CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM R7-2013-0052
FOR
RIVERSIDE COUNTY WASTE MANAGEMENT DEPARTMENT, OWNER/OPERATOR
OASIS SANITARY LANDFILL
CLASS III MUNICIPAL SOLID WASTE MANAGEMENT FACILITY
South of Oasis - Riverside County

CONSISTS OF

PART I, PART II AND PART III

PART I

A. GENERAL

Responsibilities of waste dischargers are specified in Section 13225(a), 13267(b), and 13387(b) of the California Water Code, and the State Water Resources Control Board's Resolution No. 93-062. This self-monitoring program is issued pursuant to Provision No. 1 of Order R7-2013-0052. The principal purposes of a self-monitoring program by a waste discharger are:

1. To document compliance with waste discharge requirements and prohibitions established by the Regional Water Board.

2. To facilitate self-policing by the discharger in the prevention and abatement of pollution arising from waste discharge;

3. To prepare water quality analyses;

4. To prepare vadose zone (unsaturated zone) gas, if applicable, and liquid quality analyses.

B. DEFINITION OF TERMS

1. The "Monitored Media" are those water-or-gas-bearing media that are monitored pursuant to this Monitoring and Reporting Program. The Monitored Media may include: (1) ground water in the uppermost aquifer, in any other portion of the zone of saturation (Title 27, Section 20164) in which it would be reasonable to anticipate that waste constituents migrating from the Unit could be detected, and in any perched zones underlying the Unit; (2) any bodies of surface water that could be measurably affected by a release; (3) soil-pore liquid beneath and/or adjacent to the Unit; and (4) soil-pore gas beneath and/or adjacent to the Unit.

2. The "Constituents of Concern (COC)" are those constituents which are likely to be in the waste in the Unit or which are likely to be derived from waste constituents, in the event of a release.

3. The "Monitoring Parameters" consists of a short list of constituents and parameters used for the majority of monitoring activity.

4. The "Volatile Organics Composite Monitoring Parameter for Water (VOCwater)" and the "Volatile Organics Composite Monitoring Parameter for Soil-Pore Gas (VOCspg) are composite Monitoring Parameters addressing all volatile organic constituents detectable in a sample of water or soil-pore gas, respectively. (See Part III.A.2. of this Program for additional discussion of these Monitoring Parameters).

5. "Standard Observations" refers to:

    a. For Receiving Waters:

        1. Floating and suspended materials of waste origin: presence or absence, source, and size of affected area;

2. Discoloration and turbidity: description of color, source, and size of affected area;

3. Evidence of odors: presence or absence, characterization, source, and distance of travel from source;

4. Evidence of beneficial use: presence of water-associated wildlife;

5. Flow Rate; and

6. Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation.

b. Along the perimeter of the Unit:

1. Evidence of liquid leaving or entering the Unit, estimated size of affected area, and flow rate (show affected area on map);

2. Evidence of odors: presence or absence, characterization, source, and distance of travel from source; and

3. Evidence of erosion and/or of exposed refuse.

c. For the Unit:

1. Evidence of ponded water at any point on the waste management facility (show affected area on map);

2. Evidence of odors: presence or absence, characterization, source, and distance of travel from source;

3. Evidence of erosion and/or of day lighted refuse; and

4. "Standard Analysis and Measurements", which refers to:

a. Turbidity (only for water samples) in NTU:

b. Water elevation to the nearest 1/100th foot above mean sea level (only for ground water monitoring); and

c. Sampling and statistical/non-statistical analysis of the Monitoring Parameters.

6. "Matrix Effect" refers to any increase in the Method Detection Limit or Practical Quantitation Limit for a given constituent as a result of the presence of other constituents - either of natural origin or introduced through a release - that are present in the sample of water or soil-pore gas being analyzed.

7. "Facility-Specific Method Detection Limit (MDL)", for a given analytical laboratory using a given analytical method to detect a given constituent (in spite of any Matrix Effect) means the lowest concentration at which the laboratory can regularly differentiate - with 99% reliability - between a sample which contains the constituent and one which does not.

8. "Facility-Specific Practical Quantitation Limit (PQL)", for a given analytical laboratory using a given analytical method to determine the concentration of a given constituent (in spite of any Matrix Effect) means the lowest constituent concentration the laboratory can regularly quantify within specified limits of precision that are acceptable to the Regional Board's Executive Officer.

9. "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. Therefore, the reporting period for monitoring parameters is semi-annually, and the reporting period for Constituents of Concern is every five years. An annual report, which is a summary of all the monitoring during the previous year, shall also be submitted to the Regional Board. The submittal dates for each reporting period shall be as follows:

    a. Semi-Annual Monitoring Reports

        1. First semi-annual (January 1 through June 30) - report due by July 31.

        2. Second semi-annual (July 1 through December 31) - report due by February 15

    b. Annual Summary Report

    January 1 through December 31 - report due on February 15.

    c. Five year Report

    January of the first year through December of the fifth year and every five years after that, as long as the Landfill is in operation and through the post-closure period - report due by February 15 of the sixth year.

C. SAMPLING AND ANALYTICAL METHODS

Sampling collection, storage, and analysis shall be performed according to the most recent version of Standard USEPA methods, and in accordance with an approved sampling and analysis plan. Water and waste analysis shall be performed by a laboratory approved for these analyses by the State of California. 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 must be approved by the Regional Board's 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 Board. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements. In addition, the discharger is responsible for seeing that the laboratory analysis of all samples from Monitoring Points and Background Monitoring Points meets the following restrictions:

1. The methods and analysis and the detection limits used must be appropriate for the expected concentrations. For detection monitoring of any constituent or parameter that is found in concentrations which 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.7., shall be selected from among those methods which would provide valid results in light of any "Matrix Effects" (defined in Part I.B.6.) involved.

2. "Trace" results, results falling between the MDL and the facility-specific practical quantitation limit (PQL), shall be reported as such, and shall be accompanied both by the estimated MDL and PQL values for that analytical run and by an estimate of the constituents 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 analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. 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 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 Board's 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 Board staff.

6. Unknown chromatographic peaks shall be reported, along with an estimate of the concentration of the unknown analyte. When unknown peaks are encountered, second column or second method confirmation procedures shall be performed to attempt to identify and more accurately quantify the unknown analyte.

7. 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.

8. 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 years. This period of retention shall be extended during the course of

any unresolved litigation regarding this discharge or when requested by the Regional 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 taken, 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 name of the personnel performing each analysis;

4. Complete procedure used, including method of preserving the sample, and the identify 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. A written "Detection Monitoring Report" shall be submitted twice annually (Part II.B.2.), in addition to an "Annual Summary Report" (Part I.E.3.). Every five years, the discharger shall submit a report concerning the direct analysis of all Constituents of Concern as indicated in Part II.B.3. ("COC Report"). All reports shall be submitted no later than one month following the end of their respective Reporting Period. The reports shall be comprised of at least the following:

    a. Letter of Transmittal

    A letter transmitting the essential points in each report shall accompany each report. Such a letter shall include a discussion of any requirement violations found since the last such report was submitted, and shall describe actions taken or planned for correcting those violations. If the discharger has previously submitted a detailed time schedule for correcting said requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred since the last submittal, this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports 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 shall contain 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. Each Detection Monitoring Report and each COC Report shall include a compliance evaluation summary. The summary shall contain at least:

        1. For each monitored ground water body, a description and graphical presentation of the velocity and direction of the ground water flow under/around the Unit, based upon water level elevations taken during the collection of the water quality data submitted in the report;

2. Pre-Sampling Purge for Samples Obtained from Wells. For each monitoring well addressed by the report, a description of the method and time of water level measurement, of the type of pump used for purging and the placement of the pump in the well, and of the method of purging (the pumping rate, the equipment and methods used to monitor field pH, temperature, and conductivity during purging, the calibration of the field equipment, results of the pH, temperature, conductivity, and the method of disposing of the purge water);

3. Sampling. For each Monitoring Point and Background Monitoring Point addressed by the report, a description of the type of pump - or other device - used and its placement for sampling, and a detailed description of the sampling procedure (number and description of the samples, field blanks, travel blanks, and duplicate samples taken, the type of containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations);

c. A map or aerial photograph showing the locations of observation stations, Monitoring Points, and Background Monitoring Points;

d. For each Detection Monitoring Report and each COC Report, include laboratory statements of results of all analyses demonstrating compliance with Part I.B.;

e. An evaluation of the effectiveness of run-off/run-on control facilities;

f. A summary and certification of completion of all Standard Observations (Part I.B.5.) for the Unit, for the perimeter of the Unit, and for the Receiving Waters; and

g. The quantity and types of wastes discharged.

7. CONTINGENCY REPORTING

a. The discharger shall report by telephone concerning any seepage from the disposal area immediately after it is discovered. A written report shall be filed with the Regional Board within seven days, containing at least the following information:

1. A map showing the location(s) of seepage;

2. An estimate of the flow rate;

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

4. Corrective measures underway or proposed.

b. Should the statistical comparison (Part III.A.1.) or non-statistical comparison (Part III.A.2.) indicate, for any Constituent or Concern of Monitoring Parameter, that a change in background concentration is confirmed, the discharger shall immediately notify the Regional Board verbally as to the Monitoring Point(s) and constituents(s) or parameter(s) involved, and shall provide written notification by certified mail within seven days of such determination (Section 20420(j)(1) of Title 27), and shall carry out a discrete retest in accordance with Parts II.B.1., and III.A.3.

c. If either the discharger or the Regional Board determines that there is significant physical evidence of a release (Section 20385(a)(3) of Title 27), the discharger shall immediately notify the Regional Board of this fact by certified mail (or acknowledge the Regional Board's determination) and shall carry out the requirements of Part I.E.2.d. for all potentially-affected monitored media.

d. If the discharger identifies a change in background concentrations and concludes that a release from the WMF has been discovered:

    1. If this conclusion is <u>not</u> based upon "direct monitoring" of the Constituents of Concern, pursuant to Part II.B.3., 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 days of receiving the laboratory analytical results, the discharger shall notify the Regional 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 (Section 20420(k)(1) of Title 27).

    2. The discharger shall, within 90 days of discovering the release, submit a Revised Report of Waste Discharge proposing an Evaluation Monitoring Program meeting the requirements of Section 20420(k)(5) and Section 20425 of Title 27; and

    3. The discharger shall, within 180 days of discovering the release, submit a preliminary engineering feasibility study meeting the requirements of Section 20420(k)(6) of Title 27.

e. Any time the discharger concludes - or the Regional Board Executive Officer directs the discharger to conclude - that a liquid - or gaseous-phase release from the Unit 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).

    1. 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

    2. Subsequent to initial notification, the discharger shall provide updates to all Affected Persons - including any newly Affected Persons - within 14 days of concluding there has been any material change in the nature or extent of the release.

8. ANNUAL SUMMARY REPORT

The discharger shall submit an annual report on February 15 of the following year to the Regional Water Board covering the previous monitoring year. This report shall contain:

a. <u>A Graphical Presentation of Analytical Data.</u> (Section 20415(e)(14) of Title 27 2550.7(e)(14)). For each Monitoring Point and Background Monitoring Point, submit in graphical format the laboratory analytical data for all samples taken within at least

the previous five calendar years. Each such graph shall plot the concentration of one or more constituents over time for a given Monitoring Point and Background Monitoring Point, at a scale appropriate to show trends or variations in water quality. The graphs shall plot each datum, rather than plotting mean values. For any given constituent or parameter, the scale for background plots shall be the same as that used to plot downgradient data. On the basis of any aberrations noted in the plotted date, the Regional Board's Executive Officer may direct the discharger to carry out a preliminary investigation (Section 20080 (d)(2) of Title 27), the results of which will determine whether or not a release is indicated;

b. All monitoring analytical data obtained during the previous two six-month Reporting Periods, shall be presented in tabular form The Regional Board regards the submittal of data in hard copy and on diskette as "...the form necessary for..." statistical analysis (Section 20420(h) of Title 27), in that this facilitates periodic review by the Regional Board's statistical consultant;

c. A comprehensive discussion of the compliance record, and the result of any correction actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements; and

d. A written summary of the ground water and soil-pore gas analyses, indicating any changes made since the previous annual report.

PART II: MONITORING AND OBSERVATION SCHEDULE

A. WASTE MONITORING

Report annually, as part of the Monitoring Report on February 15.

1. Record the total volume and weight of refuse in cubic yards and tons) disposed of at the site during each month, showing locations and dimensions on a sketch or map.

2. Record a description of the waste stream, including the percentage of the waste type (i.e., residential, commercial, industrial, or construction debris).

B. WATER AND SOIL-PORE GAS SAMPLING/ANALYSIS FOR DETECTION MONITORING

1. Thirty-Day Sample Procurement Limitation. For any given monitored medium, the samples taken from all Monitoring Points and Background Monitoring Points to satisfy the data analysis requirements for a given reporting period shall all be taken within a span not exceeding 30 days, and shall be taken in a manner that insures sample independence to the greatest extent feasible (Section 20415(E)(12)(B) of Title 27). Ground water sampling shall also include an accurate determination of the ground water surface elevation and field parameters (temperature, electrical conductivity, turbidity) for that Monitoring Point or Background Monitoring Point (Section 20415(e)(13) of Title 27); ground water elevations taken prior to purging the well and sampling for Monitoring Parameters shall be used to fulfill the quarterly ground water flow rate/direction analyses required under Part II.B.6. Statistical or non-statistical analysis shall be carried out as soon as the data is available, in accordance with Part III of this program.

2. "Indirect Monitoring" for Monitoring Parameters Done Semi-annually. For each monitored medium, all Monitoring Points assigned to Detection Monitoring (Part II B.4 below) and all Background Monitoring Points shall be monitored semi-annually. Semi-annual monitoring shall be done according to the following schedule and for parameters listed in the Self Monitoring and Reporting Program R7-2013-0052:

   First semi-annual; January 1 through June 30
   Second semi-annual; July 1 through December 31

   Monitoring for Monitoring Parameters shall be carried out in accordance with Part II and III of this program.

3. "Direct Monitoring" of all Constituents of Concern Every Five Years. In the absence of a release being indicated (1) pursuant to Parts II.A.2. and III.A.3. for a Monitoring Parameter, (2) based upon physical evidence, pursuant to Part I.E.2.c., or (3) by a study required by the Regional Board's Executive Officer based upon anomalies noted during visual inspection of graphically-depicted analytical data (Part I.E.3.a.), then the discharger shall sample all Monitoring Points and Background Monitoring Points of water-bearing media, not including soil-pore gas, for all Constituents of Concern every fifth year, beginning with the year of adoption of this Board Order, with successive direct monitoring efforts being carried out alternately in the first semi-annual monitoring period of one 5-year sampling event (Monitoring Period ends June 30) and the second semi-annual monitoring period (Monitoring Period ends December 31) of the next 5-year sampling event, and every fifth year, thereafter. Direct monitoring for Constituents of Concern shall be carried out in accordance with Parts II.A.1 and III of this program, and shall encompass only those Constituents of Concern that do not also serve as a Monitoring Parameter.

4. Monitoring Points and Background Monitoring Points for Each Monitored Medium. The discharger shall sample the following Monitoring Points and Background Monitoring Points in accordance with the sampling schedules given under Parts II.B.2. and II.B.3. (immediately foregoing), taking sufficient samples to qualify for the most appropriate test under Part III.

   a. Background Monitoring Points: OMW-2a and OMW-4.

   b. Monitoring Points (Points of Compliance): OMW-1, and OMW-3a.

5. Initial Background Determination. For the purpose of establishing an initial pool of background data for each Constituent of Concern at each Background Monitoring Point in each monitored medium (Section 25415 (e)(6) of Title 27):

   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 sample quarterly for at least two years 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 it at least quarterly for at least two years, analyzing for all Constituents of Concern and Monitoring Parameters.

6. Quarterly Determination of Ground Water Flow Rate/Direction (Section 25415 (e)(6) of Title 27). The discharger shall measure the water level in each well and determine ground water flow rate and direction in each ground water body described in Part II.B.4. at least quarterly, including the times of expected highest and lowest elevations of the water level for the respective ground water body. This information shall be included in the semi-annual monitoring reports required under Part II.B.2.

PART III: STATISTICAL AND NON-STATISTICAL ANALYSES OF SAMPLE DATA DURING A DETECTION MONITORING PROGRAM

A. The discharger shall propose appropriate data analysis method(s) for the approval of the Regional Water Board's Executive Officer, for comparing downgradient concentrations for each monitored constituent or parameter with its respective background concentration to determine if there has been a release from the WMF. Unless or until the discharger proposes an alternative data analysis method(s) acceptable to the Regional Board's Executive Officer, the discharger shall perform data analysis as specified herein. This Program substitutes advanced retesting and time-between-samples approaches that the USEPA has established in its 2009 Unified Guidance publication in place of less effective prescriptive approaches to be found in the California Code of Regulations, Title 27, Division 2, subdivision 1, Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste (Title 27), as allowed by Section 20080(a)(1) of those regulations.

1. Statistical Methods. The discharger shall use a statistical method to analyze Constituents of Concern or Monitoring Parameters (that are in Detection Status) which exhibit concentrations exceeding their respective MDL in at least ten percent of the background samples. The Discharger shall use only statistical data analysis methods approved by the Executive Officer, meet requirements specified in Title 27, Section 20415(e)(6-12), use a pass-1-of-2 retesting approach that involves taking the first sample at the very start of the reporting period with mid-period retest sample, if needed, and that are developed to meet USEPA's Unified Guidance (2009), including validation of the method's statistical power by comparison to the relevant Reference Power Curve, as described therein.

2. Non-Statistical Method. The discharger shall use the following non-statistical method for the Constituents of Concern or Monitoring Parameters which are not amenable to the statistical tests under Part III.A.1.; each of these groupings of constituents utilizes a separate variant of the test, as listed below.

   a. VOCs and any other organic constituents that have not been detected in historical data, except by accident, or that are detected less than 10 percent of the time in the historical data, use the California Nonstatistical Data Analysis Method described in Attachment C to this M&RP; and

   b. All Monitoring Parameters in Tracking Status (verified release indication) shall use the Concentration-Versus-Time-Plotting nonstatistical data analysis method described in Attachment C to this M&RP; and

   c. All Constituents of Concern that are monitored every five years, shall use the Upper 85th Percentile Nonstatistical Data Analysis Method provided for that purpose in Attachment C to this M&RP.

3. Discrete Retest (Section 20415(e)(8)(E) of Title 27). In the event that the discharger concludes that a change in background concentration has been tentatively indicated (under Parts III.A.1. or III.A.2.), the Discharger shall, collect a sample for the indicated Constituent(s) of Concern or Monitoring Parameter(s) at each indicating Monitoring Point within 30 day of this indication. As soon as the data is available, the discharger shall rerun the statistical method (or non-statistical comparison) separately upon each suite of retest data. For any indicated Monitoring Parameter or Constituent of Concern at an affected Monitoring Point, if the test results confirm the original indication, the discharger shall

conclude that change in background concentration has been discovered. All re-tests shall be carried out only for the Monitoring Point(s) for which a release is tentatively indicated, and only for the Constituent of Concern or Monitoring Parameter which triggered the indication there.

SUMMARY OF SELF-MONITORING AND REPORTING PROGRAMS

A. WASTE

		Unit	Reporting Frequency
1.	Solid wastes discharged	Cubic Yards	Annually
2.	Type of Materials discharged	---	Annually
3.	Remaining capacity of Waste Management Facility	Cubic Yards	Annually
4.	Any discharge of wastes other than those allowed by this Board Order	Type, volume and location	Immediately upon becoming aware that the waste has been discharged together with action for immediate correction and prevention of recurrence
5.	Hazardous waste load checking and storage (not more than 90 days)	Pounds, Gallons of each	Annually

B. GROUND WATER MONITORING

I. The ground water monitoring wells shall be sampled semi-annually according to the following schedule:

First Semi-annual - January 1 through June 30
Second Semi-annual - July 1 through December 31.

The samples shall be analyzed for the following:

Monitoring Parameters	Unit	Sampling Frequency	Reporting Frequency
1. pH	Number	Semi-annually	Semi-annually
2. Total Dissolved Solids	mg/L	Semi-annually	Semi-annually
3. Specific Conductance	Micromhos/cm	Semi-annually	Semi-annually
4. Temperature	^{o}F	Semi-annually	Semi-annually
5. Chloride	mg/L	Semi-annually	Semi-annually
6. Calcium	mg/L	Semi-annually	Semi-annually
7. Magnesium	mg/L	Semi-annually	Semi-annually
8. Sulfate	mg/L	Semi-annually	Semi-annually
9. Carbonate	mg/L	Semi-annually	Semi-annually
10. Nitrate	mg/L	Semi-annually	Semi-annually
11. Ground Water Elevation	feet (USGS Datum)	Semi-annually	Semi-annually
12. Iron	mg/L	Semi-annually	Semi-annually
13. Dissolved Oxygen	mg/L	Semi-annually	Semi-annually

14.	Potassium	mg/L	Semi-annually	Semi-annually
15.	Volatile Organics (EPA Methods 8260)	µg/L	Semi-annually	Semi-annually
16.	Semi-volatile	µg/L	Semi-annually	Semi-Annually

II. The ground water shall be monitored every five years for the following constituents:

Constituents of Concern

1. Total Dissolved Solids
2. Bicarbonate (HCO3)
3. Carbonate(CaCO3)
4. Total Alkalinity
5. Hydroxide
6. Fluoride
7. Dissolved Oxygen
8. Phosphate
9. Total Phosphate
10. Chemical Oxygen Demand
11. Total Hardness
12. Boron
13. Calcium
14. Magnesium
15. Potassium
16. Sodium
17. Iron
18. Manganese
19. Zinc
20. Antimony, Total
21. Arsenic, Total
22. Barium, Total
23. Beryllium, Total
24. Cadmium, Total
25. Chromium, Total
26. Cobalt, Total
27. Lead, Total
28. Mercury, Total
29. Nickel
30. Selenium, Total
31. Silver, Total
32. Thallium, total
33. Tin, Total
34. Vanadium, Total
35. Zinc, Total
36. Chromium, hexavalent
37. DBCP and EDB
38. App II Pesticides
39. App II Herbicides
40. Volatiles (8260)
41. App II Semi-volatiles
42. Total Organic Halogens
43. Sulfide
44. pH
45. Specific Conductance
46. Chloride
47. Nitrate (as N)
48. Total Organic Carbon
49. Phenols (8270)
50. Cyanide
51. Total Cations
52. Total Anions

The collection, preservation and holding times of all samples shall be in accordance with United States Environmental Protection Agency (USEPA) approved procedures. Unless otherwise approved by the Regional Water Board's Executive Officer, all analyses shall be conducted by a laboratory certified by the State Department of Health Services. All analyses shall be conducted in accordance with the latest edition of "Guidelines Establishing Test Procedures for Analysis of Pollutants" (40 CFR 136), promulgated by the USEPA.

REPORTING

1. 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 waste discharge requirements.

2. Records of monitoring information shall include:

   a. The date, exact place, and time of sampling or measurement(s);
   b. The individual(s) who performed the sampling or measurement(s);
   c. The date(s) analyses were performed;
   d. The individual(s) who performed the analyses;
   e. The analytical techniques or method used; and

f. The results of such analyses.

3. 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."

4. A duly authorized representative of the discharger may sign the documents if:

   a. The authorization is made in writing by the person described above;
   b. The authorization specified an individual or person having responsibility for the overall operation of the regulated disposal system; and
   c. The written authorization is submitted to the Regional Water Board's Executive Officer.

5. Report immediately any failure in the waste disposal system to the Regional Water Board's Executive Officer and the Director of the County Environmental Health Department by telephone with follow-up letter.

6. 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.

7. Monitoring report shall be submitted to the Regional Board in accordance with the following schedule:

   First Semi-annual (January 1 through June 30) – report due July 31.
   Second Semi-annual (July 1 through December 31) – report due February 15.

8. Annual monitoring reports shall be submitted to the Regional Board by February 15 of the next year.

9. Five-year monitoring reports shall be submitted to the Regional Board by February 15 of the 6th year.

10. Submit monitoring report to:

    California Regional Water Quality Control Board
    Colorado River Basin Region
    73-720 Fred Waring Drive, Suite 100
    Palm Desert, CA 92260

Ordered by:_____
ROBERT PERDUE
Executive Officer

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Date

ATTACHMENT C: NONSTATISTICAL TEST METHODS

DEFINITIONS OF TERMS

"Constituents of Concern (COCs)" means those waste constituents that could be released from the landfill. For any given medium, each such constituent is either: a Monitoring Parameter (MonPar) subject to compliance testing each Reporting Period, due to being a good indicator or, in the event of a release, due to having been detected and verified in groundwater as having exceeded its respective background data set's upper 85th percentile concentration; an UnPar (includes all constituents of concern that are not MonPars for that medium);

"Standard Status" means that the given Monitoring Parameter, at a given Monitoring Point (i.e., a MonPt/MonPar pair, for tracking/administrative purposes) has not shown as verified indication of a release yet, so, its purpose, in the monitoring program, is to detect the arrival of the release. This includes MonPt/MonPar pairs, during an evaluation monitoring or corrective action program, that have not yet shown a verified release indication. This also includes MonPars that had historical verified detections but are not currently classified in Tracking Status;

"DMP, EMP, AMP, CAP" mean the detection monitoring program, evaluation monitoring program, assessment monitoring program, and corrective action program;

"InterPoint" means that the Concentration Limit (background data set against which each new datum is tested) comes from the background (upgradient or sidegradient) Monitoring Point;

"IntraPoint" means that the Concentration Limit consists of historical data from the Monitoring Point being tested. This background data must be validated (before use) not to include any indication of a release for any constituent to which the nonstatistical data analysis method is applied;

"Measurably significant increase" has the same meaning as the federal term, "statistically significant increase," but includes indications by any approved nonstatistical test;

"MonPar" or "MonPar COCs" means one the landfill's set of Constituents of Concern that functions as a Monitoring Parameter, for any given monitored medium (i.e., that subset of the Constituents of Concern that are subject to compliance data analysis every Reporting Period at each MonPt in that medium). Each monitored medium will have its own MonPars;

"Tracking Status" means that the given Monitoring Parameter, at a given Monitoring Point (i.e., a MonPt/MonPar pair, for tracking/administrative purposes) has shown a recent verified indication of a release; therefore its purpose, in the monitoring program, is to track the released constituent's concentration there via a concentration-versus-time plot upon which the Water Standard concentration limit (i.e. background value, laboratory practical quantitation limit or health risk based value serves as the cleanup goal). <u>This plotting serves as that MonPt/MonPar pair's nonstatistical data analysis method</u>. The discharger notifies Regional Board staff as soon as the plot has been at-or-below this plotted horizontal cleanup goal line for two reporting periods in a row and the MonPar shall return to Standard Status. For a landfill in corrective action, the discharger includes these plots of Tracking Status MonPt/MonPar pairs in each Corrective Action Measures Effectiveness Report (CAMs Report);

"UnPar" or "UnPar COC" means one of the landfill's set of Constituents of Concern that functions as an Uninvolved Parameter for any given monitored medium. For any given monitored medium (groundwater, surface, water, or the unsaturated zone), they are that subset of the Constituents of Concern that are not Monitoring Parameters (MonPars). Each monitored medium will have its own UnPars.

CONCENTRATION-VERSUS-TIME PLOTTING METHOD

(See definition for "Tracking Status.")

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NONSTATISTICAL DATA ANALYSIS METHODS (NSDAM)

Non-Statistical Method For Standard Status COCs Seldom Found In Background

For any given Monitoring Point (MonPt) subject to compliance testing during each Reporting Period, regardless of the monitoring program (DMP, AMP/EMP, or CAP), the Discharger shall use this data analysis method, jointly, for all Standard Status Monitoring Parameters (MonPars) on that MonPt's "scope list" (see §A.1. for the initial test scope list and §B.1 for the modified scope list use during the single retest).

1. **Scope List —** For the initial test (on the sample taken from that compliance-testing MonPt at the start of that Reporting Period), create a current "scope list" that includes all of that MonPt's Standard Status MonPars that exceed their "reference MDL" (i.e., the highest MDL associated with that constituent's background data set) in less than 10% of the MonPar's background data set at that MonPt. For each such qualifying constituent, in addition to its reference MDL, note its "reference PQL" as the highest PQL value associated with the constituent's background data set at that MonPt.

2. **Two Triggers —** From the scope list made under A.1., above, for an initial test [or, for a retest, using the modified scope list created under B.2, below], identify each scope list MonPar in the **current** sample from that MonPt that exceeds either its respective MDL or its respective PQL. The Discharger shall conclude that these exceeding constituents provide a preliminary indication [or, for a retest, provide a measurably significant indication] of a release indication, at that MonPt, if ***either:***

   - two or more of the Standard Status MonPars on the MonPt's scope list exceed their reference MDL; **or**
   - at least one of the Standard Status MonPars on the MonPt's scope list equals or exceeds its reference PQL.

<u>Single Discrete Retest (A "Pass-1-of-2" Plan):</u>

1. **Notification and Retest Sample Acquisition —** In the event that the Discharger concludes (pursuant to A.2., above) that the initial sample, taken at the very start of the reporting period, indicates that there is a preliminary indication for one-or-more MonPars on the scope list for that MonPt, then the discharger shall collect a new independent retest sample from the indicating MonPt.

2. **Apply Test To Modified Scope List —** For the MonPt retest sample, the Discharger shall include, from the laboratory retest analysis results, only the determinations for those constituents indicated in that MonPt's original test, under A.2., and these indicated constituents shall comprise the MonPt's "modified scope list," for use in the retest. As soon as the retest data are available, the discharger shall apply the same test [under

A.2., above, but using this modified scope list] to analyze the retest sample's data at that compliance MonPt.

3. **Conclusions —** If the retest sample trips neither one of the triggers under §A(2), then the Discharger shall conclude that the original determination was in error and shall report this in the Monitoring Report for that Reporting Period.

   If, instead, the retest sample trips either (or both) of the triggers under A.2., then the Discharger shall conclude that there is a measurably significant increase at that MonPt for the constituent(s) indicated in the validating retest sample, shall report this to the Regional Board immediately (by phone or e-mail), and shall include this information in the Monitoring Report for that reporting period. Furthermore, given a confirming retest, beginning with the very next Reporting Period, the Discharger shall monitor the indicated-and-verified constituent(s) in Tracking Status (instead of Detection Status) at that MonPt and shall no longer include those constituent(s) in the scope list created (under §A.1.) for that MonPt.

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UPPER 85th PERCENTILE NONSTATISTICAL METHOD FOR UNPAR TESTING

Concentration Limit (retest-triggering concentration) — The UnPars, or UnPar COCs, are those Constituents of Concern (COCs) that are not Monitoring Parameters. Under this Order, they are tested every five years. For any given UnPar at a given Monitoring Point (i.e., for any given MonPt/UnPar pair), its retest-triggering concentration shall be the upper 85th percentile value of its background data set. Nevertheless, for a constituent whose upper 85th percentile value lies below its then-current Practical Quantitation Limit (PQL), its retest-triggering concentration is the highest PQL associated with that pair's background data set.

Test & Pass-1-of-2 Retest — If, during the five-yearly UnPar testing, an UnPar exceeds its respective retest-triggering concentration in its initial sample (taken at the start of the reporting period), the Discharger shall take one retest sample (for the indicating MonPt/UnPar pair) at mid-period (about90 days later).

If that single retest sample's concentration does not exceed that UnPar's retest-triggering concentration, then the test is concluded without the UnPar's changing to a MonPar and the Discharger includes the test information and conclusion in the Monitoring Report for that reporting period.

If, instead, the single retest sample's concentration for that UnPar exceeds that MonPt/UnPar pair's retest-triggering concentration (like the initial sample did), then that constituent becomes a MonPar COC at all MonPts in that monitored medium (groundwater, surface water, or the unsaturated zone), beginning with the next Reporting Period, and the Discharger shall report this change to Regional Water Board staff immediately, declare it clearly in the monitoring report (including its summary page) for that Reporting Period.

This approach is imposed as an improvement over the Title 27 prescriptive standards of §20415(e)(8)(E)3., §20420(g) and §20425(e)(4), pursuant to §20080(a)(1) and the leading paragraphs of §20415(e)(8 & 9).