

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION

**BOARD ORDER NO. R6V-2007-0035**  
**WDID NO. 6B150303011**

REVISED WASTE DISCHARGE REQUIREMENTS

FOR

**MOJAVE-ROSAMOND CLASS III LANDFILL**

Kern County

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The California Regional Water Quality Control Board, Lahontan Region (Lahontan Water Board) finds:

1. Discharger

For the purpose of this Order, the County of Kern, which owns and operates the Mojave-Rosamond Class III Landfill, is referred to as the "Discharger." The Landfill is operated by Kern County's Waste Management Department (KCWMD).

2. Facility

Pursuant to section 20260, Title 27, California Code of Regulation (CCR), the landfill is classified as a Class III waste management facility, an active public landfill that receives and stores waste. For the purposes of this Order (or Permit), the Mojave-Rosamond Class III Landfill is referred to as the "Landfill." There has been a detected release from the Landfill.

3. Permit History

*Board Order No. 6-72-100, Adopted October 26, 1972*  
Established Waste Discharge Requirements for the Landfill.

*Board Order No. 6-84-50, Adopted May 11, 1984*  
Updated Waste Discharge Requirements for the Landfill.

*Board Order No. 6-93-10025, Adopted September 9, 1993*  
Amended the Waste Discharge Requirements to incorporate the requirements of Title 40, Code of Federal Regulations, Parts 257 and 258 (Subtitle D) as implemented in the State of California under State Water Resources Control Board (State Water Board) Resolution No. 93-62.

*Board Order No. 6-84-50A1, Adopted June 8, 1995*

Amended the Waste Discharge Requirements to incorporate a time schedule for compliance with specific requirements of Subtitle D and Chapter 15, Title 23, CCR.

*Board Order No. 6-95-117, Adopted November 9, 1995*

Revised the Waste Discharge Requirements to require the Discharger to achieve compliance with the revised requirements of Article 5, Chapter 15, Title 23, CCR (Chapter 15), to incorporate requirements of previously adopted Board Orders No. 6-93-10025 and 6-84-50A1, and to incorporate a time schedule submitted by the Discharger for compliance with State and Federal regulations.

4. Enforcement History

The Lahontan Water Board issued Cleanup and Abatement Order (CAO) No. R6T-2002-0057 to the Discharger on October 15, 2002. This Order was sent to all Class III and unclassified waste management units within the Lahontan Region. The CAO imposed a moratorium on the disposal of decommissioned materials into all Class III and unclassified waste management units.

The Discharger has been in compliance with the CAO by informing generators and other entities about the moratorium and by placing appropriate signage at the Landfill. The moratorium shall remain in effect until the California Department of Public Health (formerly part of the California Department of Health Services) completes its assessment of the public health and environmental safety risks associated with the disposal of decommissioned material and its regulations setting dose standards for decommissioning take effect.

5. Reason for Action

The Discharger's Proposed 2005 Corrective Action Program (CAP) recommended addressing the Volatile Organic Constituent (VOC) release at the Landfill through Monitored Natural Attenuation. Monitored Natural Attenuation was proposed based on ground water and headspace gas monitoring results specific to the Landfill and data collected from a landfill gas feasibility study (or Engineering Feasibility Study (EFS)) at another desert landfill (Boron Landfill) located in Kern County, which had also experienced a release of VOCs to ground water. The Lahontan Water Board and Kern County staff agreed since similar conditions likely existed at the Boron Landfill and the Mojave-Rosamond Landfill sites, it would be cost-effective and acceptable to use the results of the Boron EFS in developing a CAP for the Mojave-Rosamond Landfill.

Staff reviewed the Discharger's Proposed 2005 CAP in addition to monitoring and other technical reports prepared for the Mojave-Rosamond Landfill and has determined it is premature to implement Kern County's proposed CAP. Based on information provided in recent self-monitoring reports and during a September 19, 2007 meeting with the Discharger, it appears that the hydrogeologic conditions (e.g., ground water elevations indicating ground water mounding) have changed at the Landfill. Additionally, Lahontan Water Board staff has not received adequate site characterizations of the Mojave-Rosamond and Boron Landfills (e.g., geological and hydrogeological data) that would confirm it is appropriate to develop the Mojave-Rosamond Landfill CAP based largely upon the data analysis provided in the Boron EFS.

The Lahontan Water Board is revising the current Waste Discharge Requirements to (1) include the Discharger's existing Evaluation Monitoring Program (EMP), (2) provide updated site information, and (3) to include a Time Schedule that requires the Discharger to submit work plans necessary to update the EMP. When implemented, the updated EMP should allow the Discharger to collect the information necessary to address Lahontan Water Board staff's remaining issues and develop a CAP that will effectively address the release of VOCs to ground water.

#### 6. Time Schedules

This Order contains a Time Schedule for the Discharger to submit 1) a Soil Gas Probe Installation Work Plan, 2) a Technical Report identifying the source and reason why sulfate and nitrate levels at the Landfill exceed their established concentration limits, and 3) a Revised EMP Work Plan, which shall include a Conceptual Site Model.

The Soil Gas Probe Installation Work Plan is required so the Discharger can (1) supplement the existing ground water monitoring well data collected at the Landfill, (2) develop a more effective monitoring system to evaluate the unsaturated zone that will replace the existing lysimeter and moisture block system with soil gas monitoring probes, (3) provide a monitoring system that is appropriate for detecting a release from the Landfill at the earliest possible time, and (4) to comply with section 20925, CCR Title 27 landfill gas monitoring requirements at the permitted facility boundary.

The Technical Report identifying the source and reason why sulfate and nitrate levels at the Landfill exceed their established concentration limits is required in accordance with section 20420, Title 27, CCR and in accordance with the verification procedures specified in Board Order No. R6V-2007-0035. The technical report is necessary to determine whether the detections of sulfate and nitrate, which exceed their established concentration limits, are associated with a release from the Landfill or a source other than the Landfill (e.g., natural variation in ground water).

The purpose of the Revised EMP is to better characterize the Landfill's geology, hydrogeology and contaminant plume characteristics. Data from implementing the Revised EMP will be used to develop a CAP. Information obtained from the Conceptual Site Model may validate whether it is appropriate to use the data collected from the Boron Landfill's EFS in developing an effective CAP for the Mojave-Rosamond Landfill.

7. Landfill Location

The Landfill is located in the western portion of the Mojave Desert on Silver Queen Road approximately four miles south of the Community of Mojave and about one mile east from State Route 14 in Kern County, within Section 3, T10N, R12W. Refer to Attachments A and B, which are made part of this Order, for vicinity and site locations.

8. Description of Landfill

The County of Kern owns and operates the Landfill, which has an existing refuse footprint area of approximately 27 acres. The facility is an unlined landfill that has no leachate collection/recovery system. In 2003, the Discharger reported the average incoming waste stream as 36 tons per operating day. Based on the quantity of waste received per day, the Landfill is a "Small Landfill" as defined in Subtitle D. The Landfill has been subject to Subtitle D requirements since April 9, 1994.

9. Authorized Disposal Site

The footprint of waste, approximately 27 acres as shown on Attachment B, is the only authorized disposal site. The Discharger is required to submit a Revised Report of Waste Discharge if the Discharger proposes to discharge waste outside the footprint area.

10. Landfill Waste Classification

The Landfill receives waste from the communities of Mojave, Rosamond, California City, and Tehachapi. The site is permitted to receive municipal solid waste, agricultural waste, and construction/demolition waste. The waste is defined in sections 20220 and 20230, Title 27, CCR, as non-hazardous solid waste and inert waste, respectively.

11. Waste Management Unit Classification

Pursuant to section 20260, Title 27, CCR, the Landfill is defined as a "Class III waste management unit." The Landfill is classified as a "Small Landfill" pursuant to Subtitle D, as discussed in Finding No. 8 above.

12. Landfill Monitoring System

Pursuant to section 20415, Title 27, CCR, each medium (ground water, surface water, and the unsaturated zone), potentially affected by a release from a landfill, must be monitored for purposes of detecting, characterizing, and responding to releases to ground water, surface water, or the unsaturated zone.

**Ground Water.** The ground water monitoring system at the Landfill consists of one up-gradient background monitoring well, two compliance wells, and one down-gradient evaluation monitoring well. All ground water monitoring wells have pumps for purging and sampling the water. The ground water wells are all 194 to 198 feet deep with twenty-foot screened intervals. Water levels occur between 175 and 183 feet below grade.

**Surface Water.** No natural surface water bodies are located near the landfill. As such, surface water monitoring is not conducted at the site.

**Unsaturated Zone.** The unsaturated zone monitoring system consists of five vacuum pressure lysimeters (installed in 1996), one gypsum block moisture sensor (installed in 1989), and five shallow barhole probes. The vacuum lysimeters have remained dry since the time of installation; no liquid samples have ever been collected from these lysimeters.

This Order contains a Time Schedule that requires the Discharger to develop and install a soil gas monitoring system (Soil-Gas Probe Installation Work Plan), which will eventually replace the current unsaturated zone monitoring system.

13. Subtitle D Compliance Status

Board Orders No. 6-93-10025, 6-84-50A1, and 6-95-117 required the submittal of several items in order to comply with Subtitle D. The Discharger has submitted a revised Water Quality Protection Standard (WQPS), complete information regarding the acceptance of liquids, the existing waste footprint, the distance from the Landfill to the nearest drinking water source, and whether the Landfill is located in a 100-year flood plain or wetland. The above-listed items have already been submitted fulfilling the submittal requirements of Subtitle D, as implemented by SWRCB Resolution No. 93-62.

14. Baghouse Waste

In 1995, during routine grading operations at the Landfill, an unknown volume of baghouse waste<sup>1</sup>, in the form of baghouse ash, was uncovered in an approximately 30-foot by 70-foot area of the Landfill. This area is part of a larger, approximately 14-acre site, suspected of containing baghouse waste, that is located in the western half of the Landfill.

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<sup>1</sup> Baghouse Waste refers to the dust that is typically generated from foundry/smelting operations and collected in the baghouse or other dry air pollution control devices.

Board Order No. 6-95-117 required the Discharger to submit a technical report to document the findings of an investigation of the threat to water quality associated with the baghouse waste. The Discharger submitted the technical report in October 1996. Lahontan Water Board staff concurred with the report's findings, which indicated the constituents of concern (i.e., metals, furans, and dioxins) associated with the waste do not pose a threat to ground water quality, provided no additional waste is placed on top of the areas containing baghouse waste. Staff also concurred with the report's recommendations, which identified interim measures the Discharger should implement to protect water quality from the baghouse waste.

Interim measures implemented by the Discharger included (1) placing a one-foot thick compacted soil layer over any areas of exposed baghouse waste, and (2) providing erosion control, fencing, and posted notification for areas known or suspected of containing baghouse waste.

In 1998, the Discharger submitted a Preliminary Closure Post Closure Maintenance Plan (PCPCMP) proposed placing no waste directly over the 30-foot by 70-foot area where baghouse waste had originally been exposed. The PCPCMP also proposed placing an additional waste lift over the top deck of the 14-acre site suspected of containing baghouse waste. The Lahontan Water Board accepted the Discharger's 1998 PCPCMP that contained these proposals for the management of the baghouse waste as it relates to operations at the Landfill.

In May 2000, the Discharger submitted a plan to manage the baghouse waste present at the Landfill beyond the interim measures that had previously been implemented. The Discharger proposed to construct a buffer and demarcation layer above the 14-acre area where baghouse waste was suspected to exist, and then to place approximately one foot of soil cover over the area. This demarcation layer project was to precede placing the additional waste lift over the 14-acre area. The Discharger's 2005 Fourth Quarter Self-Monitoring Report documents that the demarcation layer project was completed across the 14-acre area.

The Lahontan Water Board will eventually need to accept final closure and post-closure plans for the entire Landfill through the issuance of revised WDRs. The Lahontan Water Board could require measures for final closure of the baghouse waste disposal areas that are more stringent than those for other portions of the Landfill.

15. Water Quality Protection Standard

Pursuant to section 20390, Title 27, CCR, a Water Quality Protection Standard should be established for each waste management unit. In August 2004, the Discharger submitted an updated Water Quality Protection Standard (WQPS)

consisting of Constituents of Concern (COC) (including monitoring parameters), concentration limits, monitoring points, and points of compliance. The COC list includes all waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Landfill.

16. Constituents of Concern

The following parameters have been identified as COC:

- a. Subtitle D, Appendix 1 (short list) – VOCs and metals;
- b. Subtitle D, Appendix II (long list) – VOCs and metals; and
- c. Total Dissolved Solids (TDS), chloride, nitrate, and sulfate.

17. Statistical and Non-Statistical Analytical Methods

Statistical and non-statistical analysis of monitoring data is necessary for the Landfill because the ground water has already been impacted and the Discharger is conducting an EMP. During the EMP, monitoring will involve statistical or non-statistical data analysis designed to detect an unnatural increase within the monitoring wells.

During EMP monitoring, the Discharger will conduct non-statistical analysis of data to determine if any new release occurs during the EMP. The ground water beneath the Landfill has been impacted by VOCs (see Finding 5). Since VOCs are not naturally occurring and thus have no background value, these organic constituents are not amenable to the statistical procedures contained in Title 27 for determination of a release of waste from the Landfill. Therefore, it is appropriate to apply non-statistical data analysis of data for unnatural constituents present in ground water.

Non-statistical methods for data analysis are described in Monitoring and Reporting Program (MRP) No. R6V-2007-0035.

18. Detection Monitoring Program (DMP)

Section 20385, Title 27, CCR requires the Discharger to establish a DMP. The DMP successfully detected a release from the Landfill, and EMP monitoring was initiated thereafter. The Discharger will continue to implement an EMP that will incorporate verification procedures to detect any new release.

A DMP will be re-established pursuant to section 20385, Title 27, CCR, once the condition of ground water impact is abated. When the Discharger is required to establish a DMP, the DMP shall (1) comply with the requirements of section 20420, Title 27, CCR, and (2) include a data analysis method meeting the requirements of section 20415, Title 27, CCR.

19. Evaluation Monitoring Program (EMP)

Section 20385, Title 27, CCR requires the Discharger to propose an EMP to evaluate evidence of a release whenever detection monitoring and/or verification procedures indicate evidence of a measurably significant release or significant physical evidence of a release from the Landfill.

In January 1996, the Discharger notified the Water Board of a release of VOCs at the site. In accordance with section 20385, Title 27, CCR, the Discharger proposed a Work Plan for EMP and Engineering Feasibility Study in May 1996. The Lahontan Water Board accepted the EMP work plan and the Discharger began implementing the EMP in July 1996.

The Water Board has reviewed the available data and current EMP and has determined that the EMP needs to be revised to incorporate soil gas monitoring and potentially additional ground water monitoring. This Order includes a Time Schedule requiring the Discharger to submit work plans for a soil gas monitoring system and additional EMP-related monitoring necessary to adequately characterize the Landfill site's hydrogeology and contaminant plume in preparation of developing a CAP.

The Discharger will continue to implement an EMP to monitor the nature and extent of the release as well as detect any new release until CAP monitoring is implemented. Once CAP monitoring is implemented and the EMP is discontinued, the Discharger shall re-establish a revised EMP whenever there is significant evidence of a new release from the Landfill as required in section 20385, Title 27, CCR.

MRP No. R6V-2007-0035 documents the current EMP requirements.

20. Corrective Action Program (CAP)

Pursuant to section 20430, Title 27, CCR, the Discharger shall implement a CAP when the Lahontan Water Board determines that the nature and extent of the release are adequately understood, the CAP is acceptable, and the Lahontan Water Board amends or revises the WDRs to incorporate the acceptable CAP.

21. Discharge of Monitoring Well Purge Water

As part of regularly scheduled ground water sampling events, ground water monitoring wells are purged to assure collection of a representative sample. The Discharger employs a low-flow purge technique which reduces the amount of fluid volume generated from purging a monitoring well prior to sampling. Common practice is to discharge the purge water at the landfill, which may include use of the water for dust control. Because VOCs have degraded the aquifer beneath the Landfill, the purge water also contains these constituents at

trace concentrations. Purge water may be discharged to the ground only after ground water sample analysis demonstrates that concentrations of VOCs do not exceed drinking water MCLs.

22. Site Geology

The Landfill is located on alluvial deposits of sand, silt, and clay. Bedrock outcroppings of volcanic material are present at the southern edge of the Landfill, and slope toward the north. The alluvial deposits are greater than 200 feet thick at the northern edge of the site. The Gloster fault, which strikes northwest, is about two miles south of the Landfill.

23. Site Hydrogeology

Ground water beneath the Landfill is present in both the alluvial deposits and bedrock fractures, and flows toward the north-northwest. Ground water monitoring indicates the depth to ground water ranges between 175 to 181 feet below ground surface.

24. Site Hydrology and Storm Water Runoff

There is no perennial surface water flow at the Landfill. A large hill borders the southern edge of the landfill. The Dischargers have installed a series of drainage improvements to redirect potential run-on from the hill to the east and west, circumventing the refuse footprint. All storm water from the landfill is regulated under the state Amended General Industrial Activities Storm Water Permit.

25. Site Topography

The Landfill is situated on a north sloping alluvial plain at an elevation of approximately 2,600 to 2,700 feet above mean sea level. Site topography is shown on Attachment A, which is made a part of this Order.

26. Climatology

The Landfill is in an area that can be characterized as semi-arid with infrequent rainfall, large seasonal and diurnal temperature ranges, low relative humidity, gusty winds, and a high percentage of sunny days. The precipitation in the area of the Landfill is approximately 6.0 inches annually. Potential evaporation in the area is approximately 90 inches.

27. Land Uses

The land within one-half mile of the Landfill remains open with no structures. The land uses surrounding the Landfill include various maintained residences and commercial buildings in the communities of Mojave and Rosamond and open desert land. The nearby area is zoned for limited agricultural uses.

28. Water Quality Control Plan for the Lahontan Region

The Lahontan Water Board adopted a Water Quality Control Plan for the Lahontan Region (Basin Plan) that became effective on March 31, 1995. This Order implements the Basin Plan as amended.

29. Receiving Waters

The receiving waters are the ground waters of the Antelope Valley Ground Water Basin (Department of Water Resources Basin No. 6-44).

30. Beneficial Uses for Ground Water

The present and probable beneficial uses of the ground waters of Antelope Valley Ground Water Basin as set forth and defined in the Basin Plan are:

- a. municipal and domestic supply (MUN);
- b. agricultural supply (AGR);
- c. industrial service supply (IND), and
- d. freshwater replenishment (FRSH).

31. Closure and Post-Closure Maintenance

The Discharger submitted a Preliminary Closure Post-Closure Maintenance Plan (PCPCMP) for the Landfill on August 10, 1998. The Discharger revised the August 10, 1998 PCPCMP to address comments from the Lahontan Water Board and the California Integrated Waste Management Board. The Lahontan Water Board reviewed the revised PCPCMP and found that it was adequate as documented in a September 22, 1998 letter to the Discharger.

32. Financial Assurance

The Discharger has provided documentation that a financial assurance fund has been developed for closure, post-closure maintenance, and potential corrective action requirements. This Order requires that the Discharger demonstrate in an annual report that the amount of financial assurance (for Closure, Post-Closure, and Corrective Action Monitoring) is adequate, or increase the amount of financial assurance.

33. California Environmental Quality Act Compliance

The updated WDRs apply to the continued operation/minor modification of an existing facility and are therefore exempt from the provision of the California Environmental Quality Act (Public Resources Code, section 21000 et seq.), in accordance with CCR, Title 14, Chapter 3, section 15301.

34. Notification of Interested Parties

The Lahontan Water Board has notified the Discharger and all known interested agencies and persons of its intent to adopt revised WDRs for this project.

35. Consideration of Public Comments

The Lahontan Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

**IT IS HEREBY ORDERED** that the Dischargers shall comply with the following:

I. DISCHARGE SPECIFICATIONS

A. Receiving Water Limitations

The discharge of waste shall not cause a violation of any applicable water quality standard for receiving water adopted by the Lahontan Water Board or the State Water Board as required by the California Water Code (Water Code) and regulations adopted thereunder. This includes the following receiving water limitations for the ground waters of the Antelope Valley Ground Water Basin:

1. Bacteria – In ground waters designated as MUN, the median concentration of coliform organisms over any seven-day period shall be less than 1.1/100 milliliters in ground water.
2. Chemical Constituents – Ground waters designated as MUN shall not contain concentrations of chemical constituents in excess of the Maximum Contaminant Level (MCL) or Secondary Maximum Level (SMCL) based upon drinking water standards specified in Title 22, CCR: Table 64431- A section 64431 (Inorganic Chemicals), Table 64431- B section 64431 (Fluoride), Table 64444-A of section 64444 (Organic Chemicals), Table 64449-A of section 64449 (SMCL - Consumer Acceptance Contaminant Levels), and Table 64449-B of section 64449 (SMCL – Consumer Acceptance Contaminant Level Ranges). This incorporation by reference is prospective including future changes to the incorporated provisions as the changes take effect.

Waters designated as AGR shall not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses (i.e., agricultural purposes).

Ground waters shall not contain concentrations of chemical constituents that adversely affect the water for beneficial uses.

3. Radioactivity – Ground waters designated as MUN shall not contain concentrations of radionuclides in excess of limits specified in Table 64442 of section 64442 (Radioactivity), Title 22, CCR, which is incorporated by reference into this Order. This incorporation-by-reference is prospective including future changes to the incorporated provisions as they take effect.
4. Taste and Odors – Ground waters shall not contain taste or odor-producing substances in concentrations that cause nuisance or that adversely affect beneficial uses. For ground water designated an MUN, at a minimum, concentrations shall not exceed adopted SMCLs specified in Table 64449-A of section 64449 (SMCLs – Consumer Acceptance Contaminant Levels), and Table 64449-B of section 64449 (SMCL – Consumer Acceptance Contaminant Level Ranges), Title 22, CCR, which is incorporated by reference into this Order. This incorporation-by-reference is prospective including future changes to the incorporated provision as the changes take effect.

## II. REQUIREMENTS AND PROHIBITIONS

### A. General

1. The discharge shall not cause a pollution, or threatened pollution, as defined in Section 13050 of the Water Code.
2. The discharge shall not cause a nuisance as defined in Section 13050 of the Water Code.
3. The discharge of solid wastes, leachate, or any other deleterious material to the ground waters of the Antelope Valley Ground Water Basin is prohibited.
4. The discharge of waste except to the authorized disposal site is prohibited.
5. Best management practices shall be used when applying water for dust control during disposal site operation. Water used for dust control shall be limited to a minimal amount. A “minimal amount” is defined as that amount that will not result in runoff.

6. Wastes shall not be placed in ponded water from any source whatsoever.
7. Any discharge that causes violation of any narrative water quality objective contained in the Basin Plan, including the Nondegradation Objective, is prohibited.
8. Any discharge that causes violation of any numeric water quality objective contained in the Basin Plan is prohibited.
9. Where any numeric or narrative water quality objective contained in the Basin Plan is already being violated, any discharge that causes further degradation or pollution is prohibited.
10. The disposal site shall be protected from inundation, washout, or erosion of wastes and erosion of covering materials resulting from a storm or a flood having recurrence interval of once in 100 years.
11. Surface drainage from tributary areas, and internal site drainage from surface or subsurface sources shall not contact or percolate through solid wastes discharged at the site.
12. The exterior surfaces of the disposal site shall be graded to promote lateral runoff of precipitation and to prevent ponding.
13. No hazardous or designated wastes shall be discharged at the Landfill as defined in Chapter 15, Title 23, CCR section 2521 and section 20210, Title 27, CCR, respectively.
14. Pursuant to section 20240, Title 27, CCR, the Landfill shall be operated to ensure that wastes will be a minimum of five feet above the seasonal high ground water elevation.
15. Pursuant to section 20200, Title 27, CCR, waste discharge to the Landfill shall have a moisture content of 50 percent or less.
16. The Discharger shall remove and relocate any waste that is or has been discharged at the disposal site in violation of the above requirements. The waste shall be relocated to a site that is permitted to receive such wastes. All removal and relocation projects shall be coordinated with regulatory agencies, including the County of Kern Department of Environmental Health Services. Currently, this requirement does not apply to the storage of the baghouse waste, previously disposed at the Landfill between 1972 and 1983, and as described in Finding No. 14.

17. During periods of precipitation, the disposal activity shall be confined to the smallest area possible based on the anticipated quantity of wastes.
18. The Discharger shall implement a periodic load-checking program accepted by the Lahontan Water Board and the California Integrated Waste Management Board as required in section 20220, Title 27, CCR.
19. The discharge shall neither cause nor contribute to the contamination or pollution of ground water through the release of waste constituents in either liquid or gaseous phase.
20. The Discharger shall immediately notify the Lahontan Water Board of any flooding, slope failure or other change in site conditions that could impair the integrity of waste containment facilities or of precipitation and drainage control structures.

B. Detection Monitoring Program

The Discharger shall maintain a DMP as required in section 20420, Title 27, CCR.

C. Evaluation Monitoring Program

The Discharger shall maintain the EMP as long as there is significant evidence of a release from the Landfill as required in section 20425, Title 27, CCR. The Discharger shall continue with Evaluation Monitoring as described in MRP No. R6V-2007-0035 until the Discharger implements CAP monitoring, if required. The Discharger shall re-establish a revised EMP whenever there is significant evidence of a new release from the Landfill as required in section 20385, Title 27, CCR.

D. Corrective Action Program

The Discharger shall institute a CAP as required pursuant to section 20430, Title 27, CCR, should the results of the EMP warrant a CAP.

III. DATA ANALYSIS

A. Statistical Analysis and Nonstatistical Analysis

The Discharger shall determine whether there is significant statistical or non-statistical evidence of a new release from the Landfill. Non-statistical evidence may include time series plots, unexplained volumetric changes in the Landfill, unexplained changes in soil characteristics, visible signs of

leachate migration, unexplained water table mounding beneath or adjacent to the Landfill, or any other change in the environment that could reasonably be expected to be the result of a new release from the Landfill.

B. Verification Procedures

1. The Discharger shall immediately initiate verification procedures as specified below whenever there is a determination by the Discharger or Executive Officer that there is evidence of a new release. If the Discharger declines the opportunity to conduct verification procedures, the Discharger shall submit a technical report as described below under the heading Technical Report Without Verification Procedures.
2. The verification procedure shall only be performed for the constituent(s) that has (have) shown evidence of a release, and shall be performed for those monitoring points at which a release is indicated.
3. The Discharger shall either conduct a composite retest using data from the initial sampling event with all data obtained from the resampling event or shall conduct a discrete retest in which only data obtained from the resampling event shall be analyzed in order to verify evidence of a release.
4. The Discharger shall report to the Lahontan Water Board by certified mail the results of the verification procedure, as well as all concentration data collected for use in the retest, within seven days of the last laboratory analysis.
5. The Discharger shall determine, within 45 days after completion of sampling, whether there is evidence of a new release from the Landfill at each monitoring point. If there is evidence of a new release, the Discharger shall immediately notify the Lahontan Water Board by certified mail. The Executive Officer may make an independent finding that there is evidence of a new release.
6. If the Discharger, or Executive Officer, verifies evidence of a new release, the Discharger is required to submit, within 90 days of a determination that there is or was a new release, a technical report pursuant to Water Code section 13267(b). The report shall propose a revised EMP **OR** make a demonstration to the Lahontan Water Board that there is a source other than the Landfill that caused evidence of a new release.

C. Technical Report Without Verification Procedures

If the Discharger chooses not to initiate verification procedures, a technical report shall be submitted pursuant to Water Code section 13267(b). The report shall propose a revised EMP, **OR**, attempt to demonstrate that the release did not originate from the Landfill.

IV. PROVISIONS

A. Rescission of Waste Discharge Requirements

Board Order No. 6-95-117 is hereby rescinded.

B. Standard Provisions

The Discharger shall comply with the "Standard Provisions for Waste Discharge Requirements," dated September 1, 1994, in Attachment C, which is made part of this Order.

C. Permit Reopening, Revision, Revocation, and Re-issuance

This Order may be reopened in whole or in part, to address any changes in State or federal plans, policies or regulation that would affect her requires for discharges, or to establish effluent limitations as necessary.

D. Monitoring and Reporting

1. Pursuant to the Water Code section 13267(b), the Discharger shall comply with MRP No. R6V-2007-0035 as specified by the Executive Officer.
2. The Discharger shall comply with the "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made part of the MRP.

E. Final Closure and Post-Closure Maintenance Plan (CPCMP)

Two years prior to the anticipated closure of the Landfill, the Discharger shall submit to the Lahontan Water Board, for review and acceptance, a final CPCMP in accordance with section 21780, Title 27, CCR.

F. Financial Assurance

The Discharger has provided documentation that a financial assurance fund has been developed for closure, post-closure, and potential corrective requirements. As part of the annual report for the Landfill, the

MRP associated with this Order requires the Discharger to provide evidence that adequate financial assurance pursuant to the requirements of the WDRs has been provided for closure, post-closure, and corrective action for all known and reasonably foreseeable releases from the Landfill. Evidence shall include the total amount of money available in the fund developed by the Discharger. In addition, the Discharger shall either provide evidence that the amount of financial assurance is still adequate or increase the amount of financial assurance by the appropriate amount. An increase may be necessary due to inflation, a change in regulatory requirements, a change in the approved closure plan, or other unforeseen events.

G. Modifications to the Landfill

In accordance with Title 27, section 21710 (4), if the Discharger intends to modify the landfill (e.g., material change in types, quantities, or concentrations of wastes discharged; site operations and features; or proposed closure procedures) the Discharger shall notify the Lahontan Water Board within a reasonable time before the changes become effective.

V. Time Schedule

- A. By **January 31, 2008**, submit for Lahontan Water Board acceptance, a Soil Gas Probe Installation Work Plan. The Work Plan must discuss an alternative vadose zone monitoring system intended to replace the existing lysimeter and moisture block system with soil gas monitoring probes. The Work Plan must also provide an implementation schedule.
- B. By **March 31, 2008**, submit to the Lahontan Water Board office a technical report that 1) explains why sulfate and nitrate levels exceed their 2004 concentration limits, and 2) presents the basis for the Discharger's determination that these contaminants are, or are not, associated with a release from the Landfill. If you believe the sulfate and nitrate levels that exist on site are caused by a source other than the Landfill, the technical report shall include an Optional Demonstration (that the unit is not the cause). Pursuant to section 20420, Title 27, the optional demonstration must demonstrate that a source other than the landfill (e.g., error in sampling or statistical evaluation, natural variation in ground water) caused the release of sulfate and nitrate in the ground water. If necessary, the technical report should also contain a schedule for submitting revised concentration limits (contained in an updated WQPS) as appropriate for the Landfill.

C. By **June 16, 2008**, submit for Lahontan Water Board acceptance, a Conceptual Site Model and Revised EMP Work Plan. The Work Plan must include the following:

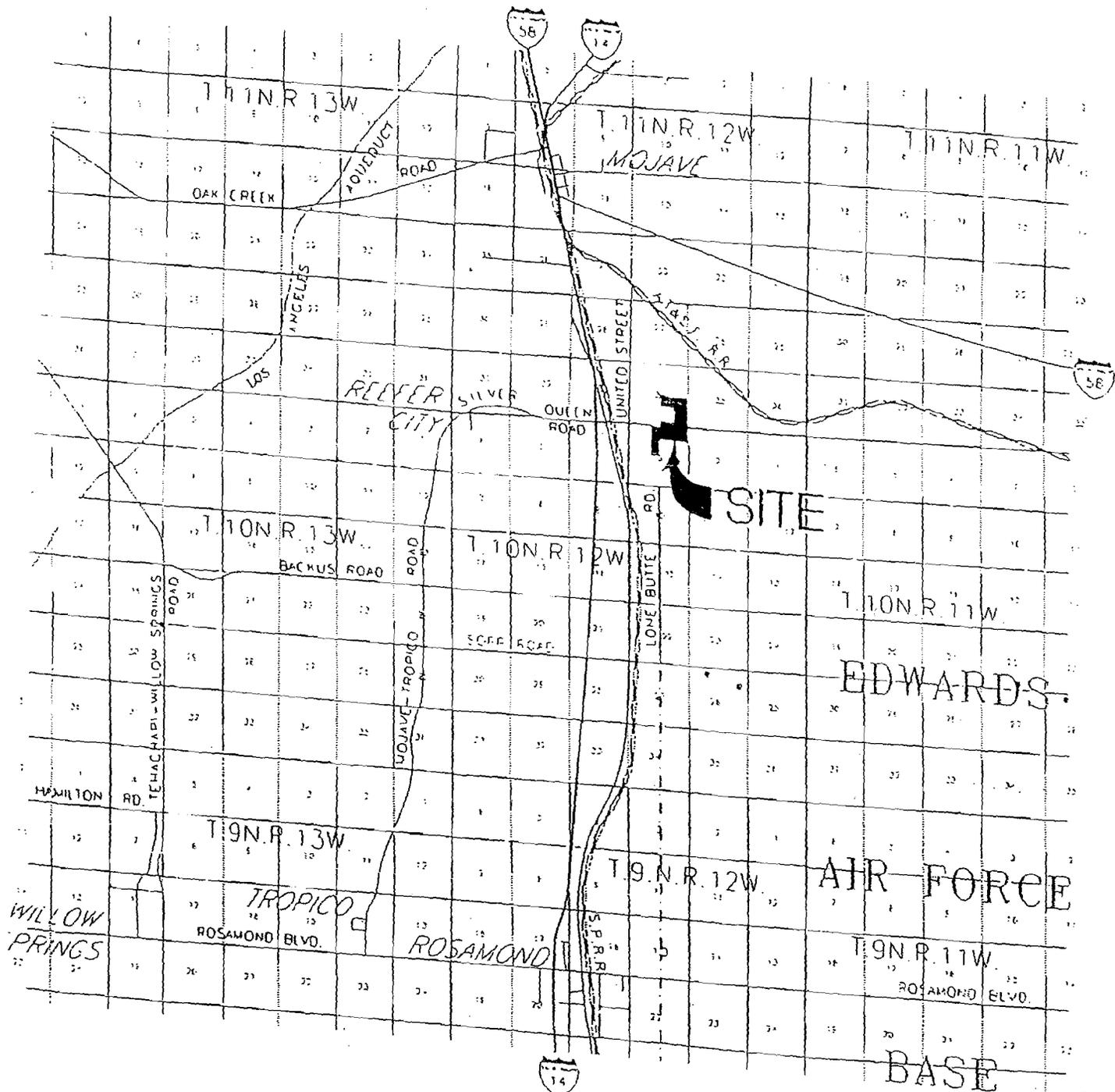
1. Information to substantiate the similarities in subsurface geological conditions between Boron Sanitary Landfill and the Mojave-Rosamond Sanitary Landfill. Information shall include and compare site specific geology, hydrogeology, ground water chemistry, and site conceptual models that will monitor plume behavior.
2. A Revised EMP that is designed to, and once implemented will, produce adequate data to provide a map delineating the vertical and horizontal extent of the contaminant plume, and a schedule for implementing the Revised EMP.

I, Harold J. Singer, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Lahontan Region, on November 29, 2007.

  
\_\_\_\_\_  
HAROLD J. SINGER  
EXECUTIVE OFFICER

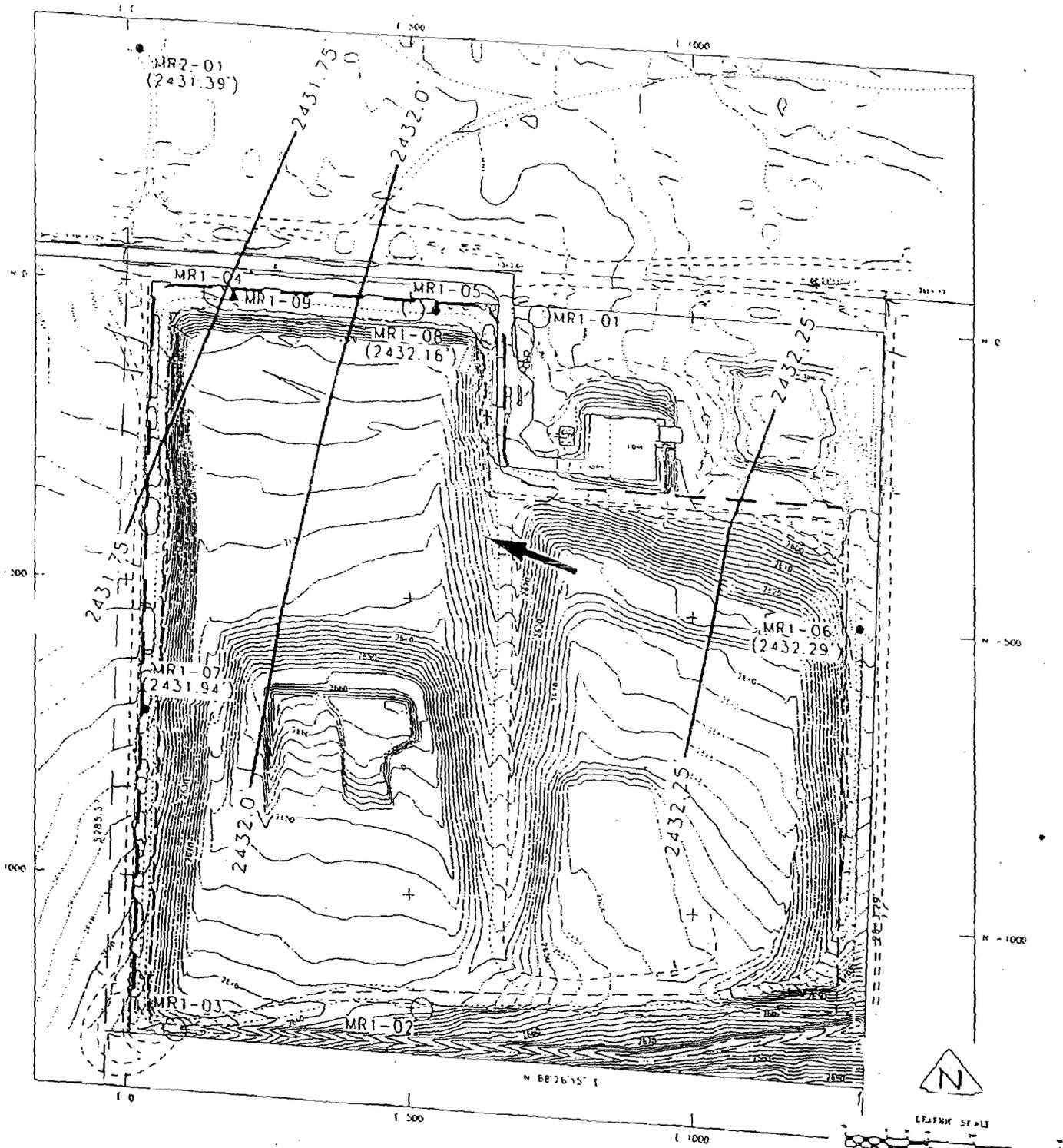
Attachments:      A.      Vicinity Map  
                         B.      Site Map  
                         C.      Standard Provisions for Waste Discharge Requirements

Attachment A - Vicinity Map for Mojave Rosamond Sanitary Landfill, Kern County  
Board Order No. R6V-2007-000X, WDID No. 6B150303011



NOT TO SCALE

Attachment B – Site Map for Mojave Rosamond Sanitary Landfill, Kern County  
 Board Order No. R6V-2007-000X, WDID No. 6B150303011



LEGEND

- GROUNDWATER MONITORING WELLS
- ( ) GROUNDWATER ELEVATION-100'
- ▲ MOISTURE BLOCKS
- LYSIMETER
- 2432' — LINE OF EQUAL GROUNDWATER ELEVATION
- - - - - APPROXIMATE LIMITS OF FILLUSE
- — — — — PROPERTY LINE
- ↑ GENERALIZED GROUNDWATER FLOW DIRECTION
- — — — — POINT OF COMPLIANCE

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION

STANDARD PROVISIONS  
FOR WASTE DISCHARGE REQUIREMENTS

1. Inspection and Entry

The Discharger shall permit Regional Board staff:

- a. to enter upon premises in which an effluent source is located or in which any required records are kept;
- b. to copy any records relating to the discharge or relating to compliance with the Waste Discharge Requirements (WDRs);
- c. to inspect monitoring equipment or records; and
- d. to sample any discharge.

2. Reporting Requirements

- a. Pursuant to California Water Code 13267(b), the Discharger shall immediately notify the Regional Board by telephone whenever an adverse condition occurred as a result of this discharge; written confirmation shall follow within two weeks. An adverse condition includes, but is not limited to, spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance.
- b. Pursuant to California Water Code Section 13260 (c), any proposed material change in the character of the waste, manner or method of treatment or disposal, increase of discharge, or location of discharge, shall be reported to the Regional Board at least 120 days in advance of implementation of any such proposal. This shall include, but not be limited to, all significant soil disturbances.
- c. The Owners/Discharger of property subject to WDRs shall be considered to have a continuing responsibility for ensuring compliance with applicable WDRs in the operations or use of the owned property. Pursuant to California Water Code Section 13260(c), any change in the ownership and/or operation of property subject to the WDRs shall be reported to the Regional Board. Notification of applicable WDRs shall be furnished in writing to the new owners and/or operators and a copy of such notification shall be sent to the Regional Board.
- d. If a Discharger becomes aware that any information submitted to the Regional Board is incorrect, the Discharger shall immediately notify the Regional Board, in writing, and correct that information.

- e. Reports required by the WDRs, and other information requested by the Regional Board, must be signed by a duly authorized representative of the Discharger. Under Section 13268 of the California Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation.
- f. If the Discharger becomes aware that their WDRs (or permit) are no longer needed (because the project will not be built or the discharge will cease) the Discharger shall notify the Regional Board in writing and request that their WDRs (or permit) be rescinded.

3. Right to Revise WDRs

The Regional Board reserves the privilege of changing all or any portion of the WDRs upon legal notice to and after opportunity to be heard is given to all concerned parties.

4. Duty to Comply

Failure to comply with the WDRs may constitute a violation of the California Water Code and is grounds for enforcement action or for permit termination, revocation and re-issuance, or modification.

5. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of the WDRs which has a reasonable likelihood of adversely affecting human health or the environment.

6. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the WDRs. Proper operation and maintenance includes adequate laboratory control, where appropriate, and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the Discharger, when necessary to achieve compliance with the conditions of the WDRs.

7. Waste Discharge Requirement Actions

The WDRs may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for waste discharge requirement modification, revocation and re-issuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any of the WDRs conditions.

8. Property Rights

The WDRs do not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

9. Enforcement

The California Water Code provides for civil liability and criminal penalties for violations or threatened violations of the WDRs including imposition of civil liability or referral to the Attorney General.

10. Availability

A copy of the WDRs shall be kept and maintained by the Discharger and be available at all times to operating personnel.

11. Severability

Provisions of the WDRs are severable. If any provision of the requirements is found invalid, the remainder of the requirements shall not be affected.

12. Public Access

General public access shall be effectively excluded from treatment and disposal facilities.

13. Transfers

Providing there is no material change in the operation of the facility, this Order may be transferred to a new owner or operation. The owner/operator must request the transfer in writing and receive written approval from the Regional Board's Executive Officer.

14. Definitions

- a. "Surface waters" as used in this Order, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial water courses and natural lakes and artificial impoundments of waters. "Surface waters" does not include artificial water courses or impoundments used exclusively for wastewater disposal.
- b. "Ground waters" as used in this Order, include, but are not limited to, all subsurface waters being above atmospheric pressure and the capillary fringe of these waters.

15. Storm Protection

All facilities used for collection, transport, treatment, storage, or disposal of waste shall be adequately protected against overflow, washout, inundation, structural damage or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION

**MONITORING AND REPORTING PROGRAM**  
**NO. R6V-2007-0035**  
**WDID NO. 6B150303011**

FOR

**KERN COUNTY WASTE MANAGEMENT DEPARTMENT**  
**MOJAVE-ROSAMOND CLASS III LANDFILL**

Kern County

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I. GENERAL

A Discharger who owns or operates a waste management facility, or landfill, is required to comply with the provisions of Chapter 3, Subchapter 3, Article 1, Title 27, California Code of Regulations (CCR) for the purpose of detecting, characterizing, and responding to releases to the ground water. Section 13267 of the California Water Code gives the Water Board authority to require monitoring program reports for discharges that could affect the quality of waters within its region. State Water Resources Control Board Resolution No. 93-062 requires the Water Board to implement federal Municipal Solid Waste Regulations (Title 40 Code of Federal Regulations, Parts 257 and 258).

This Monitoring and Reporting Program (MRP) for the Mojave-Rosamond Class III Landfill (Landfill) requires the Discharger to continue Evaluation Program Monitoring (EMP) to further evaluate the extent and nature of the release and to develop a Corrective Action Program meeting the requirements of section 20430, Title 27, CCR. The EMP will also be capable of detecting any new release at the Landfill. The EMP must effectively produce data to delineate the vertical and lateral extent of the contaminant plume.

The Discharger has requested to reduce the monitoring frequency to a semi-annual schedule. The Discharger makes this recommendation based on the demonstrated long-term, historical stability of trace to low level volatile organic concentrations detected in the ground water at the Landfill. Staff accepts the Discharger's request provided ground water elevations continue to be monitored on a quarterly basis as presented in Table 1 of the MRP. All other monitoring shall be conducted on a semi-annual schedule as presented in Table 1 of this MRP.

## II. WATER QUALITY PROTECTION STANDARD

### A. Water Quality Protection Standard (WQPS)

A WQPS is required by Title 27, CCR to assure the earliest possible detection of a release from the Landfill to the underlying soil and/or ground water. On behalf of Kern County, the Kern County Waste Management Department (KCWMD) submitted an updated WQPS Report in July 2004. A WQPS is necessary during the EMP to determine if any new releases occur. For this Landfill, the WQPS shall consist of all constituents of concern, the concentration limit for each constituent of concern, the point of compliance, and all water quality monitoring points.

The Executive Officer shall review and accept the WQPS, or any modification thereto, for each monitored medium. The report must:

1. Identify all distinct ground water bodies that could be affected in the event of a release from the Landfill Unit or portion of the Landfill.
2. Include a map showing the monitoring points and background monitoring points for the surface water monitoring program, groundwater monitoring program, groundwater monitoring program, and the unsaturated zone monitoring program. The map shall include the point of compliance in accordance with section 20405, Title 27, CCR.
3. Evaluate the perennial direction(s) of **ground water** movement within the uppermost ground water zone(s).

If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste management activities at the site, the Discharger may request modification to the WQPS.

### B. Ground Water

**Constituents of Concern (COC):** The COCs include all the waste constituents, their reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Landfill. The constituents of concern for the Landfill are those listed in Tables 1 and 2 of the MRP. The Discharger shall monitor all COCs every five years, or more frequently as required in accordance with the EMP.

**Monitoring Parameters:** Monitoring parameters are constituents of concern that are the waste constituents, reaction products, hazardous constituents, and physical parameters that provide a reliable indication of a release from the Landfill. The monitoring parameters for the Landfill are those listed in Tables 1 and 2.

**Concentration Limits (CLs):** CLs are intended to reflect background water quality conditions. In accordance with the options identified in Title 27, several methodologies were considered for determining CLs. These methodologies included inter-well comparisons, intra-well comparisons, and non-statistical methods.

For a naturally occurring constituents of concern, the concentration limit shall be determined as follows:

1. By calculation in accordance with a statistical method pursuant to section 20415, Title 27, CCR; or
2. By an alternate statistical method acceptable to the Executive Officer in accordance with section 20415, Title 27, CCR.
3. Site specific concentration limits have been established for the Landfill and are as follows:

**Inorganic Constituents:** The Discharger has developed concentration limits for naturally occurring inorganic constituents (e.g., chloride, sulfate, total dissolved metals) using the data analysis methods allowed pursuant to section 20415, Title 27, CCR. The Discharger's 2004 WQPS report proposes concentration limits for sulfate and nitrate that have been exceeded as indicated by the Discharger's self monitoring reports. The Discharger's July 2007 self monitoring report indicates that sulfate has been detected in the evaluation ground water monitoring well MR2-01 and nitrate has been detected in ground water monitoring compliance well MR1-08 above the concentration limits presented in the 2004 WQPS. Board Order No. R6V-2007-0035 contains a Time Schedule requiring the Discharger to submit a technical report that evaluates whether these inorganic constituents are part of the release. If necessary, the technical report must also contain a schedule for submitting revised concentration limits (contained in an updated WQPS) as appropriate for the site. (See Board Order No. R6V-2007-0035, section V. – Time Schedule.)

**Organic Constituents:** Concentration limits for organic constituents, or non-naturally occurring constituents, are based on background condition, which are non-detectable (ND). Therefore the concentration limits for these constituents are the laboratory method detection limit (MDL) for each compound.

In order to provide the best assurance of the earliest possible detection of a release of non-naturally occurring waste constituents from a Unit, this Order specifies a non-statistical method for the evaluation of monitoring data.

The specified non-statistical method for evaluation of monitoring data provides two criteria (or triggers) for making the determination that there has been a release of non-naturally occurring waste constituents from the Landfill. The presence of two non-naturally occurring waste constituents above their respective method detection limits (MDLs), or one non-naturally occurring waste constituent detected above its practical quantitation limit (PQL), indicates that a release of waste from the Landfill has occurred. Following an indication of a release, verification testing will be conducted to determine whether there has been a release from the Landfill, if there is a source of the detected constituents other than the Landfill, or if the detection was a false detection. Although the detection of one non-naturally occurring waste constituent above the MDL is sufficient to provide for the earliest possible detection of a release, the detection of two non-naturally occurring waste constituents above the MDL as a trigger is appropriate due to the higher risk of false-positive analytical results and the corresponding increase in sampling and analytical expenses from the use of one non-naturally occurring waste constituent above its MDL as a trigger.

**Point of Compliance:** The Point of Compliance for this Landfill is the vertical surface located at the hydraulically down-gradient limit of the Landfill that extends through the uppermost aquifer underlying the Landfill.

**Compliance Period:** The compliance period for the Landfill shall be the number of years equal to the active life of the Landfill plus the closure period. The compliance period is the minimum period during which the Discharger shall conduct a water quality monitoring program subsequent to a release for the Landfill. The compliance period shall begin anew each time the Discharger initiates an evaluation monitoring program.

### III. MONITORING

#### A. Landfill Discharge

The following shall be reported semi-annually:

1. The volume of solid waste (in-place compacted volume in cubic yards) discharge to the disposal site for the monitoring period.
2. The percent of the total landfill volume used for solid waste disposal, including waste disposed during this monitoring period.
3. Comments describing the effectiveness of the load checking program.

4. A summary of inspection of the integrity of the cover material, drainage structures, potential erosion areas, and the monitoring system. Any problem areas, special occurrences, or corrective action taken should be included in the quarterly report.

B. Evaluation Monitoring Program

The Discharger has developed and implemented an EMP to determine the extent of the release, and to develop corrective action measures. The 1996 Lahontan Water Board-accepted EMP, which includes non-statistical data analysis for non-naturally occurring organics (i.e., VOCs), shall be implemented until the Discharger either revises the EMP or initiates a Corrective Action Program.

The monitoring parameters for the existing EMP are the metal surrogates, chloride, sulfate, nitrate as nitrogen, total dissolved solids, and volatile organic constituents as defined by Appendix I of 40 CFR, Part 258, (Table 1 of this MRP), and other parameters listed in Table 1. The constituents of concern are the monitoring parameters and the constituents listed in Appendix II of 40 CFR, Part 258.

The monitoring associated with the EMP is described as follows:

1. Ground Water

**Monitoring Points:** The following ground water well samples shall be collected from the following wells on a semi-annual basis:

- i. One background monitoring well (MR1-06)
- ii. Two compliance wells (MR1-07 and MR1-08); and
- iii. One EMP well (MR2-01).

Ground water wells shall be analyzed for the monitoring parameters and constituents of concern listed in Tables 1 and 2 of this MRP. The locations of the existing ground water monitoring wells are illustrated in the Site Map provided in Attachment B of Board Order No. R6V-2007-0035.

**Monitoring Parameters and Constituents of Concern:** The monitoring parameters are the metal surrogates, chloride, sulfate, nitrate as nitrogen, sulfate, and total dissolved solids and the volatile organic constituents as defined by Appendix I of 40 CFR, Part 258, as shown on Table 1. The constituents of concern are those constituents listed in Appendix II of 40 CFR, Part 258.

**Concentration Limits:** The Discharger has collected background water quality data for the monitoring parameters contained in this MRP. The concentration limits are outlined in the WQPS (dated July 2004). These concentration limits were established pursuant to section 20400, Title 27, CCR.

## 2. Unsaturated Zone

The current vadose zone monitoring being implemented by the Discharger and represented in this MRP involves the testing of five suction lysimeters and one moisture block; there are no soil gas probes at the site. No liquid samples have ever been recovered from these lysimeters and the moisture block has not indicated the presence of soil pore liquids. At this time, the EMP does not include a gas monitoring program. As such the existing monitoring of the unsaturated zone provides limited information about the quality of the vadose zone.

To improve the existing vadose zone monitoring program and the overall EMP, Board Order R6V-2007-0035, section V. - Time Schedule requires the Discharger to submit a Soil-Gas Probe Installation Work Plan and revised EMP. The Discharger, however, will continue to monitor the existing lysimeters and the moisture block on a semi-annual basis until a more robust vadose zone monitoring system is implemented as part of a revised EMP for the Landfill. Implementation of a Revised EMP is expected by the fall of 2008.

**Monitoring Points:** The monitoring points of the unsaturated zone consist of the five suction lysimeters and the one moisture block located at the Landfill as shown on Site Map provided in Attachment B of Board Order No. R6V-2007-0035. No soil-gas probes are included with this MRP, however, once the Lahontan Water Board accepts the Soil-Gas Probe Installation Work Plan and the Revised EMP Work Plan, MRP No. R6V-2007-0035 will be amended to reflect the revised monitoring program.

**Monitoring Period:** The unsaturated zone monitoring period shall coincide with the ground water monitoring period.

**Monitoring Parameters and Constituents of Concern:** If fluid samples can be recovered from the lysimeters, the samples shall be analyzed for the Monitoring Parameters and the Constituents of Concern presented in Table 1 of this MRP.

### 3. Aquifer Parameters

The parameters listed in Table 1 of this MRP shall be calculated and reported in graphic and tabular form. Include a figure illustrating the Aquifer Parameters listed in Table 1.

### C. Detection of a New Release

To provide the best assurance of the detection of any new releases at the Landfill, the Discharger will apply the Data Evaluation Methods specified in section IV of this MRP. Evaluation of data will be conducted using statistical and non-statistical methods.

## IV. SAMPLING AND ANALYSIS

### A. 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.

A matrix effect is any increase in the MDL or Practical Quantitation Limit (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.

### B. Trace Results

Results falling between the MDL and the PQL shall be reported as "trace," and shall be accompanied by both the (nominal or estimated) MDL and PQL values for that analytical run. The PQL is 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 re-stated from USEPA analytical method manuals. Laboratory derived PQLs are expected to closely agree with published USEPA estimated quantitation limits (EQLs).

C. Estimated MDL and PQL

The 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.

D. Quality Assurance/Quality Control (QA/QC) Data

All QA/QC data shall be reported along with the sample result 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:

1. Method, equipment, and analytical detection limits;
2. Recovery rates and an explanation for any recovery rate that is outside the USEPA specified recovery rate;
3. Results of equipment and method blanks;
4. Results of spiked or surrogate samples;
5. Frequency of quality control analysis;
6. Chain of custody logs; and
7. Name and qualifications of the person(s) performing the analysis.

E. Laboratory Records

Water quality records shall be maintained by the Discharger, and retained for a minimum period of 30 years or until the post-closure monitoring period has been completed. 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 of analysis 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. Calculation of results.
6. A complete chain of custody logs.
7. Results of analysis, and the MDL and PQL for each analysis.

#### F. Release Indication and Re-Test Procedure

An exceeded concentration limit is an indication of release. In cases where the MDL is the concentration limit, at least two MDLs or a single PQL excursion at a single monitoring point indicates a release. If a release is indicated, the Re-Test Procedure shall immediately be carried out as follows:

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 sets of samples for the indicated Monitoring Parameter(s) at each indicating Monitoring Point.
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 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.

#### V. DATA EVALUATION METHODS

In order to determine if any new releases have occurred from the Landfill, evaluation of data will be conducted using statistical and non-statistical methods.

##### A. Performance Standards

All data analysis methods (statistical or nonstatistical) shall meet the requirements of Section 20415(e)(9), Title 27, CCR.

##### B. Retest Is Part Of The Method

In the event that an approved data analysis method provides a preliminary indication that a given Monitoring Parameter has exhibited a measurably significant increase at a given well, the Discharger shall conduct a verification procedure in the form of a discrete retest, in accordance with Section 20415(e)(8)(E) Title 27, CCR. The retest is part of the data analysis method; therefore, a measurably significant increase exists only if either or both of the retest samples validates the preliminary indication.

C. Limited Retest Scope

For any given ground water monitoring point, the Discharger shall perform the verification procedure only for those Monitoring Parameters that have shown a preliminary indication at that well during that reporting period.

D. Non-statistical analysis:

1. Physical Evidence

Physical evidence can include vegetation loss, soil discoloration, unexplained volumetric changes in the Landfill, or ground water mounding. Each semi-annual report shall comment on these physical elements.

2. Time Series Plots

Each semi-annual report shall include a time series plot for each constituent analyzed for and detected. Evidence of a release may include trends of increasing concentrations of one or more constituents over time.

VI. REPORTING REQUIREMENTS

A. Scheduled Reports To Be Filed With The Water Board

The following periodic reports shall be submitted to the Water Board as specified below:

1. Semi-Annual Monitoring Reports

Monitoring reports shall be submitted to the Lahontan Water Board on a semi-annual basis as described in section V. E. of this MRP. Reports shall be submitted to the Lahontan Water Board by **45 days** following the end of the period for which the monitoring was performed. The reports will include, but not be limited to, the following.

- a. Tabulated water level and ground water chemistry data, including current monitoring events;
- b. A map illustrating all of the monitoring points, ground water contours and flow direction;
- c. Results of sampling and laboratory analysis of ground water, soil pore liquids and the moisture block;
- d. Field monitoring sheets and well sampling data sheets;

- e. Information associated with monitoring of the Landfill Discharge (See section III. A.)
- f. A letter summarizing the essential points in each report shall accompany each report. The letter shall include a discussion of any requirement violations found since the last report was submitted, and shall describe actions taken or planned for correcting those violations; and
- g. If the Discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting this schedule will be satisfactory. If no violations have occurred since the last submittal, this shall be stated in the letter of transmittal.
- h. An evaluation of the effectiveness of the runoff/run-on control facilities.

## 2. Annual Monitoring Reports

Annual Monitoring Reports shall be submitted to the Lahontan Water Board. Annual Reports shall be submitted to the Lahontan Water Board by **March 30 of each year**. The reports shall include the following:

- a. Time series data plots of the past three years of analytical data.
- b. An evaluation of the EMP and propose any modifications necessary to improve the EMP.
- c. An update concerning the adequacy of financial assurance as required by Board Order R6V-2007-0035, section IV. F. – Provisions, Financial Assurance.
- d. The Discharger shall review the Preliminary Closure and Post-Closure Maintenance Plan annually to determine if significant changes in the operation of the Landfill warrant an update of the plan.

## 3. Five-Year Constituent of Concern Monitoring Program

Pursuant to section 20420(g), Title 27, CCR, every five years the Discharger shall sample for COCs in accordance with Part II.C.1.d, with successive direct monitoring efforts being carried out alternately during January 1 through June 30 of one five-year sampling event and July 1 through December 31 of the next five-year sampling event, and every fifth year, thereafter. The first five-year COC sampling event shall take place during January – June 30<sup>th</sup> of 2012. The Five-Year COC Report shall be submitted no later than **45 days** following the monitoring period.

**B. Unscheduled Reports To Be Filed With The Water Board**

The following reports shall be submitted to the Water Board as specified below:

**1. Notice of Tentative Release**

Should the statistical or non-statistical data analysis indicate, for a given constituent of concern, that a new release is tentatively identified, the Discharger shall:

- a. Immediately notify the Water 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 (Section 20420, Title 27, CCR). The notification should indicate the Discharger's intent to conduct verification sampling, initiate evaluation monitoring procedures, or demonstrate that a source other than the Landfill is responsible for the release. The notification should include a map showing the location(s) of release, an estimate of the flow rate (if available), a description of the nature of the discharge (e.g., all-pertinent observations and analyses), and corrective measures underway or proposed.
- c. If the Discharger chooses to attempt to demonstrate that a source other than the Landfill is responsible for the new release, the Discharger shall submit a supporting technical report within 90 days of detection of the new release.

**2. Evaluation Monitoring**

The Discharger shall, within 90 days of verifying a new release, submit a technical report pursuant to Section 13267(b) of the California Water Code proposing a revised EMP. If the Discharger decides not to conduct verification procedures, or decides not to make a demonstration that a source other than the Landfill is responsible for the new release, the new release will be considered verified.

**3. Engineering Feasibility Study Report**

The Discharger shall, within 180 days of verifying a new release, submit a Preliminary Engineering Feasibility Study (Section 20420, Title 27, CCR) to preliminarily propose methods for corrective action.

4. Ground Water Monitoring Logs

Pursuant to Section 20415(e)(2), Title 27, CCR, all monitoring wells and all other borings (including but not limited to gas monitoring wells) drilled to satisfy the requirements of this Monitoring and Reporting Program shall be drilled by a licensed drilling contractor (or by a drilling crew under the direct supervision of the design engineer or engineering geologist), and shall be logged during drilling under the direct supervision of a person who is a California registered geologist or licensed civil engineer, who has expertise in stratigraphic well logging.

5. Significant Earthquake Event

After a significant or greater earthquake event<sup>1</sup>, or upon request by the Lahontan Water Board, the Discharger shall notify the Water Board within 48 hours, and within 45 days submit to the Water Board a detailed written post-earthquake report describing any physical damages to the containment features, ground water monitoring or landfill gas monitoring wells. The Discharger shall closely examine the Landfill cover, vegetative cover, slope conditions, drainage control system, and surface grading for signs of cracking or depressed/settled areas, following a major earthquake. If there is substantial damage following a significant earthquake event, the Discharger has 30 days from the submittal date of the post-earthquake report to submit a corrective action plan identifying actions necessary to repair the damages. The corrective action plan must include a schedule for completion of the recommended actions/repair work.

C. General Provisions

The Discharger shall comply with the "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached (Attachment B) to and made part of this Monitoring and Reporting Program.

D. Financial Assurance

Included with the Annual Report on or before **March 30** every year the Discharger shall submit an annual financial assurance report to the Water Board as required by Board Order R6V-2007-0035, section IV. F. – Provisions, Financial Assurance.

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<sup>1</sup> For purposes of this Order, a significant earthquake is a seismic event classified according to the USGS Earthquake Hazard Program as a moderate earthquake measuring between 5 and 5.9 on the Richter scale.

E. Summary of Reporting Frequency

<b>Report Designation</b>	<b>Period</b>	<b>Report Submittal Date</b>
First Semi-Annual Monitoring Report	Dec 1, 2007 – Jun 30, 2008	Aug 15
Second Semi-Annual Monitoring Report	Jul 1 – Dec 31	Feb 15
Annual Report	Jan 1- Dec 31	March 30
Five-Year Corrective Action Program Report	Jan 1- Dec 31	March 30, 2012
Financial Assurance Report (included with the Annual Report)	Jan 1 – Dec 31	March 30

Ordered by:   
HAROLD J. SINGER  
EXECUTIVE OFFICER

Attachments: Attachment A – Tables 1-2  
Attachment B – General Provisions for Monitoring and Reporting

**ATTACHMENT A**

**Table 1: Ground Water Monitoring Program**

<b>Parameters</b>	<b>Units</b>	<b>EPA Method<sup>2</sup></b>	<b>Sampling Frequency<sup>3</sup></b>	<b>Reporting Frequency<sup>4</sup></b>
<b>Field Aquifer Parameters</b>				
Slope of Ground Water Gradient	Percent	Not Applicable	Semi-annual	Semi-annual
Direction of Ground Water Gradient	Degrees	NA	Semi-annual	Semi-annual
Velocity of Ground Water Flow	feet/1000 feet	NA	Semi-annual	Semi-annual
Depth to Ground Water	feet bgs	NA	Quarterly	Semi-annual
Static Water Level	feet above mean sea level	NA	Semi-annual	Semi-annual
Electric Conductivity	micromhos/cm	120.1	Semi-annual	Semi-annual
pH	pH Units	150.1	Semi-annual	Semi-annual
Temperature	degrees F or C	170.1	Semi-annual	Semi-annual
Turbidity	NTUs	180.1	Semi-annual	Semi-annual
<b>Monitoring Parameters</b>				
Total Dissolved Solids	milligrams/liter	E160.1	Semi-annual	Semi-annual
Anions - Chloride, sulfate, bicarbonate, carbonate, nitrate	milligrams/liter		Semi-annual	Semi-annual
Cations - Calcium, Potassium, Magnesium, Sodium	milligrams/liter	SW8260/E300/A2320/A4500F-C	Semi-annual	Semi-annual
Hardness	milligrams/liter	SM-2340B	Semi-annual	Semi-annual
Volatile Organic Compounds <sup>5</sup> (+ oxygenates)	micrograms/liter	8260B	Semi-annual	Semi-annual
<b>Constituents of Concern</b>				
Inorganic (dissolved) see Table 2	micrograms/liter		5 year	5 year
Volatile Organic Compounds (+ oxygenates extended list)	micrograms/liter	8260	5 year	5 year
Semivolatile Organic Compounds <sup>6</sup>	micrograms/liter	8270	5 year	5 year
PCBs and Pesticides <sup>3</sup>	micrograms/liter	8082/8081	5 year	5 year
Chlorinated Herbicides <sup>3</sup>	micrograms/liter	8151	5 year	5 year
Organophosphorus Pesticides <sup>3</sup>	micrograms/liter	8141	5 year	5 year

<sup>2</sup> The Discharger shall analyze for all constituents using the United States Environmental Protection Agency (USEPA) analytical methods indicated or the most recently approved SW-846 USEPA method or other equivalent USEPA method.

<sup>3</sup> Monitoring Frequency shall be semi-annual unless otherwise noted.

<sup>4</sup> Reporting Frequency shall be semi-annual. Reports are due February 15 (includes data collected Jul – Dec) and July 15 (Includes data collected Jan – Jun).

<sup>5</sup> As defined in Appendix I, 40 CFR, part 258.

<sup>6</sup> As defined in Appendix II, 40 CFR, part 258.

**ATTACHMENT A****Table 2: Inorganic Constituents of Concern**

<b>Parameter</b>	<b>USEPA Method<sup>7</sup></b>	<b>Units</b>
Antimony	7062	milligrams/liter
Arsenic	7062	milligrams/liter
Barium	6010	milligrams/liter
Beryllium	6010	milligrams/liter
Cadmium	7131	milligrams/liter
Cobalt	6010	milligrams/liter
Chromium	6010	milligrams/liter
Copper	6010	milligrams/liter
Cyanide	9010	milligrams/liter
Lead	7421	milligrams/liter
Mercury	7471	milligrams/liter
Nickel	7521	milligrams/liter
Selenium	7742	milligrams/liter
Silver	6010	milligrams/liter
Sulfide	9030	milligrams/liter
Thallium	7841	milligrams/liter
Tin	6010	milligrams/liter
Vandium	6010	milligrams/liter

<sup>7</sup> The Discharger shall analyze for all constituents using the United States Environmental Protection Agency (USEPA) analytical methods indicated or the most recently approved SW-846 USEPA method or other equivalent USEPA method.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION

**GENERAL PROVISIONS**  
FOR MONITORING AND REPORTING

1. SAMPLING AND ANALYSIS

- a. All analyses shall be performed in accordance with the current edition(s) of the following documents:
  - i. Standard Methods for the Examination of Water and Wastewater
  - ii. Methods for Chemical Analysis of Water and Wastes. EPA
- b. All analyses shall be performed in a laboratory certified to perform such analyses by the California State Department of Health Services or a laboratory approved by the Regional Board Executive Officer. Specific methods of analysis must be identified on each laboratory report.
- c. Any modifications to the above methods to eliminate known interferences shall be reported with the sample results. The methods used shall also be reported. If methods other than EPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Regional Board prior to use.
- d. The Discharger shall establish chain-of-custody procedures to insure that specific individuals are responsible for sample integrity from commencement of sample collection through delivery to an approved laboratory. Sample collection, storage, and analysis shall be conducted in accordance with an approved Sampling and Analysis Plan (SAP). The most recent version of the approved SAP shall be kept at the facility.
- e. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and equipment to ensure accuracy of measurements, or shall insure that both activities will be conducted. The calibration of any wastewater flow measuring device shall be recorded and maintained in the permanent log book described in 2.b. below.
- f. A grab sample is defined as an individual sample collected in fewer than 15 minutes.
- g. A composite sample is defined as a combination of no fewer than eight individual samples obtained over the specified sampling period at equal intervals. The volume of each individual sample shall be proportional to the discharge flow rate at the time of sampling. The sampling period shall equal the discharge period, or 24 hours, whichever period is shorter.

## 2. OPERATIONAL REQUIREMENTS

### a. Sample Results

Pursuant to California Water Code Section 13267(b), the Discharger shall maintain all sampling and analytical results including: strip charts; date, exact place, and time of sampling; date analyses were performed; sample collector's name; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.

### b. Operational Log

Pursuant to California Water Code Section 13267(b), an operation and maintenance log shall be maintained at the facility. All monitoring and reporting data shall be recorded in a permanent log book.

## 3. REPORTING

- a. For every item where the requirements are not met, the Discharger shall submit a statement of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time, and shall submit a timetable for correction.
- b. Pursuant to California Water Code Section 13267(b), all sampling and analytical results shall be made available to the Regional Board upon request. Results shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.
- c. The Discharger shall provide a brief summary of any operational problems and maintenance activities to the Board with each monitoring report. Any modifications or additions to, or any major maintenance conducted on, or any major problems occurring to the wastewater conveyance system, treatment facilities, or disposal facilities shall be included in this summary.
- d. Monitoring reports shall be signed by:
  - i. In the case of a corporation, by a principal executive officer at least of the level of vice-president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates;
  - ii. In the case of a partnership, by a general partner;
  - iii. In the case of a sole proprietorship, by the proprietor; or

- iv. In the case of a municipal, state or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.
- e. Monitoring reports are to include the following:
  - i. Name and telephone number of individual who can answer questions about the report.
  - ii. The Monitoring and Reporting Program Number.
  - iii. WDID Number.
- f. Modifications

This Monitoring and Reporting Program may be modified at the discretion of the Regional Board Executive Officer.

#### 4. NONCOMPLIANCE

Under Section 13268 of the Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation under Section 13268 of the Water Code.

x:PROVISIONS WDRS

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