-10R.

F. Compliance Period

The compliance period is the number of years equal to the active life of the SWDS plus the closure period. Each time the WQPS is exceeded (i.e., a release is discovered), the

SWDS begins a compliance period on the date the Regional Water Board directs the Discharger to begin an evaluation monitoring program. If the Discharger's corrective action program has not achieved compliance with the WQPS by the scheduled end of the compliance period, the compliance period is automatically extended until the SWDS has been in continuous compliance for at least three consecutive years.

Any person aggrieved by this action of the North Coast Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date that this Order becomes final, except that if the thirtieth day following the date that this Order becomes final falls on a Saturday, Sunday, or state holiday (including mandatory furlough days), the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at Petitions:

https://www.waterboards.ca.gov/public_notices/petitions/water_quality/

or will be provided upon request.

The Discharger shall implement the above monitoring program beginning on the effective date of this Order, June 15, 2023

Digitally signed by Valerie Quinto
Date: 2023.06.20 13:26:51 -07'00'

Water Boards

Ordered by: _____

Valerie Quinto
Executive Officer

Attachment 1 – Monitoring Parameters and Constituents of Concern, Approved EPA Analytical Methods

(23_0010_Annapolis SWDS_MRP)

ATTACHMENT 1

MONITORING PARAMETERS AND CONSTITUENTS OF CONCERN

APPROVED US EPA ANALYTICAL METHODS

Inorganics (dissolved):	USEPA Method
Aluminum	6000/7000 Series
Antimony	7041
Arsenic	7062
Barium	6010
Beryllium	6010
Cadmium	7131A
Chromium	6010
Cobalt	6000/7000 Series
Copper	6000/7000 Series
Silver	6000/7000 Series
Tin	6000/7000 Series
Vanadium	6000/7000 Series
Zinc	6000/7000 Series
Iron	6000/7000 Series
Manganese	6000/7000 Series
Lead	7421
Mercury	7470A
Nickel	7521
Selenium	7742

Inorganics (dissolved):	USEPA Method
Thallium	7841
Cyanide	9010B or 335.2
Sulfide	9030B or SM 4500-2F
Calcium	6000/7000 Series
Magnesium	6000/7000 Series
Sodium	6000/7000 Series
Potassium	6000/7000 Series
Chloride	300.0
Sulfate	300.0
Bicarbonate/Carbonate Alkalinity	SM 2320B

Volatile Organic Compounds USEPA Method 8260:

- Acetone
- Acetonitrile (Methyl cyanide)
- Acrolein
- Acrylonitrile
- Allyl chloride (3-Chloropropene)
- Benzene
- Bromochloromethane (Chlorobromomethane)
- Bromodichloromethane (Dibromochloromethane)
- Bromoform (Tribromomethane)
- Carbon disulfide
- Carbon tetrachloride
- Chlorobenzene
- Chloroethane (Ethyl chloride)
- Chloroform (Trichloromethane)
- Chloroprene
- Dibromochloromethane (Chlorodibromomethane)
- 1,2-Dibromo-3-chloropropane (DBCP)
- 1,2-Dibromoethane (Ethylene dibromide; EDB)

- o-Dichlorobenzene (1,2-Dichlorobenzene)
- m-Dichlorobenzene (1,3-Dichlorobenzene)
- p-Dichlorobenzene (1,4-Dichlorobenzene)
- trans- 1,4-Dichloro-2-butene
- Dichlorodifluoromethane (CFC 12)
- 1,1 -Dichloroethane (Ethylidene chloride)
- 1,2-Dichloroethane (Ethylene dichloride)
- 1,1 -Dichloroethylene (1, l-Dichloroethene; Vinylidene chloride)
- cis- l ,2-Dichloroethylene (cis- 1,2-Dichloroethene)
- trans- l ,2-Dichloroethylene (trans- 1,2-Dichloroethene)
- 1,2-Dichloropropane (Propylene dichloride)
- 1,3-Dichloropropane (Trimethylene dichloride)
- 2,2-Dichloropropane (Isopropylidene chloride)
- 1,1 -Dichloropropene
- cis- 1,3-Dichloropropene
- trans- l ,3-Dichloropropene
- Di-isopropylether (DIPE)
- Ethanol
- Ethyltertiary butyl ether
- Ethylbenzene
- Ethyl methacrylate
- Hexachlorobutadiene
- Hexachloroethane
- 2-Hexanone (Methyl butyl ketone)
- Isobutyl alcohol
- Methacrylonitrile
- Methyl bromide (Bromomethane)
- Methyl chloride (Chloromethane)
- Methyl ethyl ketone (MEK; 2-Butanone)
- Methyl iodide (Iodomethane)
- Methyl t-butyl ether
- Methyl methacrylate
- 4-Methyl-2-pentanone (Methyl isobutyl ketone)
- Methylene bromide (Dibromomethane)
- Methylene chloride (Dichloromethane)
- Naphthalene
- Propionitrile (Ethyl cyanide)
- Styrene
- Tertiary amyl methyl ether
- Tertiary butyl alcohol
- 1,1,1,2-Tetrachloroethane

- 1,1,2,2-Tetrachloroethane
- Tetrachloroethylene (Tetrachloroethene; Perchloroethylene; PCE)
- Toluene
- 1,2,4-Trichlorobenzene
- 1,1,1 -Trichloroethane, Methylchloroform
- 1,1,2-Trichloroethane
- Trichloroethylene (Trichloroethene; TCE)
- Trichlorofluoromethane (CFC- 11)
- 1,2,3-Trichloropropane
- Vinyl acetate
- Vinyl chloride (Chloroethene)
- Xylene (total)
- Semi-Volatile Organic Compounds:

Semi-Volatile Organic Compounds USEPA Method 8270 - base, neutral, & acid extractables

- Acenaphthene
- Acenaphthylene
- Acetophenone
- 2-Acetylaminofluorene (2-AAF)
- 4-Aminobiphenyl
- Anthracene
- Benzo[a]anthracene (Benzanthracene)
- Benzo[b]fluoranthene
- Benzo[k]fluoranthene
- Benzo[g,h,i]perylene
- Benzo[a]pyrene
- Benzyl alcohol
- Bis(2-ethylhexyl) phthalate
- Bis(2-chloroethoxy)methane
- Bis(2-chloroethyl) ether (Dichloroethyl ether)
- Bis(2-chloro-1-methyethyl) ether (Bis(2-chloroisopropyl) ether; DCIP)
- 4-Bromophenyl phenyl ether
- Butyl benzyl phthalate (Benzyl butyl phthalate)
- p-Chloroaniline
- Chlorobenzilate
- p-Chloro-m-cresol (4-Chloro-3-methylphenol)
- 2-Chloronaphthalene
- 2-Chlorophenol
- 4-Chlorophenyl phenyl ether

- Chrysene
- o-Cresol (2-methylphenol)
- m-Cresol (3-methylphenol)
- p-Cresol (4-methylphenol)
- Diallate
- Dibenz[a,h]anthracene
- Dibenzofuran
- 1,2-Dibromo-3-chloropropane
- Di-n-butyl phthalate
- 3,3'-Dichlorobenzidine
- 2,4-Dichlorophenol
- 2,6-Dichlorophenol
- Diethyl phthalate
- p-(Dimethylamino)azobenzene
- 7,12-Dimethylbenz[a]anthracene
- 3,3'-Dimethylbenzidine
- 2,4-Dimehtylphenol (m-Xylenol)
- Dimethyl phthalate
- m-Dinitrobenzene
- 4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)
- 2,4-Dinitrophenol
- 2,4-Dinitrotoluene
- 2,6-Dinitrotoluene
- Di-n-octyl phthalate
- Diphenylamine
- Ethyl methanesulfonate
- Famphur
- Fluoranthene
- Fluorene
- Hexachlorobenzene
- Hexachlorocyclopentadiene
- Hexachloroethane
- Hexachloropropene
- Indeno(1,2,3-c,d)pyrene
- Isodrin
- Isophorone
- Isosafrole
- Kepone
- Methapyrilene
- 3-Methylcholanthrene
- Methyl methanesulfonate

- 2-Methylnaphthalene
- 1,4-Naphthoquinone
- 1-Naphthylamine
- 2-Naphthylamine
- o-Nitroaniline (2-Nitroaniline)
- m-Nitroaniline (3-Nitroaniline)
- p-Nitroaniline (4-Nitroaniline)
- Nitrobenzene
- o-Nitrophenol (2-Nitrophenol)
- p-Nitrophenol (4-Nitrophenol)
- N-Nitrosodi-n-butylamine (Di-n-butylnitrosamine)
- N-Nitrosodiethylamine (Diethylnitrosamine)
- N-Nitrosodimethylamine (Dimethylnitrosamine)
- N-Nitrosodiphenylamine (Diphenylnitrosamine)
- N-Nitrosodipropylamine (N-Nitroso-N-dipropylamine; Di-n-propylnitrosamine)
- N-Nitrosomethylethylamine (Methylethylnitrosamine)
- N-Nitrosopiperidine
- N-Nitrosospyrrolidine
- 5-Nitro-o-toluidine
- Pentachlorobenzene
- Pentachloronitrobenzene (PCNB)
- Pentachlorophenol
- Phenacetin
- Phenanthrene
- Phenol
- p-Phenylenediamine
- Pronamide
- Pyrene
- Safrole
- 1,2,4,5-Tetrachlorobenzene
- 2,3,4,6-Tetrachlorophenol
- o-Toluidine
- 2,4,5-Trichlorophenol
- 0,0,0-Triethyl phosphorothioate
- sym-Trinitrobenzene

Chlorophenoxy Herbicides: USEPA Method 8l51A:

- 2,4-D (2,4-Dichlorophenoxyacetic acid)
- Dinoseb (DNBP; 2-sec-Butyl-4,6-dinitrophenol)
- Silvex (2,4,5-Trichlorophenoxypropionic acid; 2,4,5-TP)
- 2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)

Organophosphorus Pesticides USEPA Method 8141A:

- Atrazine (Method 507 or alternate method)
- Chlorpyrifos
- 0,0-Diethyl 0-2-pyrazinyl phosphorothioate (Thionazin)
- Diazinon
- Dimethoate
- Disulfoton
- Ethion
- Methyl parathion (Parathion methyl)
- Parathion
- Phorate
- Simazine (Method 507 or alternate method)

Organochlorinated Pesticides/Polychlorinated Biphenyls:
USEPA Method 8081/8082

- Aldrin
- alpha-BHC
- beta-BHC
- delta-BHC
- gamma-BHC (Lindane)
- Chlordane (Chlordane-alpha and Chlordane-gamma)
- 4,4'-DDD
- 4,4'-DDE
- 4,4'-DDT
- Dieldrin
- Endosulfan I
- Endosulfan II
- Endosulfan sulfate
- Endrin
- Endrin ketone
- Endrin aldehyde
- Heptachlor
- Heptachlor epoxide
- Methoxychlor
- Mirex
- Toxaphene
- Aroclor 1016
- Aroclor 1221
- Aroclor 1232
- Aroclor 1242

- Aroclor 1248
- Aroclor 1254
- Aroclor 1260