

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION

MONITORING AND REPORTING PROGRAM NO. 88-53  
FOR THE  
MISSION AVENUE SANITARY LANDFILL  
IN THE CITY OF OCEANSIDE  
SAN DIEGO COUNTY

A. MONITORING PROVISIONS

1. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this Order and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Executive Officer.
2. The discharger shall develop and follow a ground water and unsaturated zone monitoring program which includes consistent and appropriate sampling and analytical procedures that accurately measure indicator parameters and waste constituents to provide a reliable indication of ground and surface water quality. At a minimum, the program shall include procedures and techniques for:
  - a. Sample collection;
  - b. Sample preservation and shipment;
  - c. Analytical procedures; and
  - d. Chain of custody control.
3. Monitoring must be conducted according to United States Environmental Protection Agency test procedures approved under Title 40, Code of Federal Regulations (CFR), Part 136, "Guidelines Establishing Test Procedures for Analysis of Pollutants Under the Clean Water Act" as amended, unless other test procedures have been specified in this Order.
4. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services or a laboratory approved the Executive Officer. 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.
5. Monitoring results must be reported on discharge monitoring report forms approved by the Executive Officer.

6. If the discharger monitors any pollutants more frequently than required by this Order, using test procedures approved under 40 CFR, Part 136, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharger's monitoring report. The increased frequency of monitoring shall also be reported.
7. The discharger shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board Executive Officer.
8. Records of monitoring information shall include:
  - a. The date, exact place, and time of sampling or measurements;
  - b. The individual(s) who performed the sampling or measurements;
  - 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.
9. The discharger shall report all instances of noncompliance not reported under Reporting Requirement D. 5 of this Order at the time monitoring reports are submitted. The reports shall contain the information listed in Reporting Requirements D. 8.
10. The monitoring reports shall be signed by an authorized person as required by Reporting Requirement D. 13.
11. A letter of transmittal shall accompany each submitted monitoring report. The letter should discuss the essential points in each monitoring report. Such a letter shall include a discussion of any significant findings and violation(s) of requirements found during the monitoring period and actions taken or planned for correcting the violation(s). If the discharger has previously submitted a detailed time schedule for correcting violation(s) a reference to the correspondence transmitting such schedule will suffice. If no violations have occurred in the last monitoring period, it shall be stated in the letter of transmittal. Monitoring reports and the letter of transmittal shall be signed by a principal executive officer at the level of vice president or 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.

12. Calculations for all limitations which require shall utilize an arithmetic mean unless otherwise specified by the Executive Officer or in this Order. s
13. All monitoring instruments and devices used by the prescribed monitoring program shall be properly calibrated as necessary to ensure their continuous operation. l
14. The discharger shall have, and implement, an accuracy/quality control (QA/QC) plan for laboratory reports shall be submitted by January 30 of each year. QA/QC activities for the previous year. Duplicate samples shall be conducted on a minimum of ten percent of the samples per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. The discharger shall analyze at least equal to or greater than 80 percent. al  
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15. All laboratory reports shall include QA/QC procedures, recovery rates, results from blanks, spikes, and explanation for any recovery rate which is less than the standard recovery rate for that constituent shall be included. ude
16. A composite sample is defined as a combination of aliquots of at least 100 milliliters, collected during the operating hours of a facility over a period of time. For volatile pollutants, aliquots must be combined immediately before analysis. The composite must be analyzed within either the time interval between each aliquot or the time interval must be proportional to either the stream flow or the total stream flow since the collection of the aliquots. Aliquots may be collected manually or automatically. quot  
or
17. A grab sample is an individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding 15 minutes. cted

**B. SITE MAINTENANCE**

1. The discharger shall perform quarterly inspections of the site and report the results quarterly. The report shall include a description of site conditions and a discussion of any significant changes. l1  
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  - a. General site condition;
  - b. Surface cover and slope;
  - c. Drainage facilities;
  - d. Ground water and unsaturated zone monitoring;
  - e. Methane gas control system;

- f. Observation of seepage from landfill
  - g. Liquid condensate disposal facilities; and
  - h. Maintenance activities at the site.
2. By January 30 of each year, the discharger shall submit an annual report to the Executive Officer. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the discharger shall discuss the compliance record and the corrective actions taken or planned which may be needed to bring the discharge into full compliance with Order No. 88-53.

C. GROUND WATER AND UNSATURATED ZONE MONITORING PROGRAM

1. The discharger shall establish and maintain ground water and unsaturated zone monitoring wells at the landfill site to be used as part of a background water quality monitoring program.
2. New monitoring wells shall be designed and certified as adequate by a California registered geologist or a registered civil engineer, pursuant to Subchapter 15, Sections 2555 and 2559.
3. All monitoring wells shall be constructed in a manner that maintains the integrity of the drill hole and prevents cross-contamination of saturated zones. The casing shall be a minimum of two inches in diameter. The annular space shall be packed with appropriate filter material that is sized to match the formation. The annular space above the screened depth shall be appropriately sealed to prevent contamination of samples and ground water from surface pollution. The well shall be adequately developed to prevent the movement of sediment into the casing and to produce the highest yield possible from the formation. Each well shall be marked permanently so as to readily identify it and shall have a reference point tied into mean sea level elevation by a licensed surveyor. All monitoring wells shall be logged during drilling under the direct supervision of a California registered geologist. All monitoring well logs submitted to the Board shall be signed by the registered geologist. All monitoring well logs shall be filed with the Department of Water Resources (DWR) on forms provided by DWR, pursuant to Water Code Section 13751. Soil shall be described according to the Unified Soil Classification System. Copies of the logs and as-built specifications of the wells shall be submitted to the Regional Board.
4. Prior to pumping monitoring wells for sampling, the static water level shall be measured in each well.
5. Prior to sampling monitoring wells, the presence of a floating immiscible layer in all wells shall be determined at the beginning of each sampling

event. This shall be done prior to any other activity which may disturb the surface of the water in a well, e.g. water level measurements. If an immiscible layer is found, the Regional Board shall be notified within 24 hours.

6. Prior to sampling monitoring wells, the water standing in the casing shall be pumped using a step-down purging method until the water chemistry has stabilized with respect to pH and specific conductance. Water chemistry can be considered stable when in-line specific conductance and pH readings are within  $\pm 10\%$  and  $\pm 0.1$  pH units respectively over 2 successive well volumes. Samples shall be obtained that are representative of the fresh aquifer formation water.
7. Field logs used for monitoring well sampling shall be included in the monitoring reports. The information contained in these logs shall include: the name of the person actually taking the sample, well number, date, time of sampling, method of sampling (if a pump is used, include the type of pump used and pump placement), sampling procedure, number of field blanks, presence of travel blanks, well number where duplicate samples are taken, type of sample containers and preservatives, any observations of the quality of the sample water (color, odors, immiscible phases, etc.), chain of custody record, and any problems encountered during sampling.
8. Field logs used during well purging shall be included in the monitoring reports. The information contained in these logs shall include: the method of monitoring the field parameters, calibration of the field equipment, method of purging (if a pump is used, include pump placement and pumping rate), date each well was purged, well recovery time, method of disposal of the purged water, an estimate of volume of water purged from each well, the results of all field analyses, well number, date, depth to ground water, method of measuring the water level, and field personnel signatures.
9. After purging, if 80% recovery of the initial water level exceeds three hours, a sample should be collected as soon as the water level is sufficient to recover a representative sample.
10. The discharger shall submit a compliance evaluation summary of the ground water and unsaturated zone chemical data obtained for the quarter. The summary shall contain a table which includes the following information:
  - a. Monitoring parameters;
  - b. Detection limit of monitoring equipment;
  - c. Average concentration for each parameter over the previous four quarterly monitoring events;
  - d. Measured concentrations found in the current sampling event; and
  - e. Whether a significant difference was found for each parameter.

The measured concentrations shall be reported with a "<" symbol only if the value listed after the symbol is the detection limit achieved by the laboratory.

11. The discharger shall provide a graphical description of the direction of ground-water flow in and around the disposal site, based upon water level elevations and pertinent visual observations. The time of day at which each well's water level is determined shall be included with the graphical description of the direction of ground water flow.
12. The discharger shall provide a summary of the results of the background water quality monitoring program at the end of one year of monitoring. The analysis shall account for measurement errors in sampling and analysis, and account for seasonal fluctuations in background water quality.
13. For each parameter specified the discharger shall calculate the arithmetic mean and variance of the samples obtained during each year of the background monitoring program.
14. The discharger shall submit a proposal for a detection monitoring program within 15 months of the effective date of this Order. The detection monitoring program shall be based on the results of the background water quality monitoring program and in accordance with monitoring requirements of Subchapter 15, Article 5.
15. The discharger shall continue the background water quality monitoring program until the detection monitoring program is approved by the Executive Officer and implemented at the landfill site.
16. Samples from each ground water and unsaturated zone monitoring well identified above shall be collected and analyzed for the following parameters at the frequency shown and reported at the interval shown:

Annual

Constituent	Units	Sampling Frequency	Reporting Frequency
Chemical Oxygen Demand	mg/L	Quarterly	Quarterly
Biochemical Oxygen Demand (BOD <sub>5</sub> @ 20° C)	mg/L	Quarterly	Quarterly
pH	pH Units	Quarterly	Quarterly
Specific Conductance	umhos/cm	Quarterly	Quarterly
Total Dissolved Solids	mg/L	Quarterly	Quarterly
Chloride	mg/L	Quarterly	Quarterly
Sulfates	mg/L	Quarterly	Quarterly
Nitrate	mg/L	Quarterly	Quarterly
Phosphate	mg/L	Quarterly	Quarterly
Alkalinity (as CaCO <sub>3</sub> )	mg/L	Quarterly	Quarterly
Hardness (as CaCO <sub>3</sub> )	mg/L	Quarterly	Quarterly
Purgeable Organic Compounds (EPA Method 624)	ug/L	Quarterly	Quarterly
Base/Neutrals and Acids (EPA Method 625)	ug/L	Quarterly	Quarterly
Lead	ug/L	Quarterly	Quarterly
Chromium	ug/L	Quarterly	Quarterly
Cadmium	ug/L	Quarterly	Quarterly
Nickel	ug/L	Quarterly	Quarterly
Copper	ug/L	Quarterly	Quarterly
Mercury	ug/L	Quarterly	Quarterly
Arsenic	ug/L	Quarterly	Quarterly
Silver	ug/L	Quarterly	Quarterly
Zinc	ug/L	Quarterly	Quarterly
Barium	ug/L	Quarterly	Quarterly
Beryllium	ug/L	Quarterly	Quarterly
Calcium	ug/L	Quarterly	Quarterly
Cobalt	ug/L	Quarterly	Quarterly
Iron	ug/L	Quarterly	Quarterly
Potassium	ug/L	Quarterly	Quarterly
Manganese	ug/L	Quarterly	Quarterly
Molybdenum	ug/L	Quarterly	Quarterly
Sodium	ug/L	Quarterly	Quarterly
Selenium	ug/L	Quarterly	Quarterly
Thallium	ug/L	Quarterly	Quarterly
Vanadium	ug/L	Quarterly	Quarterly

Note: mg/L = milligrams per liter  
ug/L = micrograms per liter

D. LIQUID CONDENSATE

A composite sample of liquid condensate, at each condensate disposal point, shall be collected and analyzed for the following parameters at the frequency shown and reported at the interval shown:

Constituent	Units	Sampling Frequency	Reporting Frequency
Flow rate	gpd	Semiannually	Semiannually
pH	pH Units	Semiannually	Semiannually
Sulfates	mg/L	Semiannually	Semiannually
Nitrate	mg/L	Semiannually	Semiannually
Phosphate	mg/L	Semiannually	Semiannually
Alkalinity (as CaCO <sub>3</sub> )	mg/L	Semiannually	Semiannually
Hardness (as CaCO <sub>3</sub> )	mg/L	Semiannually	Semiannually
Purgeable Organic Compounds (EPA Method 624)	ug/L	Semiannually	Semiannually
Base/Neutrals and Acids (EPA Method 625)	ug/L	Semiannually	Semiannually
Lead	ug/L	Semiannually	Semiannually
Chromium	ug/L	Semiannually	Semiannually
Cadmium	ug/L	Semiannually	Semiannually
Nickel	ug/L	Semiannually	Semiannually
Copper	ug/L	Semiannually	Semiannually
Mercury	ug/L	Semiannually	Semiannually
Arsenic	ug/L	Semiannually	Semiannually
Silver	ug/L	Semiannually	Semiannually
Zinc	ug/L	Semiannually	Semiannually
Barium	ug/L	Semiannually	Semiannually
Beryllium	ug/L	Semiannually	Semiannually
Calcium	ug/L	Semiannually	Semiannually
Cobalt	ug/L	Semiannually	Semiannually
Iron	ug/L	Semiannually	Semiannually
Potassium	ug/L	Semiannually	Semiannually
Manganese	ug/L	Semiannually	Semiannually
Molybdenum	ug/L	Semiannually	Semiannually
Sodium	ug/L	Semiannually	Semiannually
Selenium	ug/L	Semiannually	Semiannually
Thallium	ug/L	Semiannually	Semiannually
Vanadium	ug/L	Semiannually	Semiannually

Note: mg/L = milligrams per liter  
 ug/L = micrograms per liter

E. REPORT SCHEDULE

The monitoring reports shall be submitted to the Executive Officer in accordance with the following schedule:

<u>Reporting Frequency</u>	<u>Monitoring Period</u>	<u>Report Due Date</u>
Quarterly	October - December	January 30
	January - March	April 30
	April - June	July 30
	July - September	October 30
Semiannually	July - December	January 30
	January - June	July 30
Annual	January - December	January 30

Ordered by

*Ladin H. Delaney*

LADIN H. DELANEY  
Executive Officer  
August 29, 1988