

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL COAST REGION**

**MONITORING AND REPORTING PROGRAM NO. R3-2006-0001**

Waste Discharger Identification No. 3 440302001

Proposed for Consideration at the February 10, 2006 Board Meeting

For

**CITY OF WATSONVILLE LANDFILL  
SANTA CRUZ COUNTY**

**PART I: MONITORING AND OBSERVATION SCHEDULE**

**A. SITE INSPECTIONS**

The Discharger shall inspect the City of Watsonville Landfill (Landfill), according to the following schedule, recording, at a minimum, the following Standard Observations.

1. Site Inspection Schedule:

- a. At least monthly during the wet season (**October 1 through April 30**), and following each storm event producing a minimum of 1-inch of rain within a 24-hour period.
- b. During the dry season a minimum of one inspection every three months.

2. Standard Observations:

a. **For Receiving Waters:**

- i. Floating and suspended materials of waste origin; presence or absence, source, and size of affected area.
- ii. Discoloration and turbidity - description of color, source, and size of affected area.
- iii. Evidence of odors - presence or absence, characterization, source, and distance of travel from source.
- iv. Evidence of beneficial use - presence of water-associated wildlife.
- v. Estimated flow rate to the receiving water.
- vi. 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 Landfill:**

- i. Evidence of liquid leaving or entering the Landfill, estimated size of affected area, and estimated flow rate (show affected area on map).
- ii. Evidence of odors; presence or absence, characterization, source, and distance of travel from source.
- iii. Evidence of erosion or of exposed waste.
- iv. Inspection of all storm water discharge locations for evidence of non-storm water discharges during dry seasons, and integrity during wet seasons.

c. **For the Landfill:**

- i. Evidence of ponded water at any point on the Landfill site (show affected area on map).

- ii. Evidence of odors; presence or absence, characterization, source, and distance of travel from source.
- iii. Evidence of erosion or of daylighted waste.
- iv. Compliance with Storm Water Pollution Prevention Plan, insuring that the terms of the general permit is properly complied with.

## **B. INTAKE MONITORING**

The Discharger shall maintain a daily record of the waste stream. The record shall include the following information:

1. Weight (in tons) of waste received.
2. Running totals of weight received, remaining capacity (in tons) for waste placement, and Landfill life expectancy (in years).
3. Current fill area (in acres).
4. Log of random load checking program. Site personnel shall advise waste haulers of the types of wastes prohibited at the site and shall make periodic detailed compliance checks of wastes discharged by all site users. These detailed periodic checks shall be of variable frequency, but average once per working week. The log shall contain a record of refused loads, including the type of waste refused, date, name, address, and phone number of the party attempting to dispose of the waste.

The intake daily records are not to be submitted to this Regional Board, but are to be maintained at the Discharger's offices in accordance with Part II.C, and are to be made available to Regional Board staff upon request to review or copy.

## **C. DRAINAGE SYSTEMS INSPECTIONS**

The Discharger shall inspect drainage control systems following each storm event that results in rainfall runoff and at least monthly, and record the following information:

1. Condition of facilities and liners, whether storm water storage basins and drainage ditches contain liquids;
2. Any apparent seepage from storage basins or the Landfill site;
3. Steps taken to correct any problems found during inspection and date(s) when taken; and
4. Maintain a photo log of corrections made to the drainage control systems.

## **D. RAINFALL DATA**

The Discharger shall record the following information:

1. Total precipitation (in inches) during each three month period.
2. Number of Storms ( $\geq 1$ -inch in 24-hours) received during the three month period.
3. Return interval of most intense 24-hour storm (e.g. 25 year, 100 year, and so on).

## **E. POLLUTION CONTROL SYSTEMS INSPECTIONS**

The Discharger shall inspect all pollution control systems and record the following information as appropriate:

1. **Leachate Collection and Removal System (LCRS):**
  - a. Bi-weekly - inspect LCRS for containment and collection system integrity. Include bi-weekly inspection check-off sheet with monitoring reports. During storm events the LCRS will be inspected for containment and collection system integrity after each significant storm;

- b. Monthly - pumping system operational check. Perform routine preventive maintenance focused on keeping the system at design operation. All scheduled and un-scheduled maintenance shall be summarized and reported;
- c. Monthly - record volume of leachate extracted (in gallons). Compute semiannual and annual running totals of leachate removed and report in Semiannual monitoring report. Report disposal method utilized. When more than one disposal method is used, be volume specific for each method;
- d. Annually - LCRS testing as required by the California Code of Regulations, Title 27 (CCR Title 27), Section 20340 (d). The absence or presence of bio-fouling shall be addressed in the inspection report. At sites where leachate is used for dust control, testing that shows the leachate is non-hazardous shall be submitted annually;
- e. Annually - leachate collection sumps must be sampled annually for analysis of Monitoring Parameters, and every five years for Constituents of Concern (COCs); and
- f. Semiannually - Using most recent leachate contaminant concentration data and collection volume, compute contaminant mass removed on a semiannual basis.
- g. If leachate is used as dust control, analytical testing must be performed and submitted annually to demonstrate that the leachate is non-hazardous.

## 2. Landfill Gas Extraction System

- a. Monthly - inspect entire landfill gas extraction system for system integrity. Include monthly inspection, maintenance and testing demonstrations in Semiannual monitoring reports;
- b. Monthly - Record volume of landfill gas extracted. Report monthly volume and annual sub-totals. Indicate how volume measurement is made;
- c. Monthly - Record volume of landfill gas condensate. Report monthly, semiannual and annual sub-totals in Semiannual reports and report disposal method utilized. When more than one disposal method is used, be volume specific for each method;
- d. Annually - submit an annual operational summary for the landfill gas extraction system;
- e. Perform routine preventive maintenance focused on keeping the system at design operation. All scheduled and unscheduled maintenance shall be summarized and reported annually;
- f. Semiannually - Sample landfill gas in the collection header and analyze for volatile organic compounds (VOCs).
- g. Semiannually - Sample landfill gas condensate and analyze for Monitoring Parameters; and
- h. Semiannually - Using most recent landfill gas and condensate contaminant concentration data and collection volume, compute contaminant mass removed on a semiannual basis.

## F. GROUNDWATER MONITORING

Unless otherwise authorized by the Executive Officer, all new groundwater-monitoring wells shall be incorporated into this monitoring and reporting program, and shall be sampled on a quarterly basis for a minimum of four consecutive quarters. Changes to the monitoring frequency, Monitoring Parameters or Constituents of Concern may be made upon receiving prior written approval from the Executive Officer. The Groundwater Monitoring Points shall include those shown in Table 1 below, locations are shown in Attachment D. For each monitored groundwater body, the water level in each well shall be measured, at least quarterly, including the times of expected highest and lowest elevations of the water level. Horizontal and vertical gradients, groundwater flow rate, and direction for the respective groundwater body shall also be determined. Groundwater elevations for all wells in 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 flow rate and direction. The observed groundwater characteristics shall be compared with those of previous determinations, noting the appearance of any trends, and of any indications that a change in the hydrogeologic conditions beneath the site has occurred. This information shall be reported in the Semiannual Monitoring Reports.

### G. STORM WATER MONITORING

Unless required more frequently due to an indication of a release, the storm water discharge point(s) shall be monitored in accordance with the facility's National Pollutant Discharge Elimination System permit (NPDES). Storm water is sampled at the detention basin drainage outlet, which is the last accessible point before the storm water is discharged offsite. Samples are collected for two storm events per year, and within the first hour of discharge. Analytical analysis of the storm water samples includes pH, total suspended solids, specific conductance, oil and grease, and iron. Storm water discharge point(s) shall be monitored in accordance with the facility's National Pollutant Discharge Elimination System permit (NPDES).

### H. SURFACE WATER MONITORING

The Discharger shall inspect surface water locations SW-1 through SW-7, as shown on Attachment D, quarterly and note whether flowing.

### I. ANALYTICAL MONITORING

The Discharger shall monitor the Landfill monitoring points in accordance with the following schedule(s). Monitoring locations are shown on Attachment D and include groundwater monitoring wells, leachate collection sumps and wells, gas collection headers, and surface water spring locations. Locations shall be sampled for Parameters shown in Table 2 and 3, and Constituents of Concern shown in Table 4.

1. **Groundwater and Surface Water Monitoring Parameters:** Monitoring Points shall be analyzed semiannually for the Monitoring Parameters listed in Table 1. The groundwater and surface water monitoring point locations are shown in **Attachment D**.
2. **Landfill Gas Migration Monitoring:**  
On-site structures adjacent to the waste deposit areas shall be monitored **quarterly** for the monitoring parameters in **Table 5**. Monitoring results shall be submitted to the Board in Semiannual reports and include information specified in Title 27, Section 20934.
3. **Leachate Collection System Performance:**
  - a. Leachate from the LCRS Phase I/II and III shall be analyzed for the Monitoring Parameters (**Table 2**) and Supplemental Geochemical Parameters (**Table 3**) **annually**, and for COCs (**Table 4**) **every five years**.
  - b. If leachate is present from LS, the leachate shall be analyzed for Monitoring Parameters **annually** and COCs **every five years**.
4. **Constituents of Concern:** The Constituents of Concern (COC) includes constituents listed in **Table 4**, below. Monitoring for COC shall encompass only those COCs that do not also serve as Monitoring Parameters. Analysis of COCs shall be carried out **once every five years**, at each of the site's groundwater monitoring points, unless required more frequently due to an indication of a release. Wells that have not previously been sampled for COCs shall be sampled and analyzed for all COCs within three months of this program becoming effective.
5. **Sample Procurement Limitation:** For any given monitored medium, the samples taken from Monitoring Points to satisfy the data analysis requirements for a given Monitoring Period shall be taken within a span not exceeding 30 days, and shall be taken in a manner that ensures sample independence to the greatest extent feasible [CCR Title 27, Section 20415(e)(12)(B)]. Sampling for successive monitoring periods shall occur at least 30 days apart.

**TABLE 1  
MONITORING POINTS**

Monitoring Points (See Attachment 4)		Monitoring Program		Monitoring Parameters/Frequency		
Well ID	Monitoring Zone	Detection Monitoring	Consecutive Action Monitoring	Parameters	COCs <sup>(2)</sup>	Frequency <sup>(3)</sup>
TW-2	Terrace Deposit Aquifer		X	Table 2, 3	Table 4	Semiannual
TW-5	Terrace Deposit Aquifer		X	Table 2, 3	Table 4	Semiannual
TW-8	Terrace Deposit Aquifer		X	Table 2, 3	Table 4	Semiannual
TW-9	Terrace Deposit Aquifer (Background)	X		Table 2, 3	Table 4	Semiannual
TW-10	Terrace Deposit Aquifer (Background)	X		Table 2, 3	Table 4	Semiannual
TW-11	Terrace Deposit Aquifer (Background)	X		Table 2, 3	Table 4	Semiannual
TW-12	Terrace Deposit Aquifer		X	Table 2, 3	Table 4	Semiannual
TW-13A	Terrace Deposit Aquifer	X		Table 2, 3	Table 4	Semiannual
TW-14	Terrace Deposit Aquifer	X		Table 2, 3	Table 4	Semiannual
TW-20	Terrace Deposit Aquifer		X	Table 2, 3	Table 4	Semiannual
TW-21	Terrace Deposit Aquifer	X		Table 2, 3	Table 4	Semiannual
TW-22	Terrace Deposit Aquifer	X		Table 2, 3	Table 4	Semiannual
AW-1	Aromas Sands Aquifer	X		Table 2, 3	Table 4	Semiannual
AW-3	Aromas Sands Aquifer		X	Table 2, 3	Table 4	Semiannual
AW-4	Aromas Sands Aquifer (Background)	X		Table 2, 3	Table 4	Semiannual
AW-18	Aromas Sands Aquifer	X		Table 2, 3	Table 4	Semiannual
AW-23	Aromas Sands Aquifer	X		Table 2, 3	Table 4	Semiannual
AG Well 240				Table 2, 3	Table 4	Semiannual
SW1 - SW7	Surface Water	X		Table 2		Annual (when flowing)
Leachate	Collection System		X	Table 2, 3		Annual
Seep System	Collections System		X	Table 2, 3		Annual
Gas Collection Header	Collection System		X			Semiannual

<sup>(1)</sup> Designated background monitoring points.

<sup>(2)</sup> Sample once every five years for full suite of analytes listed in Table 4. Next sampling event September 2006.

<sup>(3)</sup> Semiannual monitoring shall be performed each March and September and includes water levels for all wells and piezometers. Quarterly monitoring of water levels shall be performed during winter (Jan. 1 to March 31), spring (April 1 to June 30), summer (July 1 to Sept. 30), and fall (Oct. 1 to Dec. 31).

**TABLE 2  
MONITORING PARAMETERS**

Parameter	USEPA Method	Units
Ground Water Monitoring Well Water Elevation and Depth <sup>(1)</sup>	Sounder	0.01 feet
Electrical Conductivity	Field	µmhos/cm
pH	Field	pH Units
Eh	Field	milliVolts
Temperature	Field	°F/°C
Turbidity	Field	NTU
Dissolved Oxygen	Field	Varies
Chloride <sup>(2)</sup>	300.0/9253	mg/l
Manganese (dissolved) <sup>(2)</sup>	200.8/3015/6020A/6010B	mg/l
Lead (dissolved)	200.8/3015/6020A/6010B	mg/l
Sodium <sup>(2)</sup>	200.7/3015/6010B	mg/l
Total Dissolved Solids (TDS) <sup>(2)</sup>	160.1	mg/l
Sulfate <sup>(2)</sup>	300.0	mg/l
Nitrate (as Nitrogen)	300.0/353.2	mg/l
VOCs <sup>(3)</sup> (including oxygenates).	8260B	µg/l

<sup>(1)</sup> Water elevation shall be recorded from all monitoring wells **QUARTERLY** and in which measurements are readily accessible

<sup>(2)</sup> Chloride, manganese (dissolved), sodium (dissolved), sulfate, and TDS will be subjected to the statistical evaluation method described in Part II.D. of the Sample and Collection and Analysis Section, herein.

<sup>(3)</sup> The VOCs include all Volatile Organic Compounds (VOCs) detectable using USEPA Method 8260B including at a minimum all 47 VOCs listed in Appendix I to 40 CFR 258, and all unidentified peaks. Oxygenates include methyl tertiary-butyl ether (MTBE), di-isopropyl ether (DIPE), ethyl tertiary-butyl ether (ETBE), tertiary-amyl methyl ether (TAME), and tertiary-butyl alcohol (TBA). VOCs will be subjected to the non-statistical evaluation method described in Part II.E. of the Sample Collection and Analysis Section, herein.

Note: mg/l = milligrams per liter; °F/°C = degrees Fahrenheit and Celsius; NTU = natural turbidity units; µmhos/cm = micro-mhos per centimeter; and µg/l = micrograms per liter.

**TABLE 3  
SUPPLEMENTAL GEOCHEMICAL PARAMETERS**

Parameter <sup>(1)</sup>	USEPA Method	Units
Total and Speciated Alkalinity	310.1	mg/l
Calcium	200.7/3015/6010B	mg/l
Magnesium	200.7/3015/6010B	mg/l
Potassium	200.7/3015/6010B	mg/l
Ammonia as Nitrogen	350.3	mg/l
Total Kjeldahl Nitrogen	351.4	mg/l

<sup>(1)</sup> The Discharger shall analyze all samples from all groundwater Monitoring Points at the Landfill for the Supplemental Geochemical Parameters listed in **Table 3**. These parameters will not be treated statistically but, when combined with data from **Table 2**, will allow the Discharger to perform useful geochemical characterizations, as needed, in the form of Trilinear and/or Stiff diagrams.

**TABLE 4  
CONSTITUENTS OF CONCERN**

Parameter <sup>(1)</sup>	Method <sup>(2)</sup>	Units
Antimony	6010B	mg/l
Arsenic	7060A	mg/l
Barium	6010B	mg/l
Beryllium	6010B	mg/l
Cadmium	6010B	mg/l
Chromium	6010B/7196A	mg/l
Cobalt	6010B	mg/l
Copper	6010B	mg/l
Cyanide	9010 or 335.2	mg/l
Lead	7421	mg/l
Magnesium	6010B	mg/l
Mercury	7470A	mg/l
Nickel	6010B	mg/l
Selenium	7740	mg/l
Silver	6010B	mg/l
Sulfide	9030B or 376.1	mg/l
Thallium	7841	mg/l
Tin	6010B	mg/l
Vanadium	6010B	mg/l
Zinc	6010B	mg/l
Chlorophenoxy Herbicides	8151A	µg/l
Organochlorine Pesticides	8081A	µg/l
PCBs	8082	µg/l
Phthalate Esters	8060	µg/l
Phenols	8040	µg/l
Nonhalogenated Volatiles	8015M	µg/l
Semi-Volatile Organic Compounds	8270C	µg/l
Volatile Organic Compounds, Appendix I & II <sup>(3)</sup>	8260B	µg/l

<sup>(1)</sup> The Discharger shall analyze for all parameters using the USEPA analytical methods indicated above (or updated method), including all constituents listed in Appendix II to 40 CFR, Part 258. Wells that are normally monitored for COCs in Table 2 do not need to be re-sampled for same constituents in Table 4, during COC sampling events. The Semiannual and COC monitoring event shall be conducted simultaneously.

<sup>(2)</sup> Or most recently approved EPA method that provides the lowest practicable detection limits.

<sup>(3)</sup> Includes MTBE (EPA Method 8260B)

**TABLE 5  
LANDFILL GAS PROBE MONITORING PARAMETERS**

Parameter	Method	Units
Methane	Field	ppm
Carbon Dioxide	Field	ppm
Oxygen	Field	ppm

## PART II: SAMPLE COLLECTION AND ANALYSIS

### A. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analysis specified in this monitoring and reporting program shall be performed according to the most recent version of Standard USEPA Methods (USEPA publication "SW-846"), and in accordance with an Executive Officer approved Sampling and Analysis Plan (SAP). A laboratory certified for these analyses by the State Department of Health Services shall perform analyses. 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 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. Calibration and maintenance records shall be kept and made available upon request by the Regional Board. Sampling shall occur at a date that allows timely submittal of monitoring reports according to the schedule required by this monitoring and reporting program. In addition, the Discharger is responsible for seeing that the laboratory analysis of all samples from all Monitoring Points meet the following restrictions:

1. **Method Selection:** The methods of 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") in historical data for that medium, the SW-846 analytical method having the lowest Method Detection Limit (MDL) shall be selected from among those methods which would provide valid results in light of any Matrix Effects involved.
2. **Trace Results:** Results falling between the MDL and the Practical Quantitation Limit (PQL) shall be reported as "trace", and shall be accompanied by both the (nominal or estimated) MDL and PQL values for that analytical run.
3. **Nominal or Estimated MDL and PQL:** The nominal MDL and PQL shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. Both limits shall reflect the detection and quantitation capabilities of the specific analytical procedure and 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 and an estimate of the detection limit and/or quantitation limit actually achieved shall be included.
4. **Quality Assurance/Quality Control (QA/QC) Data:** All QA/QC data shall be reported along with the sample results to which it applies. Sample results shall be reported unadjusted for blank results or spike recovery. The QA/QC data submittal shall include the following information:
  - a. Method, equipment, and analytical detection limits.
  - b. Recovery rates and an explanation for any recovery rate that is outside the USEPA-specified recovery rate.
  - c. Results of equipment and method blanks.
  - d. Results of spiked and surrogate samples.
  - e. Frequency of quality control analysis.
  - f. Chain of custody logs.
  - g. Name and qualifications of the person(s) performing the analysis.
5. **Common Laboratory Contaminant:** Upon receiving written approval from the Executive Officer, a 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, 2-Butanone, diethylhexyl phthalate, and di-n-octyl phthalate) during any given Monitoring 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. **Unknowns:** Unknown chromatographic peaks shall be identified, quantified, and reported to a reasonable extent. 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 for easy reference.

## **B. CONCENTRATION LIMITS**

1. The concentration limit for Monitoring Parameters and Constituents of Concern shall be determined as follows:
  - a. In cases where the constituent's Method Detection Limit is exceeded in less than ten percent of the historical samples, the MDL is the Concentration Limit.
  - b. In cases where the constituent's MDL is exceeded in ten percent or more of the historical sample, a statistically based Concentration Limit must be defined and regularly updated as follows:
    - i. Statistically analyze existing monitoring data, and propose, to the Executive Officer, statistically derived Concentration Limits for each Constituent of Concern and each Monitoring Parameter at each Monitoring Point for which sufficient data exists.
    - ii. In cases where sufficient data for statistically determining Concentration Limits does not exist the Discharger shall collect samples and analyze for Constituent(s) of Concern and Monitoring Parameter(s) which require additional data. Once sufficient data is obtained, the Discharger shall submit proposed Concentration Limit(s) to the Executive Officer for approval. This procedure shall take no longer than two calendar years.
    - iii. Sample and analyze new Monitoring Points, including any added by this monitoring and reporting program, until sufficient data is available to establish a proposed Concentration Limit for all COC and Monitoring Parameters. Once sufficient data is obtained the Discharger shall submit the proposed Concentration Limit(s) to the Executive Officer for approval. This procedure shall take no longer than two calendar years.
2. The Discharger shall review Concentration Limits annually. The past years data will be reviewed for application to revision of Concentration Limits. When appropriate, new Concentration Limits shall be proposed along with technical rationale for proposing the change.

## **C. RECORDS TO BE MAINTAINED**

Water quality records shall be maintained by the Discharger, and retained for no less than a 30-year period. The period of retention shall be extended during the course of any unresolved litigation or when requested by the Executive Officer. Such records shall show the following for each sample:

1. Identity of sample and of the actual monitoring point designation 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 identity and volumes of reagents used.
5. Chromatographs and calculation of results.
6. A complete chain of custody logs.
7. Results of analyses, and the Method Detection Limit and Practical Quantitation Limit for each analysis.

#### **D. STATISTICAL ANALYSIS**

For Detection Monitoring during a COC event, the Discharger shall use statistical methods to analyze COCs that exhibit concentrations that equal or exceed their respective MDL in at least ten percent of applicable historical samples. For routine (i.e., semiannual) detection monitoring, the Discharger shall apply statistical methods for those Detection Monitoring Parameters defined in **Table 2** of Part I.G. The Discharger may propose and use any statistical method that meets the requirements of California Code of Regulations, Title 27, Section 20414(e)(7). All statistical methods and programs proposed by the Discharger are subject to Executive Officer approval.

#### **E. NON-STATISTICAL METHOD**

The Discharger shall use the following non-statistical method for analyzing constituents, which are detected in less than ten percent of applicable historical samples. This method involves a two-step process:

1. From constituents to which the method applies, compile a specific list of those constituents, which exceed their respective MDL. The list shall be compiled based on either data from the single sample or in cases of multiple independent samples, from the sample, which contains the largest number of constituents.
2. Evaluate whether the listed constituents meet either of two possible triggering conditions. Either the list from a single well contains two or more constituents, or contains one constituent, which equals or exceeds its PQL. If either condition is met, the Discharger shall conclude that a release is tentatively indicated and shall immediately implement the appropriate re-test procedure as described in Section F. below.

#### **F. RE-TEST PROCEDURE**

1. In the event the Discharger concludes that a release has been tentatively indicated, the Discharger shall carry out the appropriate reporting requirements and, within 30 days of receipt of analytical results, collect two new suites of samples for the indicated COC or Monitoring Parameter(s) at each indicating Monitoring Point, collecting at least as many samples per Monitoring Point as were used for the initial test.
2. Analyze each of the two suites of re-test analytical results using the same statistical method (or non-statistical comparison) that provided the tentative indication of a release. If the test results of either (or both) of the re-tested data suites confirm the original indication, the Discharger shall conclude that a release has been discovered and shall carry out the appropriate requirements.
3. Re-tests shall be carried out only for the Monitoring Point(s) for which a release is tentatively indicated, and only for the COC or Monitoring Parameter(s) which triggered the indication. When a VOC analyte is re-tested the results of the entire VOC test method analyzed shall be reported.

## PART III: REPORTING

### A. MONITORING AND REPORTING SCHEDULE

A written Monitoring Report shall be submitted **Semiannually** by **July 31<sup>st</sup>** and **January 31<sup>st</sup>** of each year. The report shall address all facets of the Landfill's monitoring. Reports shall include, at a minimum, the following:

1. **Letter of Transmittal**

A letter transmitting the essential points shall accompany each report. The letter shall include a discussion of violations that occurred since the last such report was submitted. If no new violations have been discovered since the last submittal, this shall be stated in the transmittal letter. Both the monitoring report and the transmittal letter shall be signed by a principal executive officer at the level of vice president. Upon Regional Board Executive Officer approval, the cited signature can be by a California Registered Civil Engineer or Certified Engineering Geologist who has been given signing authority by the cited signatories. The transmittal 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.

2. **Compliance Summary**

The update shall contain at least:

- a. Discussion of compliance with concentration limits. Release indications and actions taken.
- b. For each monitored groundwater body, calculate groundwater velocity and, based upon water level elevations taken during the Monitoring Period, graphically present groundwater flow direction under and around the Unit.

3. **Graphical Presentation of Analytical Data**

For each Monitoring Point in each medium, submit, in graphical format, the complete history of laboratory analytical data. Graphs shall effectively illustrate trends and/or variations in the laboratory analytical data (e.g., proper scale). Each graph shall 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. Maximum contaminant levels (MCL) and/or concentration limits shall be graphed along with constituent concentrations where applicable. When multiple samples are taken, graphs shall plot each datum, rather than plotting mean values.

4. **Corrective Action Summary**

Discuss significant aspects of any corrective action measures conducted during the monitoring period. Calculate pollutant load removed from the sites impacted media by mass (water, gas, leachate) removal system(s). Mass removal calculations shall be based on actual analytical data as required by Part I.E. Present discussion and indications, relating mass removal data to the violation the corrective action is addressing.

5. **Laboratory Results**

Laboratory results and statements demonstrating compliance with Part II (Sample Collection and Analysis) and results of analyses performed at the Landfill, outside the requirements of this MRP, shall be summarized and reported.

6. **Sampling Summary**

- a. For each Monitoring Point addressed by the report, 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.

- b. For each Monitoring Point addressed by the report, a description of the type of sampling device used, its placement for sampling, and 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 qualification of the person actually taking the samples; description of any anomalies).
7. **Leachate Collection and Removal System (LCRS)**  
A summary of the total volume of leachate collected each quarter since the previous monitoring report.
  8. **Standard Observations**  
A summary of Standard Observations made during the Monitoring Period as described in Part I.A.2.
  9. **Map(s)**  
A map or an aerial photograph showing Monitoring Points, relative physical features, and with groundwater contours overlaid on the map or the aerial photograph to the greatest degree of accuracy possible.

## **B. ANNUAL SUMMARY REPORT**

The Discharger shall submit an annual report to the Regional Board covering the previous monitoring year. The annual Monitoring Period ends on December 31<sup>st</sup> each year. This report may be combined with the Second Semiannual Monitoring Report of the year and shall be submitted no later than **January 31<sup>st</sup>** each year. The annual report must include the information outlined in Part III.A., above, and the following:

1. **Discussion**  
Include a comprehensive discussion of the compliance record, a review of the past year's significant monitoring system and operational changes, a summary of corrective action results and milestones, and a review of construction projects, with water quality significance, completed or commenced in the past year or planned for the upcoming year.
2. **Statistical Limit Review**  
Statistically derived concentration limits shall be reviewed annually and revised as necessary. Data collected during the past year shall be discussed and considered for inclusion in, and determination of, proposed limits for the coming year. For statistical limits that are changed from the previous year, include a comprehensive discussion of the proposed limit for Executive Officer review and consideration.
3. **Analytical Data**  
Complete historical analytical data presented in a tabular form and on 3.5" diskettes or CD-ROM, and Excel<sup>TM</sup> format or in another file format acceptable to the Executive Officer.
4. **Graphical Presentation of Data**  
All monitoring analytical data obtained during the previous year, presented in tabular and graphical form as well as on **CDROM**, in MS-EXCEL format or in another file format acceptable to the Executive Officer. Additionally complete data histories of each well shall be submitted on **CDROM**.
5. **Leachate Collection System**  
Results of annual leachate system testing as required by Part I.E. Where leachate is used for dust control, testing that shows the leachate is non-hazardous shall be submitted annually.

6. **Map(s)**

A map, or set of maps, that indicate(s) the type of cover material in place (final, long-term intermediate, or intermediate) over inactive and completed areas.

**C. CONTINGENCY RESPONSE**

1. **Leachate Seep:** The Discharger shall, within 24 hours, report by telephone or electronic mail concerning the discovery of any previously unreported seepage from the Landfill disposal area. A written report shall be filed with the Regional Board within **seven days**, containing at least the following information:

- a. **Map** - a map showing the location(s) of seepage.
- b. **Flow rate** - an estimate of the flow rate.
- c. **Description** - a description of the nature of the discharge (e.g., all pertinent observations and analysis).
- d. **Location** - Location of sample(s) collected for laboratory analysis, as appropriate.
- e. **Corrective measures** - A summary of corrective measures both taken and proposed.

2. **Physical Evidence of a Release:** If either the Discharger or the Regional Board Executive Officer determines that there is significant physical evidence of a release pursuant to Title 27, Section 20385(a)(3), the Discharger shall conclude that a release has been discovered and shall:

- a. Within seven days notify the Regional Board of this fact by certified mail (or acknowledge the Regional Water Board's determination).
- b. Carry out the appropriate Release Discovery Response for all potentially-affected monitored media.
- c. Carry out any additional investigations stipulated in writing by the Regional Board Executive Officer for the purpose of identifying the cause of the indication.

3. **Responses to an Initial Indication of a Release**

Should the initial statistical or non-statistical comparison (under Part II.D.) indicate that a new release is tentatively identified, the Discharger shall:

- a. Within 24 hours, notify the Board verbally or via electronic mail as to the Monitoring Point(s) and constituent(s) or parameter(s) involved;
- b. Provide written notification by certified mail within seven days of such determination; and,
- c. Either of the following:
  - i Shall carry out a discrete re-test in accordance with Part II.F. If the re-test confirms the existence of a release or the Discharger fails to perform the re-test, the Discharger shall carry out the requirements of Part III.C.4. In any case, the Discharger shall inform the Board of the re-test outcome within 24 hours of results becoming available, following up with written results submitted by certified mail within seven days, or;
  - ii Make a determination, in accordance with Title 27, Section 20420(k)(7), that a source other than the waste management unit caused the release or that the evidence is an artifact caused by an error in sampling, analysis, or statistical evaluation or by natural variation in the groundwater, surface water, or the unsaturated zone.

4. **Release Discovery Response**

If the Discharger concludes that a new release has been discovered the following steps shall be carried out:

- a. If this conclusion is not based upon monitoring for COC, the Discharger shall sample for COC at Monitoring Points in the affected medium. Within seven days of receiving the laboratory analytical results, the Discharger shall notify the Executive Officer, by certified mail, of the

- concentration of COC at each Monitoring Point. This notification shall include a synopsis showing, for each Monitoring Point, those constituents that exhibit an unusually high concentration;
- b. The Discharger shall, within 90 days of discovering the release, submit to the Executive Officer a Revised Report of Waste Discharge proposing an Evaluation Monitoring and Reporting Program that:
    - i. meets the requirements of Title 27, Sections 20420 and 20425; and
    - ii. satisfies the requirements of 40 CFR Section 258.55(g)(1)(ii) by committing to install at least one monitoring well directly down-gradient of the center of the release;
  - c. The Discharger shall, within 180 days of discovering the release, submit to the Executive Officer a preliminary engineering feasibility study meeting the requirements of Title 27, Section 20420; and
  - d. The Discharger shall immediately begin delineating the nature and extent of the release by installing and monitoring assessment wells as necessary to assure that the Discharger can meet the requirements of Title 27, §20425 to submit a delineation report within 90 days of when the Executive Officer directs the Discharger to begin the Evaluation Monitoring Program.
5. **Release Beyond Facility Boundary**
- Any time the Discharger or the Executive Officer concludes that a release from the Unit has migrated beyond the facility boundary, the Discharger shall so notify persons who either own or reside upon the land that directly overlies any part of the plume (Affected Persons).
- a. 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.
  - b. Subsequent to initial notification, the Discharger shall provide updates to Affected Persons, including any persons newly affected by a change in the boundary of the release, within 14 days of concluding there has been any material change in the nature or extent of the release.
  - c. Each time the Discharger sends a notification to Affected Persons (under a. or b. above), the Discharger shall, within seven days of sending such notification, provide the Executive Officer with both a copy of the notification and a current mailing list of Affected Persons.

## PART IV: DEFINITION OF TERMS

### A. AFFECTED PERSONS

Individuals who either own or reside upon the land which directly overlies any part of that portion of a gas or liquid phase release that may have migrated beyond the facility boundary.

### B. CONCENTRATION LIMITS

The Concentration Limit for any given COC or Monitoring Parameter in a given monitored medium shall be either:

1. The constituent's statistically determined background value or interval limit, established using an Executive Officer approved method (Parts II.D. and II.E.); or
2. In cases where the constituent's MDL is exceeded in less than 10% of historical samples, the MDL is the concentration limit defined in Part II.A.1.

### C. CONSTITUENTS OF CONCERN (COC)

A broad list of constituents, which are likely to be present in a typical municipal solid waste landfill. The COC parameters include all constituents listed in the Code of Federal Regulations, Title 40, Part 258, Appendix II. The COCs for this Landfill are listed in **Table 4**.

**D. MATRIX EFFECT**

Any increase in the MDL or PQL 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 being analyzed.

**E. METHOD DETECTION LIMIT (MDL)**

The lowest concentration at which a given laboratory, using a given analytical method to detect a given constituent, can differentiate with 99% reliability, between a sample which contains the constituent and one which does not. The MDL shall reflect the detection capabilities of the specific analytical procedure and equipment used by the laboratory.

**F. MONITORED MEDIUM**

Those media that are monitored pursuant to this MRP (groundwater, surface water, leachate, landfill gas condensate, and other as specified).

**G. MONITORING PARAMETERS**

A short list of constituents and parameters used for the majority of monitoring activities. The Monitoring Parameters for this Unit are listed in **Table 2** of this MRP.

**H. MONITORING PERIOD (frequency)**

The duration of time during which a sampling event must occur. The Monitoring Period for the various media and programs is specified in Part I.F.4. and in **Table 1**. The due date for any given report will be 30 days after the end of its Monitoring Period, unless otherwise stated.

**I. POINT OF COMPLIANCE (POC)**

The Point of Compliance is as defined in CCR Title 27. For the purposes of this Landfill, the POC follows the edge of the Landfill's "Subtitle D Footprint".

**J. PRACTICAL QUANTITATION LIMIT (PQL)**

The lowest acceptable calibration standard (acceptable as defined for a linear response or by actual curve fitting) times the sample extract dilution factor times any additional factors to account for Matrix Effect. The PQL shall reflect the quantitation capabilities of the specific analytical procedure and equipment used by the laboratory. The PQLs reported by the laboratory shall not simply be restated from USEPA analytical method manuals. Laboratory derived PQLs are expected to closely agree with published USEPA estimated quantitation limits (EQL).

**K. RECEIVING WATERS**

Any surface water, which actually or potentially receives surface or groundwater, which pass over, through, or under waste materials or contaminated soils.

**L. VOLATILE ORGANIC COMPOUND (VOC) COMPOSITE MONITORING PARAMETER (VOC composite)**

VOC composite is a composite parameter that encompasses a variety of VOCs. The constituents addressed by the VOC composite Monitoring Parameter include all VOCs detectable using USEPA Methods 8260B (water) and TO-14 (gas).

All reports required in this MRP are required pursuant to California Water Code Section 13267. Any person affected by this action of the Regional Board may petition the State Water Resources Control Board (State Board) to review the action in accordance with section 13320 of the California Water Code and Title 23, California Code of Regulations, Section 2050. The petition must be received by the State Water Resources Control Board within 30 days of the date of this Order. Copies of the law and regulations applicable to filing petitions will be provided upon request.

ORDERED BY: \_\_\_\_\_  
Executive Officer

DATE: \_\_\_\_\_