

STATE OF CALIFORNIA  
REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL COAST REGION  
895 Aerovista Place, Suite 101  
San Luis Obispo, California 93401-7906

MONITORING AND REPORTING PROGRAM NO. R3-2007-0003  
Waste Discharge Identification No. 3270304001

FOR  
CRAZY HORSE CLASS III LANDFILL  
MONTEREY COUNTY

**PART I: MONITORING AND OBSERVATION SCHEDULE**

Unless otherwise indicated, all monitoring and observations shall be reported as outlined in **Part IV**.

**A. SITE INSPECTIONS**

The Discharger shall inspect the Crazy Horse Class III Landfill (Landfill), in accordance with the following schedule, and record (including photographs, when appropriate) at a minimum, the Standard Observations listed below:

**1. Site Inspection Schedule:**

- a. During the wet season (**October through April**), following each storm that produces storm water runoff and discharge, with inspections performed at least monthly.
- b. During the dry season (**May through September**) minimum one inspection each **three month period**.

**2. Standard Observations**

- a. At the Landfill, which includes inspections at the Waste Management Units (WMUs), along the perimeter of the WMUs and the Recycle Area.
  - i. Whether storm water drainage ditches and sediment/retention basins contain liquids.
  - ii. Evidence of liquid leaving or entering the Landfill.
  - iii. Evidence of odors.
  - iv. Evidence of ponding over the WMUs.
  - v. Evidence of erosion
  - vi. Evidence of waste in the drainage system (e.g., ditches and sediment basins).
  - vii. Inspection of storm water discharge locations for evidence of non-storm water discharges during dry season.
  - viii. Integrity of drainage systems during wet season.
- b. For Receiving Waters
  - i. Floating and suspended materials of waste origin.
  - ii. Discoloration and turbidity.
  - iii. Evidence of odors.
  - iv. Evidence of beneficial use – presence of water-associated wildlife.
  - v. Flow rate to the receiving water.

**B. ADDITIONAL DRAINAGE SYSTEMS INSPECTIONS**

1. The Discharger shall also inspect all drainage control systems following each runoff-producing storm event and record the following:
  - a. General conditions of the storm water facilities; and
  - b. Any apparent seepage from the storm water sediment/retention basins;
  - c. Compliance with Storm Water Pollution Prevention Plan, insuring that the terms of the General Permit are properly implemented.
  - d. Steps taken to correct any problems found during the inspections, as required under Part I of this Monitoring and Reporting Program, and date(s) when corrective action was taken.

**C. LEACHATE COLLECTION AND REMOVAL SYSTEMS INSPECTIONS**

The Discharger shall inspect all leachate collection and removal systems and record the following information:

1. **Bi-weekly (between October 1 and April 31 of each year)** - leachate containment and collection system integrity, record volume of leachate collected (in gallons) and disposal method used.
2. **Monthly (between May 1 and September 30 of each year)** - inspect leachate containment and collection system integrity, record volume of leachate collected (in gallons) and disposal method used.
3. **Monthly (between October 1 and April 31 of each year)** - pumping system operational check.
4. **Annually** - Clean out leachate tank piping and inspect tank integrity when flow is at a minimum during late summer months. Record height of sediment collected in tank. Remove sediment when height exceeds six inches. Conduct leachate collection and removal system testing and demonstration, as required by Title 27 20340(d). Report results in the Annual Summary Report required by Monitoring and Reporting Program No. R3-2007-0004 (hereafter "MRP 2007-0003"), Part IV.B. Results of annual testing shall be developed in a manner that makes one year's test comparable to previous and subsequent test. The absence or presence of biofouling shall be specifically addressed in the inspection report.
5. All lined Modules will have the location of their respective liners surveyed and markers placed at readily observable locations (e.g., observable by landfill operations staff discharging leachate back to lined modules and by state inspectors).

**D. RAINFALL DATA**

The Discharger shall record the following information from the nearest monitoring station:

1. Total precipitation, in inches, during each **three month period (October through December, January through March, April through June and July through September)**; and,
2. Precipitation, in inches, during the most intense twenty-four hour rainfall event occurring within each contiguous **three-month period (October through December, January through March, April through June and July through September)**.

**E. GROUNDWATER EXTRACTION AND TREATMENT SYSTEM**

The Discharger shall inspect all groundwater extraction systems and record the following, as appropriate:

1. The following routine operational checks are required. Additional diagnostics or maintenance performed outside these general requirements shall be reported:
  - **Monthly** - inspect entire system for containment and collection system integrity. Include monthly inspection check-off sheet with monitoring reports. Any leaks shall be repaired immediately.
  - Perform routine preventive maintenance focused on keeping the system at design operation. All scheduled and unscheduled maintenance shall be summarized and reported.

- Annually – test and demonstrate proper operation of the collection system. The summary shall outline downtime cause and duration, as well as major system changes.
2. The following data are required. Data collected in addition to these general requirements shall be reported.
- Record, monthly volumes or groundwater extracted from each well and daily volumes from the entire system. These monthly volumes will be recorded from totalizers before and after the treatment system. Indicate how volume measurements are made. Report disposal methods utilized. When more than one disposal method is used, be volume-specific for each method. Also measure water levels in the wells on a monthly basis.
  - On a semi-annual basis, collect samples from influent and effluent flow and analyze for Monitoring Parameters.
  - Compute contaminant mass removed on a monthly basis using most recent contaminant concentration data and monthly collection volume.

## F. ANALYTICAL TESTING AND MONITORING LOCATIONS

The Discharger shall monitor the Landfill in accordance with the following schedule(s). Monitoring locations are shown on **Attachment 1**. Discharger shall comply with the sampling, analyses, and reporting requirements discussed in Parts II, III, and IV of this monitoring and reporting program.

### 1. Semi-annual monitoring periods

Samples are to be collected semi-annually from the landfill monitoring points. The first semi-annual monitoring event shall occur between **January 1 - March 31**, and the second semi-annual monitoring event shall occur between **July 1 - September 30**, of each year. The results of the first and second semi-annual monitoring events are to be included in a report due **March 31** and **September 30** of the same year, respectively. See "Monitoring Period" defined under "Definition of Terms."

### 2. Monitoring Parameters

The Discharger shall analyze all samples from the Monitoring Points specified in this Monitoring and Reporting Program for the Monitoring Parameters listed in **Table 1**, except as noted.

**Table 1 Monitoring Parameters**

Parameter	USEPA Method <sup>1</sup>	Units
Chloride	300.0	mg/L
Dissolved Oxygen	Field	mg/L
Electrical Conductivity <sup>2</sup>	Field	µmhos/cm
Iron (total and dissolved)	6010B	mg/L
Nitrate Nitrogen	9200	mg/L
Perchlorate <sup>3</sup>	314.0	µg/L
PH <sup>2</sup>	Field	pH Units
Sodium (dissolved)	6010B	mg/L
Specific Conductance <sup>4</sup>	9050A	µS/cm
Magnesium	6010B	mg/L
Sulfate	300.0	mg/L
Temperature <sup>2</sup>	Field	°F/C
Total Dissolved Solids	160.1	mg/L

Table 1 Monitoring Parameters (continued)

Parameter	USEPA Method <sup>1</sup>	Units
Total Organic Carbon (or Oil and Grease) <sup>4</sup>	9060 (or 1664)	mg/L
Total Petroleum Hydrocarbon (using diesel standard) <sup>3</sup>	8015 Calif Modified	mg/L
Total Suspended Solids <sup>4</sup>	2540	mg/L
Turbidity <sup>2</sup>	Field	NTU
Antimony <sup>3</sup>	7062	µg/L
VOC <sub>water</sub> <sup>5</sup>	8260	µg/L

## Footnotes for Table 1:

- <sup>1</sup> Upon receiving prior acceptance by the Central Coast Water Board Executive Officer, equivalent analytical method can be used.
- <sup>2</sup> These are field parameters as defined by CCR Title 27 §20415(e) 13. With the exception of turbidity, concentration limits must be developed for these parameters, per CCR Title 27 §20390 and 20400 et al.
- <sup>3</sup> Discharger may request discontinuing analysis if this parameter is not detected or below background levels in at least three consecutive monitoring events.
- <sup>4</sup> Only for storm water monitoring, pursuant to SWRCB Water Quality Order No. 97-03-DWQ, General Permit No. CAS000001. Storm water samples must be analyzed for all the Table 1 Monitoring Parameters.
- <sup>5</sup> The VOC<sub>water</sub> Monitoring Parameter includes all Volatile Organic Compounds (VOCs) detectable using USEPA Method 8260B, including at least all 47 organic constituents listed in Appendix I to 40 CFR, 258 (Subtitle D), MTBE and all unidentified peaks.

3. Description of Monitoring Points

- a. **Groundwater:** Groundwater Detection Monitoring Points (hereafter "DMP") for the Landfill are described as follows, see **Attachment 1**:
- Aromas aquifer wells no. A-1, A-10, A-29, A-30, A-31, A-53, A-54, A-55, A-56, A-57, A-58, A-59, A-60, and A-61, shall serve as DMPs.
  - Aromas aquifer well nos. A-14 and granitic bedrock well P-4 shall serve as background monitoring points.
  - Purisima aquifer wells no. P-3, P-8, P-9, P-10, P-15 and P-16
  - Purisima aquifer wells no. P-7 shall serve as background monitoring point.
  - Domestic supply wells – Githens Well, Whitcomb Well, Newman Well, Burton Well, Howard Well and Grider Well, 370 Crazy Horse Road Well, and 380 Crazy Horse Road Well
- b. **Corrective Action Program:** Groundwater corrective action program (CAP) monitoring points for the Landfill are described as follows, see **Attachment 1**:
- Aromas aquifer wells no. A-6, A-7B, A-8, A-12, A-13, A-15, A-16, A-20, A-21, A-22, A-32, A-34, and A-62.
  - Purisima aquifer wells P-1, P-2, P-5, P-6, P-11, P-12, P-13, and P-14.
  - Desilting Basin B
  - CAP treatment system – influent
  - CAP treatment system - effluent
- c. **Surface Water:** SW-1 at point of discharge from the lower retention/sediment basin into the unnamed tributary, refer to Figure 1.
- d. **Landfill Gas/Leachate/Condensate:** Landfill gas monitoring is to be done from perimeter gas monitoring probes GW-2, 8 through 17. See provision F.7 below for landfill gas monitoring period and monitoring parameters. Leachate and condensate shall be collected annually and analyzed for Table 1 parameters, and leachate every five years for Table 3 parameters.

4. Monitoring Frequency

Sampling and analyses of all DMP shall be conducted at least once during each Monitoring Period listed in Table 2. All Landfill monitoring wells and piezometers, including those not listed in Table 2, shall be inspected on a semi-annual basis to confirm well security and measure static groundwater level readings.

Table 2 Monitoring Points and Monitoring Periods <sup>(a)</sup>

Monitoring Point	Monitoring Purpose			Monitoring Periods <sup>(d)</sup>	
	Monitoring Parameters	Water Levels <sup>(b)</sup>	COCs <sup>(c)</sup>	Frequency	Five Year
<b>DMP No.</b>					
A-1	X	X	X	Semi-annual	X
A-10	X	X	X	Semi-annual	X
A-14	X	X	X	Semi-annual	X
A-29	X	X	X	Semi-annual	X
A-30	X	X	X	Semi-annual	X
A-31	X	X	X	Semi-annual	X
A-53	X	X	X	Semi-annual	X
A-54	X	X	X	Semi-annual	X
A-55	X	X	X	Semi-annual	X
A-56	X	X	X	Semi-annual	X
A-57	X	X	X	Semi-annual	X
A-58	X	X	X	Semi-annual	X
A-59	X	X	X	Semi-annual	X
A-60	X	X	X	Semi-annual	X
A-61	X	X	X	Semi-annual	X
P-3	X	X	X	Semi-annual	X
P-4	X	X	X	Semi-annual	X
P-7	X	X	X	Semi-annual	X
P-8	X	X	X	Semi-annual	X
P-9	X	X	X	Semi-annual	X
P-10	X	X	X	Semi-annual	X
P-15	X	X	X	Semi-annual	X
P-16	X	X	X	Semi-annual	X
Githens Well	X		X	Semi-annual	X
Whitcomb Well	X		X	Quarterly	X
Newman Well	X		X	Quarterly	X
Burton Well	X		X	Quarterly	X
Grider Well	X		X	Quarterly	X
Howard Well	X		X	Quarterly	X
370 Crazy Horse Road Well	X		X	Quarterly	X
380 Crazy Horse Road Well	X		X	Quarterly	X
<b>Corrective Action Program</b>					
A-6	X	X		Semi-annual	
A-7B	X	X		Semi-annual	
A-8	X	X		Semi-annual	
A-12	X	X		Semi-annual	
A-13	X	X	X	Semi-annual	X
A-15	X	X		Semi-annual	
A-16	X	X	X	Semi-annual	X
A-20	X	X		Semi-annual	
A-21	X	X		Semi-annual	
A-22	X	X	X	Semi-annual	X

Monitoring Point	Monitoring Purpose			Monitoring Periods <sup>(d)</sup>	
	Monitoring Parameters	Water Levels <sup>(b)</sup>	COCs <sup>(c)</sup>	Frequency	Five Year
A-28	X	X		Semi-annual	
A-32	X	X	X	Semi-annual	X
A-34	X	X		Semi-annual	
A-62	X	X		Semi-annual	
P-1	X	X		Semi-annual	
P-2	X	X		Semi-annual	
P-5	X	X		Semi-annual	
P-6	X	X		Semi-annual	
P-11	X	X		Semi-annual	
P-12	X	X		Semi-annual	
P-13	X	X		Semi-annual	
P-14	X	X		Semi-annual	
Desilting Basin B	VOCs only			Quarterly	
CAP Treatment System – Influent	VOCs only			Quarterly	
CAP Treatment System – Effluent	VOCs only			Quarterly	
<b>Surface Water/Sediment</b>					
SW-1 <sup>(e)</sup>	X		X	Annual	X
Desilting Basin B (sediment)	Title 22 Metals			Annual	

Footnotes for Table 2:

- (a) For all **new** Monitoring Points, quarterly monitoring shall be performed for four consecutive quarters starting from the date first sampled. After completing the initial quarterly samples, monitor semi-annually, except as provided under Part III C.
- (b) Water Levels must be measured semi-annually as follows: Winter (January 1 to April 30) and Summer (July 1 to October 31). Include the water level measurements with the corresponding semi-annual report.
- (c) COCs are sampled once every five years as discussed in Part I F.5, except as provided under Part III C.
- (d) See "Monitoring Period" under Part V-Definition of Terms, except as provided under Part III C.
- (e) Samples must be collected as specified Part I F.6 of this Monitoring and Reporting Program.

#### 5. Constituents of Concern Monitoring

Constituents of Concern (COC) are listed in Table 3, and either directly include or include by reference all constituents listed in Appendix II in 40 CFR, Part 258. Analysis of COCs shall be carried out **once every five years** at each of the site's detection monitoring points. If there is an indication of release (**Part IV.C.4**) monitoring for COC is also required. The COC monitoring shall be carried out in the spring of one year and the fall of the fifth year, **beginning in the fall of 2006**. Detection Monitoring Points that have not previously been sampled for COCs shall be sampled and analyzed for all COCs within three months of being installed.

**Table 3 Constituents of Concern<sup>(1)</sup>**

CONSTITUENTS	USEPA METHOD	UNITS
Antimony	7060	µg/L
Arsenic	7060	µg/L
Barium	6010	µg/L
Beryllium	6010	µg/L
Cadmium	6010	µg/L
Chromium	6010	µg/L
Cobalt	6010	µg/L

Copper	6010	µg/L
Cyanide	9010	µg/L
Lead	7421	µg/L
Mercury	7470	µg/L
Nickel	6010	µg/L
Selenium	7740	µg/L
Silver	6010	µg/L
Sulfide	9030	µg/L
Thallium	7841	µg/L
Tin	6010	µg/L
Vanadium	6010	µg/L
Zinc	6010	µg/L
Chlorophenoxy Herbicides	8150	µg/L
Nonhalogenated Volatiles	8015	µg/L
Organochlorine Pesticides and PCBs	8080	µg/L
Organophosphorous Pesticides	8141A	µg/L
Phthalate Esters	8060	µg/L
Phenols	8040	µg/L
Semi-Volatile Organic Compounds	8270C	µg/L
Volatile Organic Compounds	8260B	µg/L

(1) The Discharger shall analyze for all constituents using the USEPA analytical methods indicated above, including MTBE and all constituents listed in Appendix II to 40 CFR, Part 258 (Subtitle D).

#### 6. Surface Water Monitoring

Annually, within one hour of the first storm event that causes a discharge from the sediment retention basins, collect a water sample (unfiltered) at the locations specified under Part I F.3.c of this Monitoring and Reporting Program. If a sample cannot be collected within the one-hour period as specified, automatic storm water sampling device must be located at the point of discharge from Desilting Basin B (Attachment 1). The sample collected by the storm water sampling device must be retrieved within the shorter of: 30-days of the first storm event that causes a discharge from the sediment retention basins; or, within the shortest analytical laboratory holding period for the constituents listed in Tables 1 and 3. A second sample must be collected from the point of discharge after a subsequent qualifying discharge event of the wet season.

Annually, a sediment sample shall be collected from within each of the sediment/retention basins, and analyzed for the metals listed in §64431, CCR Title 22, Division 4, Chapter 15, Article 4. Sediment sampling is not required if each basins' accumulated sediments are removed prior to October 1 of each year and discharged into the Landfill's lined Waste Management Units.

#### 7. Landfill Gas Collection System

Perimeter gas monitoring probes GW-2 and GW 8 through 17 shall be monitored quarterly for methane, carbon dioxide, oxygen and volatile organic constituents using calibrated field instruments. Test for volatile organic compounds annually using method EPA Method Toxic Organics (TO)-15, or equivalent method. Also collect a sample on an annual basis from the landfill gas stream entering the flare system and analyze for methods described above. The Discharger shall follow consistent sampling protocols as specified in the sampling and analysis plan. Monitoring results shall be submitted to the Board in semi-annual reports and include information specified in Title 27, §20934.

#### 8. Groundwater Flow Rate and Direction

The Discharger shall measure the water level in all groundwater monitoring wells and piezometers at least semi-annually. The Discharger shall also determine horizontal and vertical gradients, groundwater flow rate,

and flow direction for groundwater in each water-bearing unit. Calculations shall be posted on respective potentiometric surface maps.

9. Sample Procurement Limitation

For any given monitored medium, 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.

## PART II: SAMPLE COLLECTION AND ANALYSIS

### A. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analysis shall be performed according to the most recent version of Standard U.S. Environmental Protection Agency (USEPA) methods (USEPA publication "SW-846"), and in accordance with a sampling and analysis plan approved by the Regional Board's Executive Officer. All water analyses shall be performed by a laboratory certified for these analyses by the State of California Environmental Laboratory Program. Specific methods of analysis must be identified. The director of the laboratory whose name appears in the certification shall supervise all analytical work in his/her laboratory and shall sign reports of such work submitted to the Board. In addition, the Discharger is responsible for seeing that the laboratory analysis of samples from Monitoring Points meets the following restrictions:

1. 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 analytical method having the lowest Method Detection Limit (MDL) shall be selected.
2. Trace results (results falling between the MDL and the Practical Quantitation Limit) shall be reported as such.
3. MDLs and Practical Quantitation Limits (PQLs) shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. Both limits are defined in Part V and shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the laboratory. If the laboratory suspects that, due to a change in matrix or their effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived values, the results shall be flagged accordingly, and an estimate of the limit actually achieved shall be included.
4. Quality Assurance and Quality Control (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:
  - a. Method, equipment, and analytical detection limits.
  - b. Recovery rates, 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 analyses.
5. QA/QC analytical results involving detection of common laboratory contaminants in any sample shall be reported and flagged for easy reference.



6. Non-targeted chromatographic peaks shall be identified, quantified, and reported to a reasonable extent. When significant unknown peaks are encountered, second column or second method confirmation procedures shall be performed in attempt to identify and more accurately quantify the unknown analyte(s).

## B. CONCENTRATION LIMIT DETERMINATION

1. For the purpose of establishing Concentration Limits for COC and Monitoring Parameters detected in greater than ten percent of a medium's samples the Discharger shall:
  - a. Statistically analyze existing monitoring data (Part III), and propose, to the Executive Officer, statistically derived Concentration Limits for each COC and each Monitoring Parameter at each Monitoring Point for which sufficient data exist.
  - b. In cases where sufficient data for statistically determining Concentration Limits do not exist, the Discharger shall collect samples and analyze for COC and Monitoring Parameter(s) as required. Once sufficient data are 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.
  - c. Sample and analyze new Monitoring Points, including any added by this Order, until sufficient data are available to establish a proposed Concentration Limit for all COC and Monitoring Parameters. Once sufficient data are 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. Once established, concentration limits shall be reviewed annually by the Discharger. The past year's data will be reviewed for application to revision of concentration limits. When appropriate, new concentration limits shall be proposed.

## C. RECORDS TO BE MAINTAINED

Records shall be maintained in accordance with CCR Title 27 §21720(f). Analytical records shall be maintained by the Discharger or laboratory, and shall be retained for a minimum of five years. 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 of each sample:

1. Identification of sample, Monitoring Point from which the sample was taken, and individual that obtained the sample.
2. Date and time of sampling.
3. Date and time that analyses were started and completed, and the name of personnel performing each analysis.
4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used.
5. Results of analyses, and Method Detection Limit and Practical Quantitation Limit for each analysis.
6. A complete chain of custody log.

## PART III: STATISTICAL AND NON-STATISTICAL ANALYSIS OF DATA

### A. STATISTICAL ANALYSIS

For Detection Monitoring, the Discharger shall use statistical methods to analyze COC and Monitoring Parameters that exhibit concentrations that equal or exceed their respective MDL in at least ten percent of applicable historical samples. The Discharger may propose and use any statistical method that meets the requirements of California Code of Regulations, Title 27, §20414(e)(7). All statistical methods and programs proposed by the Discharger are subject to Executive Officer approval.

**B. NON-STATISTICAL METHOD**

The Discharger shall use the following non-statistical method for analyzing constituents, which are detected in less than 10% of applicable historical samples. This method involves a two-step process:

1. From constituents to whom 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 that contains the largest number of constituents.
2. Evaluate whether the listed constituents meet either of two possible triggering conditions: 1) Either the list from a single well contains two or more constituents, or 2) it contains one constituent that equals or exceeds its Practical Quantitation Limit. If either condition is met, the Discharger shall conclude that a release is tentatively indicated and shall immediately implement the appropriate re-test procedure under Part III.C.

**C. RE-TEST PROCEDURE**

1. In the event that the Discharger concludes that a release has been tentatively indicated, the Discharger shall carry out the reporting requirements of Part IV.C.2 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-tested data 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 requirements of Part IV.C.
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 for Monitoring Parameter(s) which triggered the indication. When an analyte of the VOC composite parameter is re-tested the results of the entire VOC composite shall be reported. In that case, a re-test shall validate the original release in the sample, which initiated the re-test.

**PART IV: REPORTING****A. MONITORING REPORT**

A written Monitoring Report shall be submitted semi-annually by **March 31 and September 30** of each year. Monitoring Reports shall be submitted in an electronic format that is compatible with Geotracker, as stipulated by California State law. In addition, the monitoring reports will be submitted in electronic format with text, tables, figures, laboratory analytical data, and appendices placed on a compact disc in PDF format. Accompanying the electronic version of the report will be a hard copy transmittal letter, with signatures of preparers and submitters (in accordance with Provisions of Waste Discharge Requirements Order No. R3-2007-003), along with an abstract of the report text. The Monitoring 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. The monitoring report and the transmittal letter shall be signed by a principal executive officer at the level of vice president. Upon Water 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. 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. VOC concentrations from perimeter landfill gas probes shall be posted on a figure next to the location of corresponding monitoring probes.

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, and leachate) removal system(s). Mass removal calculations shall be based on actual analytical data as required by Part I.F. Present discussion and indications, relating mass removal data to the violation the corrective action is addressing and method of disposal. Include a graphical display of estimated capture zones in all media.

5. Laboratory Results

Laboratory results and statements demonstrating compliance with Part II and results of analyses performed at the Landfill, outside the requirements of this Monitoring and Reporting Program, 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. Standard Observations & Dewatered Sludge

A summary of Standard Observations made and dewatered sludge information collected (Part I) during the Monitoring Period.

8. 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.

9. Proof of Notice to "Affected Persons"

- a. Copy of mailing list of "Affected Persons."
- b. Copy of letter sent to "Affected Persons."

**B. ANNUAL SUMMARY REPORT**

The Discharger shall submit an annual report to the Board covering the previous monitoring year. The annual Monitoring Period ends on December 31 each year. This report may be combined with the first Semi-Annual Monitoring Report of the year and shall be submitted no later than **March 31 each year**. The annual report must include the information outlined 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 up-coming year.
2. Affected Persons Notification  
Copy of the annual notice to Affected Persons (Part IV.C.5.c) and mailing list.
3. 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.
4. Analytical Data  
Complete historical analytical data presented in a tabular form, on compact disk and in Excel™ format or another file format acceptable to the Executive Officer.
5. 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 concerning the discovery of previously unreported seepage from the disposal area. A written report shall be filed with the Board within seven days, containing at least the following information:
  - a. A map showing the location(s) of seepage.
  - b. An estimate of the flow rate.
  - c. A description of the nature of the discharge (e.g., pertinent observations and analysis).
  - d. A summary of corrective measures both taken and proposed.
2. Responses to an Initial Indication of a Release  
Should the initial statistical or non-statistical comparison (under Part III. A or B) indicate that a new release is tentatively identified, the Discharger shall:
  - a. Within 24 hours, notify the Board verbally 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.
  - c. Either of the following:
    - i. Shall carry out a discrete re-test in accordance with Part III.C. 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 IV.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, §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.
3. Physical Evidence of a Release  
If either the Discharger or the Executive Officer determines that there is significant physical evidence of a new release pursuant to Title 27, §20385(a)(3), the Discharger shall conclude that a release has been discovered and shall:

- a. Within seven days notify the Executive Officer of this fact by certified mail (or acknowledge the Executive Officer's determination).
- b. Carry out the requirements of Part IV.C.4. for potentially affected medium.
- c. Carry out any additional investigations stipulated in writing by the Executive Officer for the purpose of identifying the cause of the indication.

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 but not more than 30-days from the sampling date, 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:
  - (1) Meets the requirements of Title 27, §20420 and §20425.
  - (2) Satisfies the requirements of 40 CFR §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, §20420.
- 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 proceeded 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) as follows:

- 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. Annually, the Discharger shall notify Affected Persons concerning the status of the release and corrective action.
- d. 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. In the case of annual notification to Affected Persons (c. above), notification to the Executive Officer is via the Annual Report.
- e. For downgradient residential wells having confirmed detected impacts from Landfill constituents, the discharger shall, in the case that impacts are above MCLs, either 1) provide wellhead treatment, or 2) provide suitable replacement water. If the detected impacts are consistent but below MCLs, the discharger shall perform a health risk characterization to determine the need for corrective action.

## PART V: 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 (Part III); 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 likely to be present at this landfill, as listed in Table 3.

**D. MATRIX EFFECT**

Any increase in the MDL 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 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 Monitoring and Reporting Program (groundwater, surface water, liquid, leachate, 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 Part I. F.

**H. MONITORING PERIOD (frequency)**

The duration of time during which a sampling event must occur. Monitoring Period for analysis of all Constituents of Concern is five years; the Monitoring Period for the Monitoring Parameters is semi-annual. Semi-annual monitoring will be performed within the following time frames: Winter (January 1 to March 31), Summer (July 1 to September 30). The due date for the first Semi-annual report is April 30. The due date for the second semi-annual report is October 31. The due date for the annual summary is April 30.

**I. MONITORING POINT**

A well, device, or location specified in the waste discharge requirements (WDR) at which monitoring is conducted.

**J. MUNICIPAL SOLID WASTE LANDFILL UNIT OR UNIT**

A discrete area of land or an excavation that receives waste and may be a new unit, an existing unit or a lateral expansion.

**K. POINT OF COMPLIANCE**

A vertical surface located at the hydraulically downgradient limit of a waste management unit (Unit) and that extends through the uppermost aquifer underlying the Unit.

**L. 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. 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).

**M. RECEIVING WATERS**

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

**N. 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, 8260 (water) and TO-14 (gas).

**O. WASTE MANAGEMENT UNIT OR UNIT**

An area of land, or a portion of a waste management facility, at which waste is discharged. The term includes containment features and ancillary features for precipitation and drainage control and for monitoring.

**P. WASTE MANAGEMENT UNIT BOUNDARY**

A vertical surface located at the hydraulically downgradient limit of the unit. This vertical surface extends down into the uppermost aquifer.

**Q. WASTE MANAGEMENT FACILITY**

The entire parcel of property at which waste discharge operations are conducted. Such a facility may include one or more waste management units.

ORDERED BY:

*Michael Thomas*  
*Assistant* Executive Officer

DATE:

*2-14-07*

ATTACHMENT 1

Figure 2 from Waste Discharge Order No. 2007-0003





**EXPLANATION:**

- ◇ EVALUATION MONITORING PROGRAM (EMP) MONITORING WELL
- CORRECTIVE ACTION PROGRAM (CAP) MONITORING WELL
- DETECTION MONITORING PROGRAM (DMP) MONITORING WELL
- DUAL - CAP AND EXTRACTION WELL
- PIEZOMETER
- EXTRACTION WELL
- ▲ SURFACE WATER MONITORING STATION
- ▲ SOIL PORE GAS MONITORING PROBE
- ★ RESIDENTIAL WELL USED IN DMP
- RECHARGE GALLERY
- APPROXIMATE PROPERTY BOUNDARY
- - - APPROXIMATE UNIT OF REFUSE

GRAPHIC SCALE  
 150 0 75 150 300  
 (in feet)

**Figure 2**

SITE MONITORING POINTS AND TREATMENT SYSTEMS LOCATION MAP  
 SECOND SEMIANNUAL 2005  
 WATER QUALITY MONITORING REPORT  
 CRAZY HORSE CLASS III LANDFILL, SALINAS, CA

Geologic Associates  
 1000 N. G Street, Suite 200  
 Salinas, CA 94785  
 PHONE: (831) 435-2000  
 FAX: (831) 435-2005  
 E-MAIL: info@geologic.com

DATE: 03/30/05  
 SHEET: 205-17A

