

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION**

**MONITORING AND REPORTING PROGRAM R7-2018-0007
FOR
EARTHRISE NUTRITIONALS, LLC
MICROALGAE PRODUCTION FACILITY
EVAPORATION POND 8
CLASS II SURFACE IMPOUNDMENT
NORTH OF CALIPATRIA, IMPERIAL COUNTY, CALIFORNIA**

CONSISTS OF:

**PART I – GENERAL REQUIREMENTS
PART II – MONITORING REQUIREMENTS
PART III – STATISTICAL AND NON-STATISTICAL ANALYSIS
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PART I

GENERAL REQUIREMENTS

A. GENERAL

A Discharger who owns or operates a Class II Surface Impoundment is required to comply with the provisions of Title 27, Division 2, Chapter 3, Subchapter 3, Article 1 of the California Code of Regulations for the purpose of detecting, characterizing, and responding to releases to the groundwater. Section 13267 of the California Water Code (CWC) gives the Regional Water Board authority to require monitoring program reports for discharges that could affect the quality of waters within its region.

1. This Monitoring and Reporting Program (MRP) is issued pursuant to Discharge Specifications E.2 of Regional Water Board Order R7-2018-0007. The principal purpose of this self-monitoring program is:
 - a. To document compliance with Waste Discharge Requirements (WDRs), and prohibitions established by the Regional Water Board;
 - b. To facilitate self-policing by the Discharger in the prevention and abatement of pollution arising from waste discharge;
 - c. To conduct water quality analyses.
2. The Regional Water Board Executive Officer may alter the monitoring parameters, monitoring locations, and/or the monitoring frequency during the course of this monitoring program.

B. DEFINITION OF TERMS

1. **Affected Persons** – all persons who either own or occupy land outside the boundaries of the parcel upon which a waste management unit (surface impoundment or impoundment) is located that have been or may be affected by the release of waste constituents from the unit.
2. **Background Monitoring Point** – a device (e.g. well) or location (e.g. a specific point along a lakeshore) that is up-gradient or side-gradient from the impoundment monitored by this MRP, where water quality samples not affected by a release from the impoundment are collected to be and used for comparison against samples collected from down-gradient Monitoring Points.
3. **Constituents of Concern (COCs)** – any waste constituent(s), reaction product(s), or hazardous constituent(s) that is reasonably expected to be in or derived from the waste contained in the unit.
4. **Matrix Effect** – refers to any change in the Method Detection Limit (MDL) or Practical Quantitation Limit (PQL) for a given constituent as a result of the presence of other

constituents in the sample being analyzed, either of natural origin or introduced through a spill or release.

5. **Method Detection Limit (MDL)** – the lowest constituent concentration that can support a non-zero analytical result with 99 percent reliability. The MDL is laboratory-specific and should reflect the detection capabilities of specific procedures and equipment used by the laboratory.
6. **Monitored Media** – the media being monitored pursuant to this Monitoring and Reporting Program. The Monitored Media may include: (1) groundwater in the uppermost aquifer, in any other portion of the zone of saturation (as defined in Title 27, Section 20164) in which it would be reasonable to anticipate that waste constituents migrating from the surface impoundment could be detected, and in any perched zones underlying the impoundment; (2) any bodies of surface water that could be measurably affected by a release; (3) soil-pore liquid beneath and/or adjacent to the surface impoundment; and (4) soil-pore gas beneath and/or adjacent to the surface impoundment.
7. **Monitoring Parameters** – the list of constituents and parameters used for the majority of monitoring activity.
8. **Monitoring Point** – a device (e.g. well) or location (e.g. a specific point along a lakeshore) that is downgradient from the surface impoundment assigned by this MRP, at which samples are collected for the purpose of detecting a release by comparison with samples collected at Background Monitoring Points.
9. **Practical Quantification Limit (PQL)** – the lowest constituent concentration at which a numerical concentration can be assigned with a 99 percent certainty that its value is within 10 percent of the actual concentration in the sample. The PQL is laboratory-specific and should reflect the detection capabilities of specific procedures and equipment used by the laboratory.
10. **Reporting Period** – the time period which is the subject of a monitoring report. Unless otherwise stated, the due date for any given report shall be 30 days after the end of its Reporting Period.
11. **Sample Locations** -
 - a. **For Monitoring Points** – the number of data points obtained from a given Monitoring Point during a given Reporting Period – used for carrying out the statistical or non-statistical analysis of a given analyte during a given Reporting Period.
 - b. **For Background Monitoring Points** – the number of new and preexisting data points from all applicable Background Monitoring Points in a given Monitored Medium – used to collectively represent the background concentration and variability of a given analyte in carrying out a statistical or non-statistical analysis of that analyte during a given Reporting Period.
12. **Uppermost Aquifer** – the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

13. **Volatile Organic Constituents (VOCs)** – the suite of organic constituents having a high vapor pressure. The term includes at least the 47 organic constituents listed in Appendix I of 40 CFR Part 258.
14. **VOC_{water}** – the composite monitoring parameter that includes all VOCs that are detectable in less than 10 percent of the applicable background samples. This parameter is analyzed, using the non-statistical method described in Part III.A.2. of this MRP, to identify releases of VOCs that are detected too infrequently in background groundwater to allow for statistical analysis.

C. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analysis shall be performed according to the most recent version of Standard USEPA methods, and California Environmental Laboratory Accreditation Program (ELAP) rulings. Water and waste analysis shall be performed by a laboratory approved for these analyses by the State Water Resources Control Board's Division of Drinking Water ELAP. Specific methods of analysis must be identified. If methods other than USEPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and approval by the Regional Water Board Executive Officer prior to use. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Water Board. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurement. In addition, the Discharger is responsible for verifying that laboratory analysis of all samples from Monitoring Points and Background Monitoring Points meet the following restrictions:

1. Methods, analysis, and detection limits used must be appropriate for expected concentrations. For detection monitoring of any constituent or parameter found in concentrations that produce more than 90% non-numerical determinations (i.e. "trace" or "ND") in data from Background Monitoring Points for that medium, the analytical methods having the lowest "facility-specific method detection limit (MDL)", defined in Part I.B.5., shall be selected from among those methods that provide valid results in light of any "Matrix Effects" (defined in Part I.B.4.) involved.
2. Analytical results falling between the MDL and the PQL shall be reported as "trace", and shall be accompanied both by the estimated MDL and PQL values for that analytical run, and by an estimate of the constituent's concentration.
3. MDLs and PQLs shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific equipment used by the lab. If the lab suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived MDL/PQL values, the results shall be flagged accordingly, along with an estimate of the detection limit and quantitation limit actually achieved.
4. All Quality Assurance/Quality Control (QA/QC) data shall be reported, along with the sample results to which it applies, including the method, equipment, and analytical

detection limits, the recovery rates, an explanation of any recovery rate that is less than 80%, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and qualifications of the person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recovery.

5. Upon receiving written approval from the Regional Water Board Executive Officer, an alternative statistical or non-statistical procedure can be used for determining the significance of analytical results for a constituent that is a common laboratory contaminant (i.e., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate) during any given Reporting Period in which QA/QC samples show evidence of laboratory contamination for that constituent. Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Regional Water Board staff.
6. In cases where contaminants are detected in QA/QC samples (i.e. field, trip, or lab blanks), the accompanying sample results shall be appropriately flagged.
7. The MDL shall always be calculated such that it represents a concentration associated with a 99% reliability of a non-zero result.

D. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the Discharger or laboratory, and shall be retained for a minimum of five (5) 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. Such records shall show the following for each sample:

1. Identity of sample and of the Monitoring Point or Background Monitoring Point from which it was collected, along with the identity of the individual who obtained the sample;
2. Date and time of sampling;
3. Date and time that analyses were started and completed, and the initials of the personnel performing each analysis;
4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;
5. Calculations of results; and
6. Results of analyses, and the MDL and PQL for each analysis.

E. REPORTS TO BE FILED WITH THE BOARD

1. Detection Monitoring Reports – For each Monitored Medium, all Monitoring Points and Background Monitoring Points assigned to detection monitoring under Part II.A.4 of this MRP shall be monitored **semiannually** for the Monitoring Parameters (Part II.A.4). A “Detection Monitoring Report” shall be submitted to the Regional Water Board in

accordance with the schedule contained in the Summary of Self-Monitoring and Reporting Requirements (Part IV), and shall include the following:

- a. A Letter of Transmittal that summarizes the essential points in each report shall accompany each report submittal. The letter of transmittal shall be signed by a principal executive officer at the level of vice-president or above, or by his/her duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter of transmittal shall include:
 - i. A discussion of any violations noted since the previous report submittal and a description of the actions taken or planned for correcting those violations. If no violations have occurred since the last submittal, that should be so stated;
 - ii. If the Discharger has previously submitted a detailed time schedule or plan for correcting any violations, a progress report on the time schedule and status of the corrective actions being taken; and
 - iii. A statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct.
- b. A Compliance Evaluation Summary shall be included in each Detection Monitoring Report. The compliance evaluation summary shall contain at least:
 - i. Velocity and direction of groundwater flow for each monitored groundwater body under and around the surface impoundment based upon the water level elevations obtained from the monitoring wells. A description and graphical presentation (e.g., arrow on a map) shall be submitted;
 - ii. Methods used for water level measurement and pre-sampling purging for each monitoring well addressed by the report, including:
 1. Method, time, and equipment used for water level measurement;
 2. Type of pump used for purging, placement of the pump in the well, pumping rate, and well recovery rate;
 3. Methods and results of field testing for pH, temperature, electrical conductivity, and turbidity, including:
 - a. Equipment calibration methods, and
 - b. Method for disposing of purge water
 - iii. Methods used for sampling each Monitoring Point and Background Monitoring Point, including:
 1. A description of the type of pump, or other device used, and its placement for sampling;

- e. An evaluation of the effectiveness of the run on/run-off control facilities, pursuant to Title 27, Section 20365.

3. Contingency Reporting

- a. The Discharger shall report any spill of more than 100 gallons of evaporation pond liquid by telephone within 48 hours of discovery. After reporting a spill, a written report shall be filed with the Regional Board Executive Officer within seven (7) days, containing at a minimum the following:
 - i. A map showing the location(s) of the discharge/spill;
 - ii. A description of the nature of the discharge (all pertinent observations and analyses including quantity, duration, etc.); and
 - iii. Corrective measures underway or proposed.
- b. Should the initial statistical comparison (Part III.A.1.) or non-statistical comparison (Part III.A.2.) indicate, for any Constituent of Concern or Monitoring Parameter, that a release is tentatively identified, the Discharger shall notify the Regional Water Board verbally within 24 hours as to the Monitoring Point(s) and constituent(s) or parameter(s) involved, shall provide written notification by certified mail within seven (7) days of such determination (Title 27, Section 20420(j)(1)), and shall conduct a discrete retest in accordance with Part III.A.3. If the retest confirms the existence of a release, the Discharger shall carry out the requirements of Part I.E.3.d. In any case, the Discharger shall inform the Regional Water Board of the outcome of the retest as soon as the results are available, following up with written results submitted by certified mail within seven (7) days of completing the retest.
- c. If either the Discharger or the Regional Water Board determines that there is significant physical evidence of a release (Title 27, Section 20385(a)(3)), the Discharger shall immediately notify the Regional Water Board of this fact by certified mail (or acknowledge the Regional Water Board's determination) and shall carry out the requirements of Part I.E.3.d. for all potentially-affected monitored media.
- d. If the Discharger concludes that a release has been discovered:
 - i. If this conclusion is not based upon "direct monitoring" of the Constituents of Concern, pursuant to Part II.A.5., then the Discharger shall, within thirty days, sample for all Constituents of Concern at all Monitoring Points and submit them for laboratory analysis. Within seven (7) days of receiving the laboratory analytical results, the Discharger shall notify the Regional Water Board, by certified mail, of the concentration of all Constituents of Concern at each Monitoring Point. Because this scan is not to be tested against background, only a single datum is required for each Constituent of Concern at each Monitoring Point (Title 27 Section 20420(k)(1));
 - ii. The Discharger shall, within 90 days of discovering the release (Title 27, Section 20420(k)(5)), submit a Revised Report of Waste Discharge proposing

an Evaluation Monitoring Program meeting the requirements of Title 27, Section 20425; and

- iii. The Discharger shall, within 180 days of discovering the release (Title 27, Section 20420(k)(6)), submit a preliminary engineering feasibility study meeting the requirements of Title 27, Section 20430.
- e. Any time the Discharger concludes - or the Regional Water Board Executive Officer directs the Discharger to conclude - that a liquid phase release from the surface impoundment has proceeded beyond the facility boundary, the Discharger shall so notify all persons who either own or reside upon the land that directly overlies any part of the plume (Affected Persons).
 - i. Initial notification to Affected Persons shall be accomplished within 14 days of making this conclusion and shall include a description of the Discharger's current knowledge of the nature and extent of the release; and
 - ii. Subsequent to initial notification, the Discharger shall provide updates to all Affected Persons, including any persons newly affected by a change in the boundary of the release, within 14 days of concluding a material change in the nature or extent of the release has occurred.

4. Surface Impoundment, Leachate Collection and Detection System (LCDS), and Solids Monitoring Reports

- a. The Discharger shall measure the water level and freeboard in each cell of EVP-8 monthly and record the data for submission with each semiannual report.
- b. The Discharger shall collect a sample from each cell of EVP-8 and have it analyzed for the following constituents:

<u>Constituent</u>	<u>Units</u>	<u>Type</u>	<u>Frequency</u>
Total Dissolved Solids	mg/L	Grab	Quarterly
Nitrate	mg/L	Grab	Quarterly
Phosphate	mg/L	Grab	Quarterly
Major Cations (Ca, Na, Mg, K)	mg/L	Grab	Quarterly
Major Anions (Cl, SO4, HCO3, CO3)	mg/L	Grab	Quarterly

- c. Visual inspections of EVP-8 shall be performed at least as frequently as listed in the schedule provided below. A log of each inspection will be maintained at the facility and submitted to the Regional Board on an annual basis.
 - Monthly – Indications of erosion, settlement and/or subsidence will be evaluated along the visible areas of the pond, including the top of the berm, outer slopes, and upper region of the inner slope. Repairs shall be performed, as needed, and documented in the inspection logs.

- Weekly – Exposed sections of piping and liner will be evaluated for signs of damage, including possible scour damage at the water line and below each discharge pipe. If rips, tears, erosion of the liner material, or failed welds are observed, repairs shall be conducted and documented as described in the ROWD.
- As needed – A full inspection of the liner in a cell shall be performed if a leak is suspected, or if monitoring of the LCDS had identified a leak. Inspections shall be performed one cell at a time, and the other cells can remain operational while an inspection/repair is being performed. Repairs shall be performed and documented as described in the ROWD.

A log of each inspection and/or repair will be maintained at the facility and submitted to the Regional Board on an annual basis. The Regional Board will be notified within 48 hours of a suspected leak or of any damage to the liner system.

- d. The Discharger shall monitor the depth of fluid accumulated in each LCDS sump weekly and record the data for inclusion in a semi-annual report. The fluid can be evacuated and disposed of into EVP-8 after measurement. If more than 4 inches of liquid accumulates between monitoring events, a sample from that sump shall be collected and tested for electrical conductivity. If the conductivity of the sample from the LCDS is more than 20% of the conductivity of EVP-8 at that location, a sample from that sump and the associated portion of EVP-8 shall be collected and submitted to a California-certified laboratory and analyzed for the constituents listed below, and the rate at which the fluid is accumulating in the sump shall be evaluated by evacuating the sump and monitoring the rate at which the fluid accumulates, measured in inches per day and converted to gallons per day. Evacuated fluids can be disposed of into EVP-8.

Constituent	Units	Type	Frequency
Total Dissolved Solids	mg/L	Grab	As needed
Major Cations (Ca, Na, Mg, K)	mg/L	Grab	As needed
Major Anions (Cl, SO4, HCO3, CO3)	mg/L	Grab	As needed

If the laboratory results for the fluid in the sump are similar to the results for EVP-8, and the fluid accumulation rate is higher than 4 inches per day, that portion of EVP-8 shall be drained and the liner shall be inspected and repaired, and the leakage rate shall be reported to the Regional Board within 7 days. If the rate is less than 4 inches per day, the fluid accumulation rate shall be monitored and evacuated daily until the fluid accumulation rate drops below 1 inch per day.

If no liquid is present in the system, that observation shall be noted in the weekly monitoring log.

Reports regarding monitoring of the LCDS shall be submitted to the Regional Board at least semi-annually.

- e. The volume of solids removed from the holding pond shall be recorded and reported to the Regional Board semi-annually. This report shall include the

name and location of the waste management facility to which the solids were transported for disposal.

PART II

MONITORING REQUIREMENTS FOR GROUNDWATER

A. GROUNDWATER SAMPLING AND ANALYSIS FOR DETECTION MONITORING

1. **Groundwater Surface Elevation and Field Parameters** – Groundwater sampling and analysis shall be conducted semiannually pursuant to California ELAP rulings, and include an accurate determination of (1) the groundwater potentiometric surface elevation and (2) field parameters (pH, temperature, electrical conductivity, turbidity and dissolved oxygen) for each Monitoring Point and Background Monitoring Point (Title 27, Section 20415(e)(13)). Groundwater elevations shall be obtained from all monitoring wells at the site. Groundwater samples shall be obtained from background and downgradient monitoring points. Groundwater elevations obtained prior to purging and sampling the wells shall be used to fulfill the semi-annual groundwater flow rate/direction analyses required under Part I.E.1.b.i. Groundwater wells shall be gauged using an electronic sounder capable of measuring depth to groundwater within 100th of a foot. Following gauging, wells shall be purged according to EPA groundwater sampling procedures until:

- a. pH, temperature, electrical conductivity and dissolved oxygen stabilize within +/- 10 percent, and
- b. Turbidity has been reduced to 10 NTUs or the lowest practical levels achievable,
or
- c. The well is purged dry.

The above identified parameters shall be recorded in the field, and included in the monitoring report. Sampling equipment shall be decontaminated between wells. Purge water may be discharged to EVP-8; discharge to the ground surface is prohibited.

2. **Groundwater Sample Collection** - Groundwater samples shall be collected from downgradient monitoring points and background monitoring points after the wells recharge to within at least 80 percent of their original static water level, or after 12 hours have elapsed, whichever occurs first. Samples shall be labeled, logged on chain-of-custody forms, and placed in cold storage pending delivery to a California-certified analytical laboratory.
3. **Five-Day Sample Procurement Limitation** – To satisfy data analysis requirements for a given reporting period, samples collected from all Monitoring Points and Background Monitoring Points shall be collected within a span not exceeding five (5) days, and shall be collected in a manner that insures sample independence to the greatest extent feasible (Title 27, Section 20415(e)(12)(B)).

4. Groundwater Monitoring Parameters for Detection Monitoring – Groundwater samples collected from downgradient monitoring points and background monitoring points shall be analyzed for the following:

<u>Parameter</u>	<u>Unit</u>	<u>Sample Type</u>
Major Cations (Ca, Mg, Na, K)	mg/L	Grab
Major Anions (Cl, SO4, HCO3/CO3)	mg/L	Grab
Total Dissolved Solids (TDS)	mg/L	Grab
Specific Conductance	μohms/cm	Grab
Nitrates	mg/L	Grab
Phosphates	mg/L	Grab

Downgradient monitoring wells shall be used as Monitoring Points for Detection Monitoring. Background Monitoring Points shall be limited to the new monitoring well installed east of the production pond area. Monitoring wells MW-1, MW-2, MW-3, MW-5 and MW-6 shall be used to evaluate groundwater elevations and flow direction, but are not Monitoring Points for chemical analysis purposes.

Monitoring Points and Background Monitoring Points assigned to Detection Monitoring shall be sampled semi-annually in June and December of each year in accordance with Part I of this MRP. Monitoring results shall be reported in the semi-annual Detection Monitoring Report.

5. Data Analysis – Statistical or non-statistical analysis of the data shall be carried out as soon as the data is available, in accordance with Part III of this monitoring program. At least 30 days prior to collection of the first round of samples, Discharger shall propose a statistical or non-statistical method for data analysis to the Executive Officer for approval.
6. Initial Background Determination: For the purpose of establishing an initial pool of background data for each Constituent of Concern at each Background Monitoring Point (Title 27, Section 20415(e)(6)):
- a. Whenever a new Constituent of Concern is added to the Water Quality Protection Standard, including any added by the adoption of this Board Order, the Discharger shall collect at least one (1) sample quarterly for at least one (1) year from each Background Monitoring Point in each monitored medium and analyze for the newly-added constituent(s); and
 - b. Whenever a new Background Monitoring Point is added, including any added by this Board Order, the Discharger shall sample the new monitoring point at least quarterly for at least one (1) year, analyzing for all Constituents of Concern and Monitoring Parameters.

7. Semiannual Determination of Groundwater Flow Rate/Direction (Title 27, Section 20415(e)(15)): The Discharger shall measure the water level in each well and determine groundwater flow rate and direction at least semiannually. This information shall be included in the semi-annual Detection Monitoring Reports required under Part I.E.1.

PART III

STATISTICAL AND NON-STATISTICAL ANALYSES

At least 30 days prior to collection of the first round of samples, Discharger shall propose a statistical or non-statistical method for data analysis to the Executive Officer for approval. In the absence of a site-specific approved data analysis method, the Discharger shall analyze the data using the methodology described below.

A. STATISTICAL AND NON-STATISTICAL ANALYSIS

The Discharger shall use the most appropriate of the following methods to compare the downgradient concentration of each monitored constituent or parameter with its respective background concentration to determine if there has been a release from the surface impoundment. For any given data set, proceed sequentially down the list of statistical analysis methods listed in Part III.A.1., followed by the non-statistical method in Part III.A.2., using the first method for which the data qualifies. If that analysis tentatively indicates the detection of a release, implement the retest procedure under Part III.A.3.

1. **Statistical Methods**. The Discharger shall use one (1) of the following statistical methods to analyze Constituents of Concern or Monitoring Parameters that exhibit concentrations exceeding their respective MDL in at least ten percent of the background samples collected during that Reporting Period. Each of these statistical methods is more fully described in the Statistical Methods discussion below. Except for pH, which uses a two-tailed approach, the statistical analysis for all constituents and parameters shall be a one-tailed (testing only for statistically significant increase relative to background) approach:
 - a. **One-Way Parametric Analysis of Variance (ANOVA) followed by multiple comparisons (Title 27, Section 20415(e)(8))** – This method requires at least four (4) independent samples from each Monitoring Point and Background Monitoring Point during each sampling episode. It shall be used when the background data for the parameter or constituent obtained during a given sampling period, has not more than 15% of the data below PQL. Prior to analysis, replace all 'trace' determinations with a value halfway between the PQL and the MDL values reported for that sample run, and replace all "non-detect" determinations with a value equal to half the MDL value reported for that sample run. The ANOVA shall be carried out at the 95% confidence level. Following the ANOVA, the data from each downgradient Monitoring Point shall be tested at a 99% confidence level against the pooled background data. If these multiple comparisons cause the Null Hypothesis (i.e., that there is no release) to be rejected at any Monitoring Point, the Discharger shall conclude that a release is tentatively indicated from that parameter or constituent; or
 - b. **One-Way Non-Parametric ANOVA (Kruskal-Wallis Test), followed by multiple comparisons** – This method requires at least nine (9) independent samples from each Monitoring Point and Background Monitoring Point; therefore, the Discharger shall anticipate the need for taking more than four (4) samples per Monitoring Point, based upon past monitoring results. This method shall be used when the pooled background data for the parameter or constituent, obtained within a given sampling period, has not more than 50% of the data below the PQL. The ANOVA shall be

carried out at the 95% confidence level. Following the ANOVA, the data from each downgradient Monitoring Point shall be tested at a 99% confidence level against the pooled background data. If these multiple comparisons cause the Null Hypothesis (i.e., that there is no release) to be rejected at any Monitoring Point, the Discharger shall conclude that a release is tentatively indicated for that parameter or constituent; or

- c. **Method of Proportions** – This method shall be used if the "combined data set" – the data from a given Monitoring Point in combination with the data from the Background Monitoring Points – has between 50% and 90% of the data below the MDL for the constituent or parameter in question. This method; (1) requires at least nine (9) downgradient data points per Monitoring Point per Reporting Period, (2) requires at least thirty data points in the combined data set, and (3) requires that $n * P > 5$ (where n is the number of data points in the combined data set and P is the proportion of the combined set that exceeds the MDL); therefore, the Discharger shall anticipate the number of samples required, based upon past monitoring results. The test shall be carried out at the 99% confidence level. If the analysis results in rejection of the Null Hypothesis (i.e., that there is no release), the Discharger shall conclude that a release is tentatively indicated for that constituent or parameter; or
 - d. **Other Statistical Methods.** – These include methods pursuant to Title 27, Section 20415(e)(8)(c-e).
2. **Non-Statistical Method.** The Discharger shall use the following non-statistical methods for all constituents that are not amenable to statistical analysis by virtue of having been detected in less than 10% of applicable background samples. A separate variant of this test is used for the VOC_{water} Composite Monitoring Parameters. Regardless of the test variant used, the method involves a two-step process: (1) from all constituents to which the test variant applies, compile a list of those constituents which equal or exceed their respective MDL in the downgradient sample from a given Monitoring Point, then (2) evaluate whether the listed constituents meet either of the test variant's two possible triggering conditions. For each Monitoring Point, the list described above shall be compiled based on either the data from a single sample collected during the Monitoring Period for that Monitoring Point, or (where several independent samples have been analyzed for that constituent at a given Monitoring Point) from the sample that contains the largest number of detected constituents. Background shall be represented by the data from all samples collected from the appropriate Background Monitoring Points during that Reporting Period (at least one (1) sample from each Background Monitoring Point). The method shall be implemented as follows:
- a. **VOC_{water} Composite Monitoring Parameter** – For any given Monitoring Point, the VOC_{water} Monitoring Parameter is a composite parameter addressing all detectable VOCs including at least all 47 VOCs listed in Appendix I to 40 CFR 258 and all unidentified peaks. The Discharger shall compile a list of each VOC which (1) exceeds its MDL in the Monitoring Point sample (an unidentified peak is compared to its presumed (MDL), and also (2) exceeds its MDL in less than ten percent of the samples collected during that Reporting Period from that medium's Background Monitoring Points. The Discharger shall conclude that a release is tentatively indicated for the VOC_{water} composite Monitoring Parameter if the list either (1)

Part IV

SUMMARY OF SELF-MONITORING AND REPORTING REQUIREMENTS

A. GROUNDWATER MONITORING

1. Groundwater monitoring wells shall be sampled/analyzed semi-annually for the following parameters/constituents:

<u>Parameters & Constituent</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Reporting Frequency</u>
Major Cations (Ca, Na, Mg, K)	mg/L	grab	semiannual
Major Anions (Cl, SO4, HCO3, CO3)	mg/L	grab	semiannual
Total Dissolved Solids (TDS)	mg/L	grab	semiannual
Specific Conductance	µohms/cm	field measurement	semiannual
Nitrates	mg/L	grab	semiannual
Phosphates	mg/L	grab	semiannual

2. The collection, preservation, and holding times of all samples shall be in accordance with the U.S. Environmental Protection Agency approved procedures. All analyses shall be conducted by a laboratory certified by the California Department of Public Health to perform the required analyses.

B. SURFACE IMPOUNDMENT:

	<u>Unit</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
1. Estimated volume of solid/liquid in holding pond	ft ³	Monthly	semiannual
2. Measurement of freeboard	ft	Monthly	semiannual
3. Volume of solids removed and shipped off-site to a waste management facility	tons	Monthly	semiannual
4. Fluids in each cell of the surface impoundment shall be sampled and analyzed annually for the following parameters/constituents:			

<u>Parameters & Constituent</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Reporting Frequency</u>
Total Dissolved Solids (TDS)	mg/L	grab	Quarterly
Nitrate	mg/L	grab	Quarterly
Phosphate	mg/L	grab	Quarterly
Major Cations (Ca, Na, Mg, K)	mg/L	grab	Quarterly
Major Anions (Cl, SO4, HCO3, CO3)	mg/L	grab	Quarterly

C. LEACHATE COLLECTION AND REMOVAL SYSTEM

Leachate collection sumps for EVP-8 shall be monitored weekly. If liquid is found in the sumps, the amount shall be recorded. If more than 4 inches of liquid is found in a sump, the protocols listed Part I, Section E.4.d of this MRP shall be followed. The sumps shall be evacuated after each monitoring event.

D. MONITORING REPORTS AND OBSERVATION SCHEDULE

“Reporting Period” means the duration separating the submittal of a given type of monitoring report from the time the next iteration of that report is scheduled for submittal. An annual report, which is a summary of all the monitoring during the previous year, shall also be submitted to the Regional Water Board. The submittal dates for Detection Monitoring Reports and the Annual Summary Report are as follows:

1. Detection Monitoring Reports

- a. 1st Semiannual Report (January 1 through June 30) – report due by **August 1**
- b. 2nd Semiannual Report (July 1 through December 31) – report due by **March 1**

2. Annual Summary Report

January 1 through December 31 – report due **March 15** of the following year.

3. The Detection Monitoring Reports and the Annual Summary Report shall include the following:

- a. The Discharger shall arrange the data in tabular form so that the specified information is readily discernible. The data shall be summarized in such a manner as to clearly illustrate whether the facility is operating in compliance with WDRs. The tables shall include all prior results, with the newest data added to the bottom of each table. Graphs of the data shall be prepared that clearly illustrate trends in the data. The graphs shall include all data from the last five years.
- b. The Discharger shall include figures in the report that depict the site location and layout, all sampling and monitoring locations, and the groundwater gradient.
- c. Records of monitoring information shall include:
 - i. The date, exact place, and time of sampling or measurement;
 - ii. The individual performing the sampling or measurement;
 - iii. The date the analysis was performed;
 - iv. The initials of the individual performing the analysis;
 - v. The analytical technique or method used; and
 - vi. The result of the analysis.
- d. Each report shall contain the following statement:

"I declare under the penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations."

- d. A duly authorized representative of the Discharger may sign the documents if:
- i. Authorization is made in writing by the person described in Part I.E.1.a;
 - ii. Authorization specifies an individual or person having responsibility for the overall operation of the regulated disposal system; and
 - iii. Written authorization is submitted to the Regional Water Board Executive Officer.
 - iv. Monitoring reports shall be certified under penalty of perjury to be true and correct, and shall contain the required information at the frequency designated in this monitoring report.

The Regional Water Quality Control Board may amend this MRP to adjust the reporting program requirements, based on the Discharger's performance.

Ordered by: Jose L. Angel
JOSE L. ANGEL, P.E.
Executive Officer

April 12, 2018
Date