

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION**

**MEETING OF JULY 23 AND 24, 2008  
TRUCKEE, CALIFORNIA**

**ITEM:** 9

**SUBJECT:** **REVISED WASTE DISCHARGE REQUIREMENTS  
BARSTOW CLASS III LANDFILL, CLASS II SURFACE  
IMPOUNDMENTS, AND SEPTAGE SLUDGE LANDFARM, SAN  
BERNARDINO COUNTY**

**CHRONOLOGY:**

August 1984	Waste Discharge Requirements (Board Order No. 6-84-56)
February 1989	Revised Waste Discharge Requirements - Adopted (Board Order No. 6-89-33)
September 1993	Amended Waste Discharge Requirements - Adopted (Board Order No. 6-93-10037)
September 1994	Amended Waste Discharge Requirements - Adopted (Board Order No. 6-89-33A1)
July 1997	Revised Waste Discharge Requirements – Adopted (Board Order No. 6-97-079)

**ISSUE:** San Bernardino County has proposed to construct one additional, Class II impoundment providing an additional three million gallons of capacity. This Order accepts the proposed facilities, specifies requirements for the construction and operation of an additional Class II Impoundment and requires additional monitoring.

**DISCUSSION:** The Barstow Class III Landfill, and Class II Impoundments and Landfarm is the facility owned and maintained by the County of San Bernardino (Discharger). The Barstow Class III Landfill is unlined and receives more than 100 tons per day of inert and non-hazardous solid wastes from the City of Barstow and the surrounding communities. The two Class II Surface Impoundments (Impoundments) are double synthetic lined with a leachate collection and recovery system and receive septage (household septic tank waste) and chemical toilet wastes. Currently, total

09-0001

septage capacity is about 4.6 million gallons. The additional impoundment will be required to be constructed with a double synthetic liner system (upper high density polyethylene [HDPE] and lower double composite HDPE) with a leachate collection and recovery system in between.

Although low levels of volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) have been detected in the septage, a load checking program has been implemented and revisions to this program is required by this Order. A load checking program will minimize disposal of VOCs and SVOCs to the Impoundments. Discharge of Industrial waste is prohibited. Disposal of septage solids are allowed in the Landfill provided levels of VOCs and SVOCs are below 100 times the detection limit. Treatment of the septage sludge is allowed in the adjacent Landfarm, an unlined bermed area. A revised load checking program and septage management plan is required. Analytical monitoring results indicate that this septage waste has not impacted soils beneath the land treatment unit, and water quality monitoring indicates that groundwater also has not been impacted.

Depth to groundwater at the site is about 740 feet below ground surface. The Detection Monitoring Program for the Landfill consists of semi-annual groundwater, soil gas, and soil-pore liquid monitoring. This Order also specifies soil moisture monitoring beneath the Impoundments, and soil monitoring beneath the Landfarm. Quarterly/semi-annual sampling and analyses are also required for the septage liquids, and solids, and annual testing of treated septage solids to verify disposal limits. The Discharger is required in this Order to evaluate the monitoring data to determine if waste constituents are migrating in a manner which poses a threat to groundwater quality.

Regional Board staff has solicited comments from the Discharger and interested parties. All comments received have been addressed.

**RECOMMENDATION:** Adoption of the Order as proposed

Enclosure: 1. Proposed Board Order

**ENCLOSURE 1**

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION**

**FACT SHEET**

**ITEM NO:** 9

**DISCHARGER NAME:** County of San Bernardino

**PROJECT NAME:** Barstow Class III Landfill, Class II Surface Impoundments, and Septage Sludge Landfarm

**PROJECT TYPE:** Non-Hazardous Solid Waste Landfill, Liquid Designated Waste Surface Impoundments, and Solid Designated Waste Landfarm

**LOCATION:** 3 miles south of the City of Barstow

**PROGRAM:** Land Disposal

**TYPE OF WASTE:** Inert, Non-Hazardous Solid Waste, Municipal Solid Waste, Liquid Designated Waste, and Solid Designated Waste

**WASTE MANAGEMENT UNIT CLASSIFICATION:** Class II and III Waste Management Units

**DISPOSAL FACILITIES:** Landfill, Surface Impoundments

**RECEIVING WATERS:** Groundwaters of the Upper Mojave River Valley Groundwater Basin

**BENEFICIAL USES:**

- a. Municipal and domestic supply
- b. Agricultural supply
- c. Industrial supply
- d. Freshwater replenishment
- e. Aquaculture

**CEQA COMPLIANCE:** Negative Declaration and Categorical Exemption - Section 15301

**LANDOWNER:** United States Bureau of Land Management

**LAND CONTROLLED BY:** County of San Bernardino

**NEARBY DEVELOPMENT:** Residential and commercial in the City of Barstow, open desert adjacent to Facilities

**NATURE OF AREA:** High Desert

09-0003

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION

**BOARD ORDER NO. R6V-2008-(PROPOSED)**  
**WDID NO. 6B360304005**

REVISED WASTE DISCHARGE REQUIREMENTS

FOR

**BARSTOW CLASS III LANDFILL, CLASS II SURFACE IMPOUNDMENTS  
AND SEPTAGE SLUDGE LANDFARM**

San Bernardino County

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

1. Discharger

On February 5, 2008, the County of San Bernardino Solid Waste Management Division (County) submitted a complete revised Report of Waste Discharge for the Barstow Class III Landfill, Class II Surface Impoundments, and Septage Sludge Landfarm. On April 30, 2008, the County withdrew its proposal to construct the Septage Receiving Facilities. For the purpose of this Water Board Order (Order), the County of San Bernardino, which owns and operates these facilities, is referred to as the "Discharger."

The Landfill is operated by a contract operator (Contractor) under a contractual agreement (Contract) with the County. The Contractor performs all of the day-to-day operations at the Landfill. In a letter to the Water Board Executive Officer, dated February 19, 1997, the County indicated that it alone has full and complete responsibility for all activities that take place at the Landfill, including all activities undertaken by the Contractor. The County has specified that this will be the case even if these activities violate waste discharge requirements or the conditions of the Contract, whether or not the County has approved the activities, or whether the activities are legal or illegal. As such, it is unnecessary to also name the Contractor as a Discharger.

2. Facility

The Barstow Class III Landfill, Class II Surface Impoundments, and Septage Sludge Landfarm are the facilities that receive, treat, and store waste. For the purposes of this Order, the Barstow Class III Landfill is referred to as the "Landfill," the Class II Surface Impoundments are referred to as the "Impoundments," and the Septage Sludge Landfarm is referred to as the "Landfarm." For the purposes of this Order, the Landfill, Impoundments, and Landfarm are referred to as the "Facility." A map of the Facility is included as Attachment A, and a map of the proposed additional impoundment is included as Attachment B, which is made a part of this Order.

09-0004

3. Order History

The Water Board previously adopted Waste Discharge Requirements (WDRs) for the Landfill under Board Order No. 6-84-56, which was adopted on August 11, 1984. The WDRs were revised under Board Order No. 6-89-33, adopted on February 9, 1989. Board Order No. 6-93-10037, adopted on September 9, 1993, amended the WDRs to incorporate the requirements of Title 40, Code of Federal Regulations (40 CFR), Parts 257 and 258 (Subtitle D) as implemented in the State of California under State Water Resources Control Board (SWRCB) Resolution No. 93-62. Board Order No. 6-89-33A1 was adopted on September 8, 1994, and amended the WDRs to include requirements for the Impoundments. Board Order No. 6-97-79 was adopted July 17, 1997 to revise the WDRs and Monitoring and Reporting Program (MRP) to incorporate requirements of Order No. 6-93-10037, implement a load-checking program for the Impoundments, provide requirements for the construction and operation of the Landfarm, and to establish effluent limitations for specific constituents which may be present in the septage sludge and discharge to the Landfill. Orders No 6-93-10037, 6-89-33, and 6-89-33A1 were rescinded July 17, 1997.

4. Reason for Action

The Water Board is revising these WDRs to add requirements for one additional Class II Impoundment, which is shown in Attachment B.

5. Facility Location

The Facility is located at 32553 Barstow Road (Highway 247), approximately 3 miles south of the City of Barstow, San Bernardino County, within Sections 30, 31, & 32, T9N, R1W, SB&M, as shown on Attachment A, which is made part of this Order.

6. Landfill

The Landfill is an unlined landfill, which receives more than 100 tons of solid waste per day. Subtitle D requirements became effective for this Landfill on October 9, 1993. Water Board staff has reviewed information submitted by the Discharger, which illustrates the footprint of waste discharged as of October 9, 1993. The footprint documents the limits of waste, which are exempt from Subtitle D requirements for composite liners and is shown on Attachment A.

7. Impoundments

The type of wastes accepted at the three (3) class II surface impoundments are septic tank pumpings (septage) and chemical toilet waste.

The two active Impoundments are double synthetic lined with 60 millimeter high density polyethylene (HDPE) plastic. A leachate collection and removal system (LCRS) drainage layer exists between the two liners and is sloped to drain to collection sumps. This design will be repeated in the construction of the additional

impoundment. The two active Impoundments total capacity is 4.6 million gallons. The proposed additional impoundment would increase storage capacity by approximately three million gallons and will be located in the southeast quadrant of the existing Landfarm. (The landfarm will be correspondingly reduced in size by 2.14 acres to equal about 4.3 total acres.)

Sampling data from the Impoundments demonstrate that constituents not associated with septage and chemical toilet waste have been discharged. Specifically, low concentrations of volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) have been detected in both liquid wastes and the dried sludge from the Impoundments.

Based on sampling data collected in 1995, and load checking monitoring reports submitted pursuant to the monitoring program, it is believed that some of these waste constituents are actually present in the septage and chemical toilet waste. However, it is also believed that a significant amount of the constituents originate from industrial wastes, which are not authorized by the Water Board to be discharged to the Impoundments.

The County has developed a load checking program to prevent the discharge of industrial wastes containing VOCs and SVOCs to the Impoundments. However, because septage and chemical toilet waste also contain these waste constituents, it is not expected that the load checking program can feasibly eliminate all VOC and SVOC discharges to the Impoundments. The liner system for the Impoundments is capable of containing wastes, which have low concentrations of VOCs and SVOCs. This Order acknowledges that septage and chemical toilet waste will contain low concentrations of VOCs and SVOCs and permits such a discharge. This Order does not permit the discharge of industrial wastes and requires implementation of the approved load checking program to assure industrial wastes are not discharged to the Impoundments. This Order requires the Discharger to submit a revised load checking and septage management plan.

8. Landfarm

The Landfarm is an unlined, bermed area that will cover approximately 4.3 acres. The Landfarm will provide an area for the aeration and treatment of septage sludge received from the Impoundments. The treatment zone is considered to be the native soil to a depth of five feet below the ground surface beneath the Landfarm. Only sludge dried to at least 50 percent solids by weight is allowed in the Landfarm. Only sludge generated from the Impoundments is allowed in the Landfarm. Treatment is necessary to remove VOCs and SVOCs from the sludge prior to Landfill disposal. This Order includes numerical effluent limitations for VOCs and SVOCs in septage sludge that can be discharged to the Landfill. This Order requires compliance with a Sampling and Analysis Plan (SAP) to assure compliance with the effluent limitations. This Order also requires compliance with an approved SAP to assure the treatment zone is maintained.

9. Authorized Disposal Sites

The Facility will receive waste from the City of Barstow and nearby communities. The Landfarm will receive septage sludge from the Impoundments. The footprint of waste shown in Attachment A is the only authorized Landfill disposal site. A revised Report of Waste Discharge is required if the Discharger proposes to discharge municipal solid waste outside the footprint area. The only authorized disposal site for septage and chemical toilet waste is the Impoundments. The only authorized treatment site for septage sludge is the Landfarm. Once treated to effluent limitations contained in this Order, the only authorized disposal site for septage sludge is the Landfill.

10. Waste Classification

The waste discharged to the Landfill is defined in the California Code of Regulations (CCR), title 27, sections 20220 and 20230, as non-hazardous and inert solid waste, respectively. The waste discharged to the Landfill is defined as municipal solid waste in Subtitle D. The waste discharged to the Impoundments is classified in CCR, title 27, sections 20210 as liquid designated waste. The waste discharged to the Landfarm for treatment is classified in CCR, title 27, section 20210, as solid designated waste.

11. Waste Management Unit Classification

Pursuant to CCR, title 27, section 20260, the Landfill is classified as a Class III Waste Management Unit. The Impoundments are classified in CCR, title 27, section 20250, as Class II Surface Impoundments. The Landfarm is classified in CCR, title 27, section 20250, as a Class II Land Treatment Unit.

12. Subtitle D Compliance Status

Board Order Amendment No. 6-93-10037 required the submittal of several items in order to comply with Subtitle D. The Discharger has submitted Water Quality Protection Standards and 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 floodplain or a wetlands. The above-listed items, which have already been submitted, fulfill the submittal requirements of Subtitle D, as implemented by State Water Resources Control Board (SWRCB) Resolution No. 93-62.

13. Water Quality Protection Standard

The Water Quality Protection Standard (WQPS) consists of constituents of concern (including monitoring parameters), concentration limits, monitoring points, and the point of compliance. The standard applies over the active life of the Landfill, closure and post-closure maintenance period, and the compliance period. During a 1988 investigation, the Discharger drilled a boring at the Facility to a depth of 900 feet below ground surface. The boring did not encounter groundwater. Because of the excessive depth to groundwater at the Facility, the previous Order

did not require groundwater monitoring, but instead, required unsaturated zone monitoring, which was intended to detect waste constituents that may be migrating downward from the Landfill to the underlying groundwater. In 2001, the Discharger installed groundwater monitoring wells that show groundwater occurs beneath the facility at depths ranging from 744 to 750 feet below ground surface. This Order requires groundwater and unsaturated zone monitoring. The constituents of concern, monitoring points, and concentration limits for the unsaturated zone are described in Monitoring and Reporting Program (MRP) R6V-2008-[PROPOSED], which is attached to and made a part of this Order.

14. Groundwater Elevation Monitoring Frequency

The prescribed requirements for a groundwater monitoring program specified in the CCR, title 27, section 20415(e) (15), require the discharger to measure the water elevation in each well and determine groundwater flow rate and direction in the uppermost aquifer and in any zones of perched water, and in any additional portions of the zone of saturation monitored at least quarterly, including the times of expected highest and lowest elevations of the water levels in the wells.

The Discharger has proposed to measure groundwater elevations semi-annually. This Order approves this alternative monitoring frequency pursuant to CCR, title 27, section 20380(e) (1 through 3), which allows the Water Board to approve an engineered alternative for this prescriptive standard so long as the Water Board finds that 1) each engineered alternative meets the requirements of section 20080(b & c); 2) finds, for each applicable program under section 20385, that the Discharger's proposed monitoring data procurement and analysis methods achieve the program's respective goals, including: those goals for a detection monitoring program, [section 20420(b)], an evaluation monitoring program [section 20425(a)(2)], and a corrective action program [section 20430(b)]; and, 3) that groundwater monitoring will be conducted at least annually at disposal Units and at Units that will be used for five or more years for waste treatment or storage.

Section 20080 (b&c) requires that alternatives shall only be approved where the Discharger demonstrates that: 1) the construction of prescriptive standard is not feasible because it is unreasonably and unnecessarily burdensome and will cost substantially more than alternatives, which meet the criteria, or is impractical and will not promote attainment of applicable performance standards; and, 2) there is a specific engineered alternative that is consistent with the performance goal of the prescriptive standard and affords equivalent protection against water quality impairment.

Based on three years of quarterly groundwater monitoring at the Barstow Landfill, seasonal fluctuations in groundwater elevation, (i.e. inferred changes in direction and velocity), have been minor to non-existent. Continued quarterly groundwater elevation measurements will not provide an additional level of confidence in attainment of monitoring performance standard, and, thus, is considered impractical and will not promote the performance standards to any greater degree than compared to semiannual monitoring. Therefore, semi-annual groundwater elevation

monitoring will meet the prescribed performance standard of CCR, title 27, section 20415, which requires that the monitoring system is appropriate for detecting, at the earliest possible time, a release from the Facility.

15. Groundwater Sampling Monitoring Frequency

The Discharger has proposed to sample groundwater for monitoring parameters on a semi-annual frequency. Based on three years of quarterly sampling, monitoring parameter concentrations appear to be stable over time. Therefore, no loss in data would occur under a semi-annual monitoring frequency.

16. Statistical Methods

Statistical analysis of monitoring data is necessary for the earliest possible detection of statistically significant evidence of a release of waste from the Facility. Title 27 requires statistical data analysis. The Monitoring and Reporting Program includes methods for statistical analysis. The monitoring parameters listed in this Order are believed to be the best indicators of a release from the Facility.

17. Detection Monitoring

Pursuant to CCR, title 27, section 20420, the Discharger has proposed a detection monitoring program for the facility. The detection monitoring program monitors groundwater and the unsaturated zone for evidence of waste constituents migration that may threaten groundwater quality. No evidence of such a release has been detected to date.

18. Evaluation Monitoring

An evaluation monitoring program may be required, pursuant to CCR, title 27, section 20425, if detection monitoring data indicate evidence of a threat to groundwater quality.

19. Corrective Action

A corrective action program (CAP) to remediate released wastes from the Facility may be required pursuant to CCR, title 27 section 20430, should results of an evaluation monitoring program warrant a CAP.

20. Site Geology

The Landfill rests on top of coarse grained alluvial material (Quaternary fanglomerate), which consists primarily of gravel, sand, silt, and minor amounts of interbedded clay. The finer-grained soils are commonly cemented with caliche. In general, on-site surficial soils have a Unified Soil Classification of silty sands, coarse sands, and gravelly sands, which are classified as SM, SP, and SW, respectively.

21. Site Hydrogeology

The results of a groundwater investigation conducted in 2001 indicate groundwater at the site occurs in Quaternary fanglomerate deposits at depths ranging from 744 to 750 feet below ground surface. Groundwater flow direction is generally toward the northeast under a hydraulic gradient of 0.022 feet/feet.

22. Site Surface Hydrology and Storm-Water Runoff

A well-developed, northwest- to west-trending ridge forms a drainage divide with the southeast portion the property. As a result, most of the surface drainage is to the northeast towards the Mojave River. A smaller portion of the site drains to the southwest into Stoddard Valley. All storm water from the Landfill is regulated under the state Amended General Industrial Activities Storm Water Permit (Waste Discharge Identification No. 6B36I005140).

23. Site Topography

The site is situated on the northwest flank of Daggett Ridge, a northwest-trending series of low-lying hills extending southeast from the town of Lenwood. Local topography is dominated by gently- to moderately-steep hills composed of mixed gravel, sand, and silt. Site topography is shown on Attachment "A," which is made a part of this Order.

24. Climatology

The average annual rainfall in the area of the Facility is approximately 4.14 inches. The average temperature is 64 degrees Fahrenheit (F) and ranges to an average high temperature in July of 103 degrees F. The average pan evaporation rate is approximately 82 inches annually.

25. Land Uses

The Facility is in an unincorporated portion of San Bernardino County. The area immediately south of the site lies within the Ord-Rodman Desert Wildlife Management Area of the Western Mojave Recovery Unit for the Mojave population of the desert tortoise. Land use designations are: Resource Conservation (RC) south of the Facility, and Rural Living (RL) north and RC/RL east and west. The surrounding land is undeveloped, with the exception of Barstow Road. There are no airport runways located within 10,000 feet of the Facility.

26. Closure and Post-Closure Maintenance

The Discharger has submitted a Preliminary Closure and Post-Closure Maintenance Plan (CPCMP). This Order requires that the Discharger review the plan annually to determine if significant changes in the operation of the Landfill warrant an update of the plan.

27. Financial Assurance

The Discharger has provided documentation that a financial assurance fund has been developed for closure, post-closure maintenance, and potential future corrective action requirements. This Order requires the Discharger to report the amount of money available in the fund as part of the annual report. This Order also requires that the Discharger demonstrate, in an annual report, that the amount of financial assurance is adequate or increase the amount of financial assurance.

28. Receiving Waters

The receiving waters are the groundwaters of the Lower Mojave River Valley Groundwater Basin (Department of Water Resources Sub-basin No. 6-40).

29. 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.

30. Beneficial Groundwater Uses

The present and probably beneficial uses of the groundwaters of Middle Mojave River Valley Groundwater Basin, as set forth and defined in the Basin Plan, are:

- a. Municipal and domestic supply (MUN);
- b. Agricultural supply (AG);
- c. Industrial service supply (IND);
- d. Freshwater replenishment (FRSH); and,
- e. Aquaculture (AQUA).

31. California Environmental Quality Act

Addendum No. 1 to the Negative Declaration/Initial Study for the Barstow Sanitary Landfill Solid Waste Facilities Permit Revision, November 2006, addresses the proposed additional class II impoundment and was certified by San Bernardino County Planning on May 30, 2007. This Addendum was prepared pursuant to Section 15164 of the California Environmental Quality Act (CEQA) Guidelines, which provide for the use of this environmental documentation when minor technical changes or additions are necessary. This Addendum is an administrative action required to address the proposed project and any potential environmental impacts. Aside from the construction and operation of the new impoundment, these WDRs govern an existing facility that the County is currently operating. The remaining portion of the project consists only of the continued operation of the Facility and is therefore exempt from the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.), in accordance with Section 15301 of the CEQA Guidelines.

32. Notification of Interested Parties

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

33. Consideration of Interested Parties

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

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

I. DISCHARGE SPECIFICATIONS

A. Receiving Water Limitations

The discharge 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 hereunder. This includes the following water limitations for the groundwaters of the Lower Mojave River Valley Groundwater Basin:

1. Bacteria – Groundwaters designated as MUN, the medium concentration of coliform organisms, over any seven-day period, shall be less than 1.1/100 ml in groundwaters.
2. Chemical Constituents – Groundwaters designated as Municipal and Domestic Supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant level (MCL) or secondary maximum contaminant level (SMCL), based upon drinking water standards specified in title 22, CCR: Table 64431-A of section 64431 (Inorganic Chemicals), Table 64444-A of section 64444 (Organic Chemicals), Table 64449-A of section 64449 (SMCL- Consumer Acceptance Limits), and Table 64449-B of Section 64449 (SMCL- Consumer Acceptance Level Ranges). This incorporation by reference is prospective including future changes to the incorporated provisions as the changes take effect.

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

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

3. Radioactivity – Groundwaters designated as MUN shall not contain concentrations of radionuclides in excess of limits specified in CCR, title 22, Table 64442, section 64443.

4. Taste and Odors – Groundwaters shall not contain taste or odor-producing substances in concentrations that cause nuisance or that adversely affect beneficial uses. For groundwaters designated as MUN, at a minimum, concentrations shall not exceed adopted SMCLs specified in Table 64449-A of section 64449 (SMCLs – Acceptance Limits), and Table 64449-B of section 64449 (SMCLs - Ranges) of CCR, title 22, including future changes as the changes take effect.
5. The presence of constituents of concern in concentrations that exceed background levels.

B. Discharge Limitations - Landfarm

1. Only sludge generated from the Impoundments may be treated in the Landfarm.
2. Sludge transported to the Landfarm for treatment must be greater than or equal to 50 percent solids by weight.
3. No hazardous waste, as defined in CCR, title 22, section 66261.3 (Title 22), and managed as required in CCR, title 23, section 2521, shall be accepted at the Landfarm for treatment.
4. Sludge shall not be accepted at the Landfarm in excess of the volume that can be treated at any one time.
5. Sludge removed from the Landfarm shall be disposed in the Landfill or taken to an off-site disposal site that is permitted to receive such waste.

C. Discharge Limitations - Landfill

1. Sludge treated at the Landfarm and transported to the Landfill for disposal shall not contain VOCs, SVOCs, or metals in excess of 100 times the method detection limit for each constituent in liquid. This disposal limit is intended to simulate a factor of safety provided to water quality by the natural attenuation processes at the Facility. The limit was developed in consideration of the limited rainfall and excessive depth to groundwater.
2. Prior to Landfill disposal, all sludge shall be characterized in accordance with an approved SAP in order to demonstrate conformance with the numerical acceptance criteria.
3. Sludge transported to the Landfill for disposal shall not contain total or soluble concentrations of metals that would be defined as hazardous in Title 22.

4. Sludge transported to the Landfill for disposal shall be greater than or equal to 50 percent solids by weight.
5. No hazardous waste, as defined in CCR, title 23, chapter 15, section 2521, or designated wastes, as defined in the Water Code, section 13173, shall be discharged at the Landfill.
6. The Discharger shall remove and relocate any waste which is or has been discharged at the Landfill in violation of these requirements. The waste shall be relocated to a site which is permitted to receive such wastes. All removal and relocation projects shall be coordinated with regulatory agencies, including but not limited to the County of San Bernardino Division of Environmental Health Services.
7. During periods of precipitation, the landfill disposal activity shall be confined to the smallest area possible based on the anticipated quantity of wastes.
8. Water used for dust control shall not contain detectable concentrations of volatile organic compounds.

D. Discharge Limitations - Impoundments

1. No chemical toilet waste containing non-biodegradable toxic substances, defined by sections 67410.1 through 67410.7 of CCR, title 22, shall be discharged to the Impoundments.
2. No hazardous waste, as defined in CCR, title 23, chapter 15, section 2521, shall be discharged to the Impoundments.
3. Wastes discharged to the Impoundments shall be load checked and sampled in accordance with an approved SAP.
4. No industrial wastes shall be discharged to the Impoundments.
5. The Impoundment freeboard shall be a minimum two feet at all times.
6. There shall be no discharge of waste from the Impoundments to the adjacent land areas, except where authorized by this Board Order.

II. REQUIREMENTS AND PROHIBITIONS

A. General

1. The discharge shall not cause a pollution, as defined in section 13050 of the Water Code, or a threatened pollution.
2. Direct pipeline discharge to the Impoundments shall be either equipped with devices, or shall have fail-safe operating procedures, to prevent overflowing. Discharges shall be stopped immediately in the event of any containment system failure and the system repaired.
3. The discharge shall not cause a nuisance, as defined in section 13050 of the Water Code.
4. The discharge of solid wastes, leachate, or any other deleterious material to the groundwaters of the Lower Mojave River Valley Groundwater Basin is prohibited.
5. The discharge of waste, except to the authorized disposal sites, is prohibited.
6. The disposal sites shall be protected from inundation, washout, or erosion of wastes and erosion of covering materials resulting from a storm or a flood having a recurrence interval of once in 100 years.
7. 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.
8. The exterior surfaces of the disposal sites shall be graded to promote lateral runoff of precipitation and to prevent ponding.
9. Water used for dust control during disposal site operations shall be limited to a minimal amount. A "minimal amount" is defined as that amount which will not result in runoff.
10. Wastes other than inert wastes shall not be placed in ponded water from any source whatsoever.
11. The discharge of wastes in a manner that does not maintain a five foot soil separation between the wastes and the seasonal high groundwater elevation is prohibited.
12. At closure, all facilities must be closed in accordance with a final CPCMP approved by the Water Board.

B. Detection Monitoring Program

The Discharger shall maintain a detection monitoring program, as required in CCR, title 27, section 20385(a)(1).

C. Evaluation Monitoring Program

The Discharger shall establish an evaluation monitoring program whenever there is significant evidence of a threat to groundwater quality from the Facility, as required in CCR, title 27, section 20385(a)(2) or (3).

D. Corrective Action Program

The Discharger shall institute a CAP when required pursuant to CCR, title 27, section 20385(a)(4).

III. WATER QUALITY MONITORING AND RESPONSE PROGRAMS

A. Water Quality Protection Standard

1. The Discharger shall propose to the Water Board any new constituents of concern proposed for discharge to the Facility at least 180 days before discharge. Before a new discharge commences, the Discharger shall estimate the concentration for such constituents within the waste stream and submit written statistical method(s) in order to detect a release of such constituents.
2. At any given time, the concentration limit for each monitoring parameter constituent of concern shall be equal to the background value of that constituent.
3. If the Discharger or Executive Officer determines that concentration limits were or are exceeded, the Discharger may immediately institute verification procedures upon such determination as specified below or submit an amended Report of Waste Discharge (RWD) within 90 days of such determination in order to establish an evaluation monitoring program.
4. Monitoring Well No. BRGW-2, or its replacement, shall be used to delineate the Point of Compliance and detect a release from the Facility to groundwater.

B. Statistical Methods

1. The Discharger shall use approved statistical data analysis methods to evaluate Point of Compliance data in order to determine statistically significant evidence of a release from the Facility. Approved methods

may include an intrawell statistical analysis approach proposed by the Discharger.

2. The Discharger shall determine, within 45 days after completion of sampling, whether there is statistically significant evidence of a release from the Facility at each Monitoring Point. The analysis shall consider all monitoring parameters and constituents of concern. The Executive Officer may make an independent finding that there is statistically significant evidence of a release or physical evidence of a release.
3. If there is statistically significant evidence of a release, the Discharger shall immediately notify the Water Board by certified mail (see notification procedures contained in the MRP). Subsequently, the Discharger may immediately initiate verification procedures as specified below whenever there is a determination by the Discharger or Executive Officer that there is statistically significant evidence of a release.
4. If the Discharger does not use verification procedures to evaluate evidence of a release, then there is confirmation that there is statistically significant evidence of a release. The Discharger is required to submit, within 90 days of such confirmation, an amended RWD in order to establish evaluation monitoring (see subsection II.C, entitled "Evaluation Monitoring Program") or make a demonstration to the Water Board that there is a source other than the Facility that caused evidence of a release (see notification procedures contained in the MRP).

C. Nonstatistical Analysis

The Discharger shall determine whether there is physical evidence of a threatened impact to water quality from the Landfill. Significant physical evidence may include unexplained volumetric changes in the Landfill, unexplained stress in biological communities, unexplained changes in soil characteristics, visible signs of leachate migration, concentration of constituents of concern in soil gas, which may pose a threat to groundwater quality, or any other change to the environment that could reasonably be expected to be the result of a threatened impact to groundwater quality from the Landfill.

D. 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 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 shown a statistically significant evidence of a release and shall be performed for those Monitoring Points at which a release is indicated.
3. If a determination is made that there is evidence of a release using the Prediction or Tolerance Interval Method, the Discharger may, within 30 days of such determination, update the Upper Tolerance Limit and reevaluate Point of Compliance data in order to verify evidence of a release from the Facility. The Discharger must also collect three additional samples from the affected Monitoring Points and compare the results to the updated Upper Tolerance Limit.
4. 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 to verify evidence of a release.
5. The Discharger shall report to the 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.
6. If the Discharger or Executive Officer verify evidence of a release, the Discharger is required to submit, within 90 days of such a determination that there is, or was, a release, a technical report pursuant to Section 13267(b) of the California Water Code. The report shall propose an evaluation monitoring program (see subsection II.C., entitled "Evaluation Monitoring Program"), or make a demonstration to the Water Board that there is a source other than the Facility that caused evidence of a release (see notification procedures contained in the MRP).

E. Technical Report Without Verification Procedures

If the Discharger chooses not to initiate verification procedures after there has been a determination made for evidence of a release, a technical report shall be submitted pursuant to Section 13267(b) of the California Water Code. The report shall propose an evaluation monitoring program or attempt to demonstrate that the release did not originate from the Facility.

III. PROVISIONS

A. Rescission of Waste Discharge Requirements

Board Order No. 6-97-79 is hereby rescinded except for enforcement purposes.

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 a part of this Order .

C. Monitoring and Reporting

1. Pursuant to the California Water Code, section 13267(b), the Discharger shall comply with Monitoring and Reporting Program No. R6V-2008-(Proposed), 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 a part of the Monitoring and Reporting Program.

D. Closure and Post-Closure Monitoring

The preliminary CPCMP shall be updated if there is a substantial change in operations or costs for closure. By February 14 and yearly thereafter, a report shall be submitted indicating conformance with existing operations. Pursuant to CCR, title 27, section 21780, a final CPCMP shall be submitted two years prior to the anticipated date of closure for any or all parts of the Landfill. The final plan shall be prepared by or under the supervision of either a California registered civil engineer or a registered professional geologist.

E. Financial Assurance

The Discharger shall submit a report by February 14, 2009, and yearly thereafter providing evidence that adequate financial assurance, pursuant to the requirements of the WDRs, has been provided for closure and for potential releases. Evidence shall include the total amount of money available in the fund developed by the County. 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 an 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.

F. Modifications to the Landfill

If the Discharger intends to expand the capacity of the Facility, a report shall be filed no later than 90 days after the total quantity of waste discharged at this site equals 75 percent of the reported capacity of the site. The report shall contain a detailed plan for site expansion. This plan shall include, but is not limited to, a time schedule for studies, design, and other steps needed to provide additional capacity. If site expansion is not undertaken prior to the

site reaching the reported capacity, the total quantity discharged shall be limited to the reported capacity.

IV. TIME SCHEDULE

A. Corrective Action Plan

By **October 31, 2008**, the Discharger must submit a plan for addressing a known or reasonably foreseeable release (KRFR Plan) from the facility in accordance with the requirements in CCR, title 27. The KRFR Plan must include a cost estimate to implement the plan. The KRFR Plan and cost estimate to implement the plan must be prepared by, or under the supervision of a California registered professional geologist or a California registered professional engineer.

B. Revised Septage Management Plan

By **August 30, 2008**, the Discharger shall submit a revised Septage Management plan. This plan shall include load checking, and sampling and analysis procedures for receiving, handling, and treating the septage waste.

C. Final Construction Quality Assurance Report

Following the completion of construction of the lined impoundment, and prior to discharge onto the newly constructed liner system, the final documentation required in CCR, title 27, section 20324(d)(1)(C), shall be submitted to the Water Board for review and approval. This report must be submitted to the Water Board no **later than 180 days** after completion of construction activities. The report shall be certified by a registered civil engineer or a registered professional geologist. It shall contain sufficient information and test results to verify that construction was in accordance with the design plans and specifications and with the prescriptive standards and performance goals of Title 27.

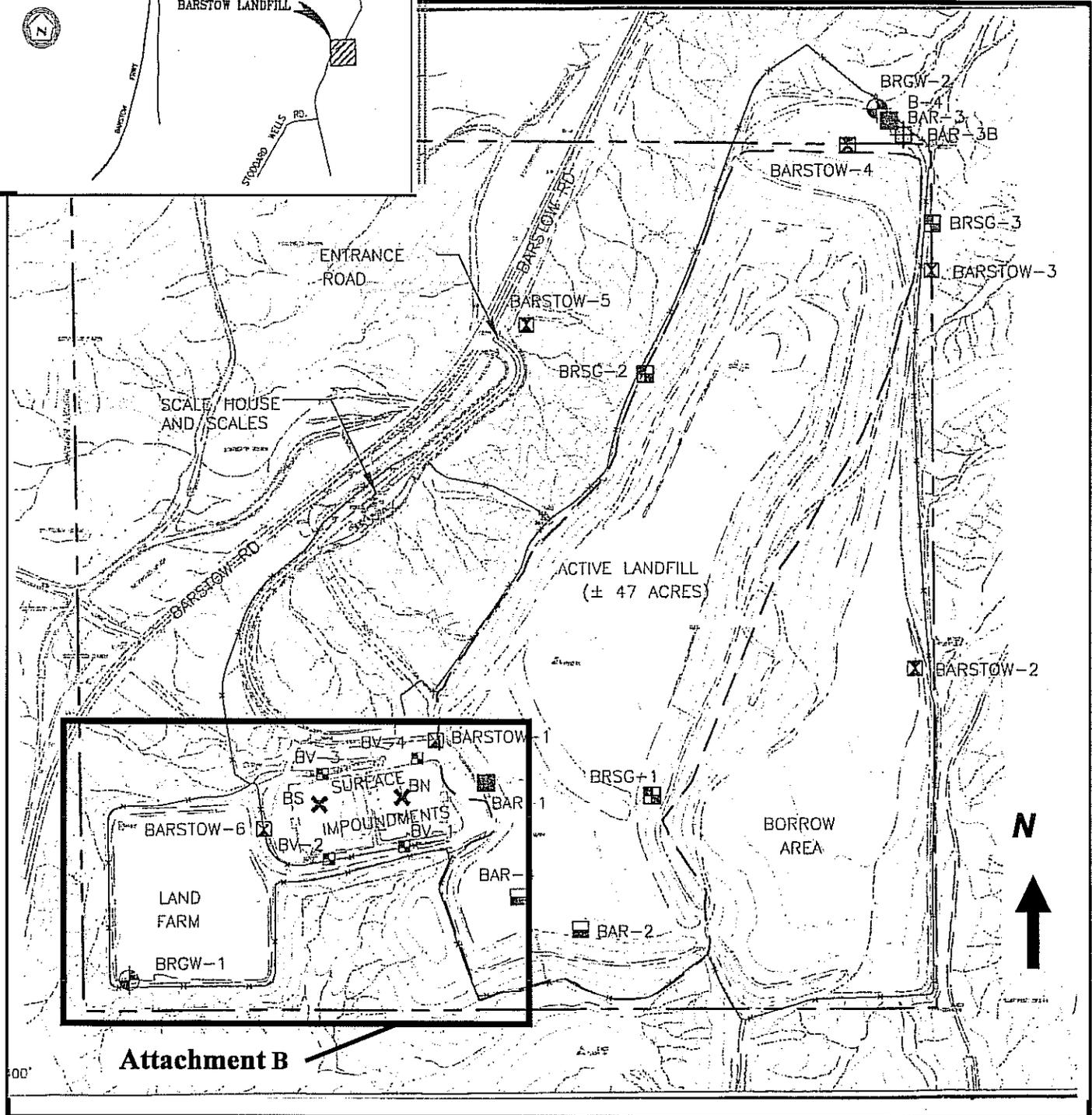
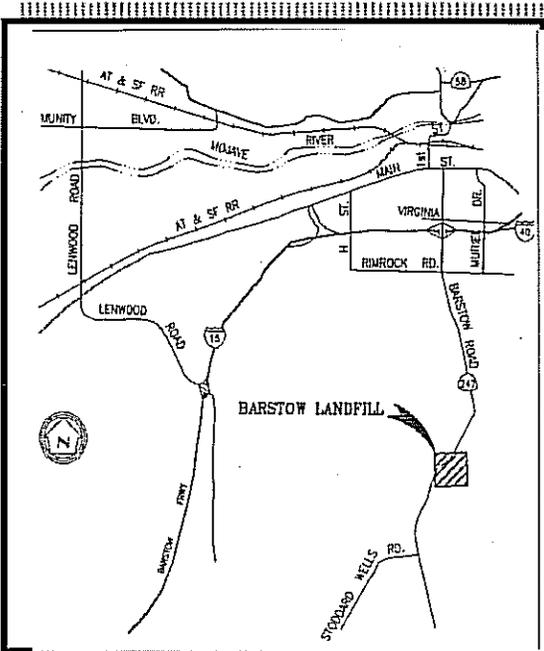
I, Harold J. Singer, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by California Regional Water Quality Control Board, Lahontan Region on July 23, 2008.

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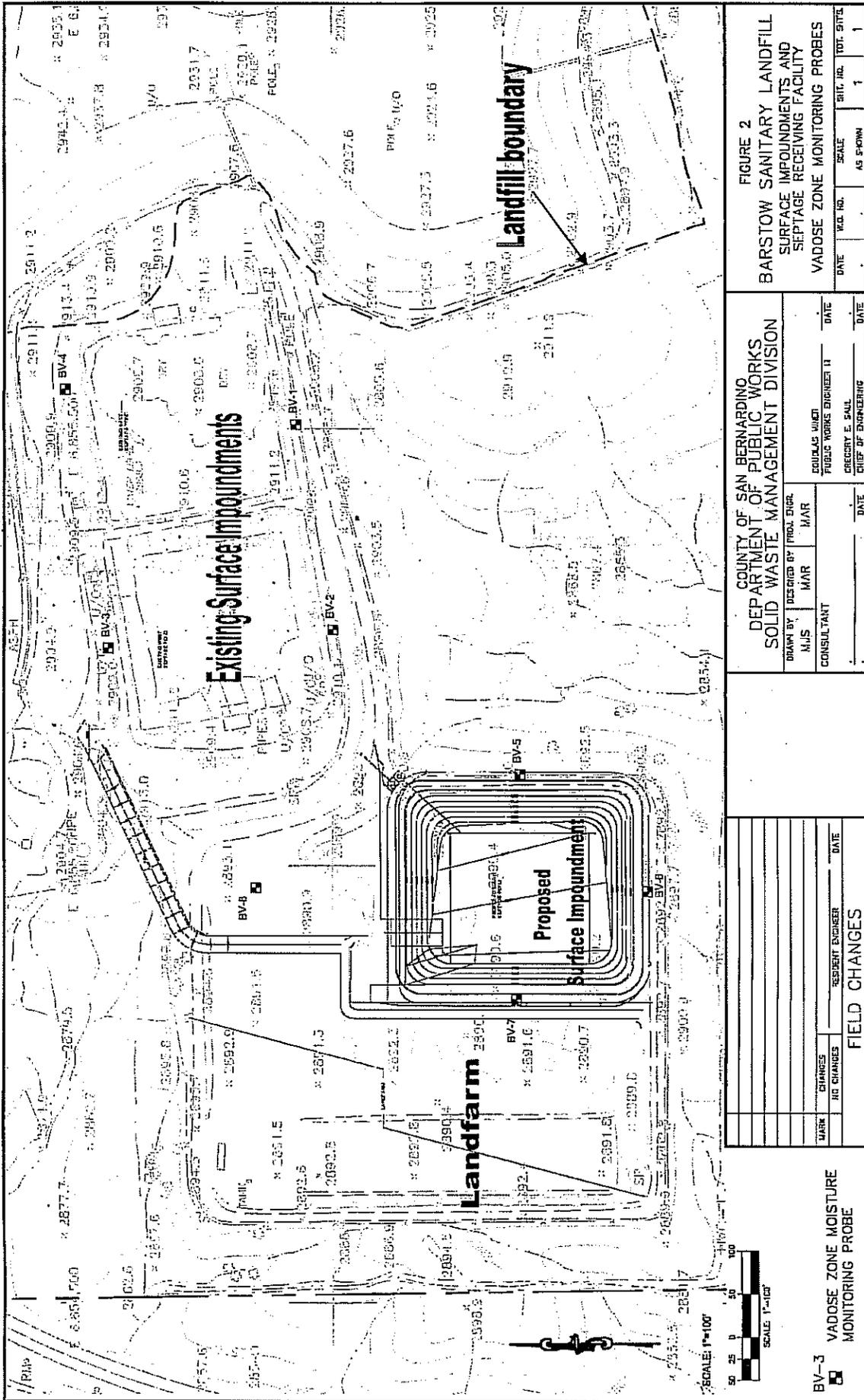
HAROLD J. SINGER  
EXECUTIVE OFFICER

Attachments: A. Facility location, landfill waste footprint  
B. Proposed additional impoundment  
C. Standard Provisions for Waste Discharge Requirements





Attachment B



**FIGURE 2**  
**BARSTOW SANITARY LANDFILL**  
**SURFACE IMPOUNDMENTS AND**  
**SEPTAGE RECEIVING FACILITY**  
**VADOSE ZONE MONITORING PROBES**

COUNTY OF SAN BERNARDINO  
DEPARTMENT OF PUBLIC WORKS  
SOLID WASTE MANAGEMENT DIVISION

DESIGNED BY: M.J.S. / MAR / M.A.R. / DATE: \_\_\_\_\_  
CONSULTANT: \_\_\_\_\_ / DATE: \_\_\_\_\_

REVISIONS WHEN: \_\_\_\_\_ / DATE: \_\_\_\_\_  
PUBLIC WORKS ENGINEER II: CREGORY E. SALL / DATE: \_\_\_\_\_  
CHIEF OF ENGINEERING: \_\_\_\_\_ / DATE: \_\_\_\_\_

NO.	CHANGES	RESUBMIT ENGINEER	DATE

**FIELD CHANGES**

**BV-3** VADOSE ZONE MOISTURE MONITORING PROBE

09-0022

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-2008-(PROPOSED)  
WDID NO. 6B360304005**

FOR

**BARSTOW CLASS III LANDFILL, CLASS II SURFACE IMPOUNDMENTS,  
AND SEPTAGE SLUDGE LANDFARM**

San Bernardino County

I. WATER QUALITY PROTECTION STANDARD

A. Groundwater

1. Point of Compliance and Monitoring Points

The Point of Compliance, as defined in California Code of Regulations (CCR), title 27, section 20405, is "a vertical surface located at the hydraulically downgradient limit of the waste management unit that extends through the uppermost aquifer underlying the unit." Groundwater monitoring wells have been installed at monitoring points upgradient of the Landfill and at the Point of Compliance as part of the Detection Monitoring Program (DMP). The locations of the groundwater monitoring wells are illustrated on Attachment A, which is made a part of this Monitoring and Reporting Program.

2. Monitoring Parameters and Constituents of Concern

The monitoring parameters are the metal surrogates chloride, sulfate, nitrate as nitrogen, total dissolved solids, and volatile organic compounds, as defined by Appendix I of 40 Code Federal Regulations (40 CFR), Part 258. The constituents of concern are the monitoring parameters and those constituents listed in Appendix II of 40 CFR, Part 258.

3. Concentration Limits

- a. The Discharger has collected background water quality data for the monitoring parameters contained in this Monitoring and Reporting Program.
- b. The concentration limits for each man-made organic constituent that is not proven to have originated from a source other than the Landfill is the laboratory detection limit for that constituent.

B. Unsaturated Zone

1. Monitoring Points

The unsaturated zone monitoring program consists of eleven probes: three soil-pore gas probes for the Landfill and eight unsaturated zone moisture probes monitoring the impoundments (including four new and four existing probes). Two lysimeters also monitor the unsaturated zone for the Landfill. The locations of these monitoring points are shown on Attachments A and B of this Monitoring and Reporting Program.

2. Monitoring Parameters and Constituents of Concern

The monitoring parameters and constituents of concern (COC) for lysimeter soil-pore liquid are those listed for groundwater in this MRP (I. A. 2.). The monitoring parameters for soil gas are the gases methane, carbon dioxide, oxygen, and nitrogen. The soil gas constituents of concern are the monitoring parameters and volatile organic compounds listed under the laboratory analytical method EPA TO-14.

3. Concentration Limits

The concentration limits for all constituents of concern in soil gas and lysimeter soil-pore liquids shall be the method detection limit. The gas monitoring parameters shall not be required to have concentration limits because these parameters exist naturally in soil with such a high degree of variability that development of background concentrations would be technically infeasible.

II. MONITORING

A. Discharge

The following data shall be collected as specified below:

1. Semi-annually, the volume of solid waste (in-place compacted volume in cubic yards) discharged to the Landfill for the monitoring period.
2. Semi-annually, the percent of the total Landfill volume used for solid waste disposal, including waste disposed this monitoring period.
3. Semi-annually, an evaluation of the effectiveness of the load checking program for the Landfill and Impoundments.
4. Quarterly, the volume of septage sludge transported to the Landfarm.
5. Quarterly, the volume of septage sludge transported to the Landfill.

6. Quarterly, the volume of septage and chemical toilet waste discharged to the Impoundments.
7. The cumulative total of septage waste discharged to the impoundments in million gallons per month.

B. Impoundments

1. Monthly, the freeboard measured from the top of the lowest part of the Impoundment dike to the wastewater surface in feet. If the Impoundment is dry, indicate that it is dry or empty.
2. Monthly, the integrity of the Impoundment dikes and liners shall be inspected. Should the inspection indicate that any unauthorized discharge has occurred, or may occur, the Water Board shall be notified within 48 hours, followed by confirmation in writing.
3. Data shall be collected in accordance with the approved load checking program for waste discharged to the Impoundments which includes:
  - a. Septage load checking sampling analysis,
  - b. Semi-annual grab samples analysis of wastewater,
  - c. Bi-annual grab samples analysis of dried sludge.
4. Monthly, leachate collection sumps shall be inspected. If liquid is detected in a collection sump, the Water Board shall be notified immediately, and a sample shall be collected and analyzed for the constituents of concern detailed in the load-checking program for the Impoundments.
5. Quarterly, the unsaturated zone monitoring system beneath the Impoundments (neutron probe) shall be analyzed for soil moisture. The results shall be compared against background moisture, as was measured prior to waste discharges to the Impoundments.

C. Landfarm

1. Representative soil samples shall be collected and analyzed for the constituents listed in Table 1 for every batch of treated septage sludge prior to removal from the Landfarm. The status and/or results of sample analysis shall be reported semi-annually.
2. Data shall be collected and recorded in accordance with the approved Sampling and Analysis Plan for confirmation sampling of sludge in the Landfarm.

3. Annually, the Discharger shall verify that the constituents of concern and soil treatment nutrients are not migrating past the five foot vertical treatment zone underlying the Landfarm. Soil samples shall be collected immediately below the five-foot zone and analyzed for the monitoring parameters listed below. If results of sample analysis indicate that monitoring parameter concentrations are greater than background, the Discharger shall repeat sample collection at one-foot intervals until laboratory analytical results show that concentrations are less than background. If monitoring parameter concentrations are found below the five foot treatment zone, the Discharger shall report evidence of a release. The samples shall be collected and composited according to methods specified in the federal Environmental Protection Agency's current version of the manual "Test Methods for Evaluating Solid Waste" (SW-846). The sample shall be analyzed for the parameters listed in Table 1 below using a California-certified laboratory.

**Table 1**

<b>Monitoring Parameter</b>	<b>Units *</b>
Volatile Organic Compounds (USEPA Method 8260)	µg/Kg
Semi-volatile Organic Compounds (USEPA Method 8270)	µg/Kg
Title 22 metals - arsenic, antimony, barium, beryllium, cadmium, total chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc.	mg/Kg
Other nutrients added to septage soil	mg/Kg

\* µg/Kg = micrograms/kilogram; mg/Kg = milligrams/kilogram

**D. Detection Monitoring**  
**Groundwater**

**a. Monitoring Points**

Well BRGW-2 (or its replacement) is utilized as the monitoring point for detection monitoring at the point of compliance. Wells BRGW-1, and BRGW-3 are utilized for background water quality monitoring. The groundwater monitoring well locations are shown in Attachment A of this Monitoring and Reporting Program.

**b. Monitoring Parameters**

Groundwater samples shall be collected and submitted for laboratory analysis from monitoring point BRGW-2 semi-annually for the monitoring parameters listed in this Monitoring and Reporting Program.

c. Constituents of Concern

Groundwater samples shall be collected and submitted for laboratory analysis at all monitoring points once every five years for all constituents of concern listed in Appendix II of 40 CFR, Part 258.

d. Aquifer Characteristics

The parameters listed in Table 2.a. shall be calculated and reported in tabular form semi-annually. Include a figure illustration of the information listed in Table 2.b.

**Table No. 2.a. - Groundwater Field Measurements**

<u>Parameter</u>	<u>Units</u>
Depth to Groundwater	feet below ground surface
Static groundwater Level	feet above mean sea level
Electrical Conductivity	micromhos/centimeter
pH	pH units
Temperature	Degrees Fahrenheit or Centigrade
Turbidity	NTUs

**Table 2.b. - Groundwater Calculations**

<u>Parameter</u>	<u>Units</u>
Slope of Groundwater (gradient)	feet/mile
Direction of Groundwater Gradient	Degrees from north
Velocity of Groundwater flow	Feet/year

2. Unsaturated Zone

a. Landfill

Currently, the Landfill has an unsaturated zone monitoring system. The unsaturated zone monitoring system for the Landfill includes three, dual-depth, soil pore gas probes and two lysimeters (Attachments A and B to this MRP). The lysimeters shall be monitored semi-annually. The soil pore gas probes shall be monitored semi-annually. Soil gas shall be analyzed for the constituents of concern. Pore fluid shall be analyzed for monitoring parameters and constituents of concern.

b. Impoundment

Soil moisture monitoring shall be conducted for the Impoundments. Soil moisture monitoring points shall be adequately located to monitor soil moisture conditions in the vicinity of these Impoundments. Locations of existing and proposed soil moisture points are shown in Attachment B. These moisture probes shall be monitored quarterly.

III. REPORTING REQUIREMENTS

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

A. General Provisions

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

B. Scheduled Reports To Be Filed With The Water Board

1. Quarterly, semi-annual, and biannual monitoring reports shall be submitted to the Water Board no later than 45 days following the monitoring period.
  - a. Results of sampling analyses, including statistical limits for each groundwater monitoring point;
  - b. Results of laboratory analyses of soil gas and non-statistical data analyses. Non-statistical analyses shall include time-series plots for all soil gas COCs at all monitoring points.
  - c. Data collected in accordance with the approved load checking program for the Impoundments.
  - d. Data collected in accordance with the approved Sampling and Analysis Plan for the Landfarm.
  - e. A letter transmitting 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.

- f. 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.
  - g. A map or aerial photograph showing the locations of the monitoring points.
2. Annual Monitoring Reports shall be submitted to the Water Board no later than March 30 of each year. The reports shall include the following:
    - a. Time series data plots of the past three years of groundwater, soil gas, and soil moisture analysis.
    - b. A map showing the groundwater elevation and monitoring points.
    - c. An update concerning the adequacy of financial assurance, as required by this Order.
    - d. The Discharger shall review the preliminary Closure and Post-Closure Maintenance Plan (CPCMP) annually to determine if significant changes in the operation of the Landfill warrant an update of the Plan. Changes to this CPCMP shall be submitted.

3. Five-Year Constituent of Concern Monitoring Program

Pursuant to OCR, title 27, section 20420(g), every five years the Discharger shall sample for COCs with successive direct monitoring efforts being carried out alternatively 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 next five-year COC sampling event shall take place during July 1 through December 31 of 2010 and reported no later than 45 days following the monitoring period.

C. Unscheduled Reports to be Filed With the Water Board

1. Notice of Tentative Release

Should the appropriate statistical or non-statistical data analysis indicate, for a given constituent of concern, that a 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(j), 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.
- c. If the Discharger chooses to attempt to demonstrate that a source other than the Landfill is responsible for the release, the Discharger shall submit a supporting technical report within 90 days of detection of the release.

2. Evaluation Monitoring

The Discharger shall, within 90 days of verifying a release, submit a technical report pursuant to section 13267(b) of the California Water Code proposing an Evaluation Monitoring Program (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 release, the release will be considered verified.

3. Engineering Feasibility Study Report

The Discharger shall, within 180 days of verifying a release, submit a Technical Report discussing conclusions and recommendations from the DMP and the EMP. The report shall include an Engineering Feasibility Study along with a proposed corrective action program (CAP) or recommend a return to DMP in accordance with title 27, section 20425, CCR.

4. Revised Septage Management Plan

The Discharger shall submit a revised septage management plan should septage handling conditions change to the extent that revisions to the load checking program or septage sampling are required.

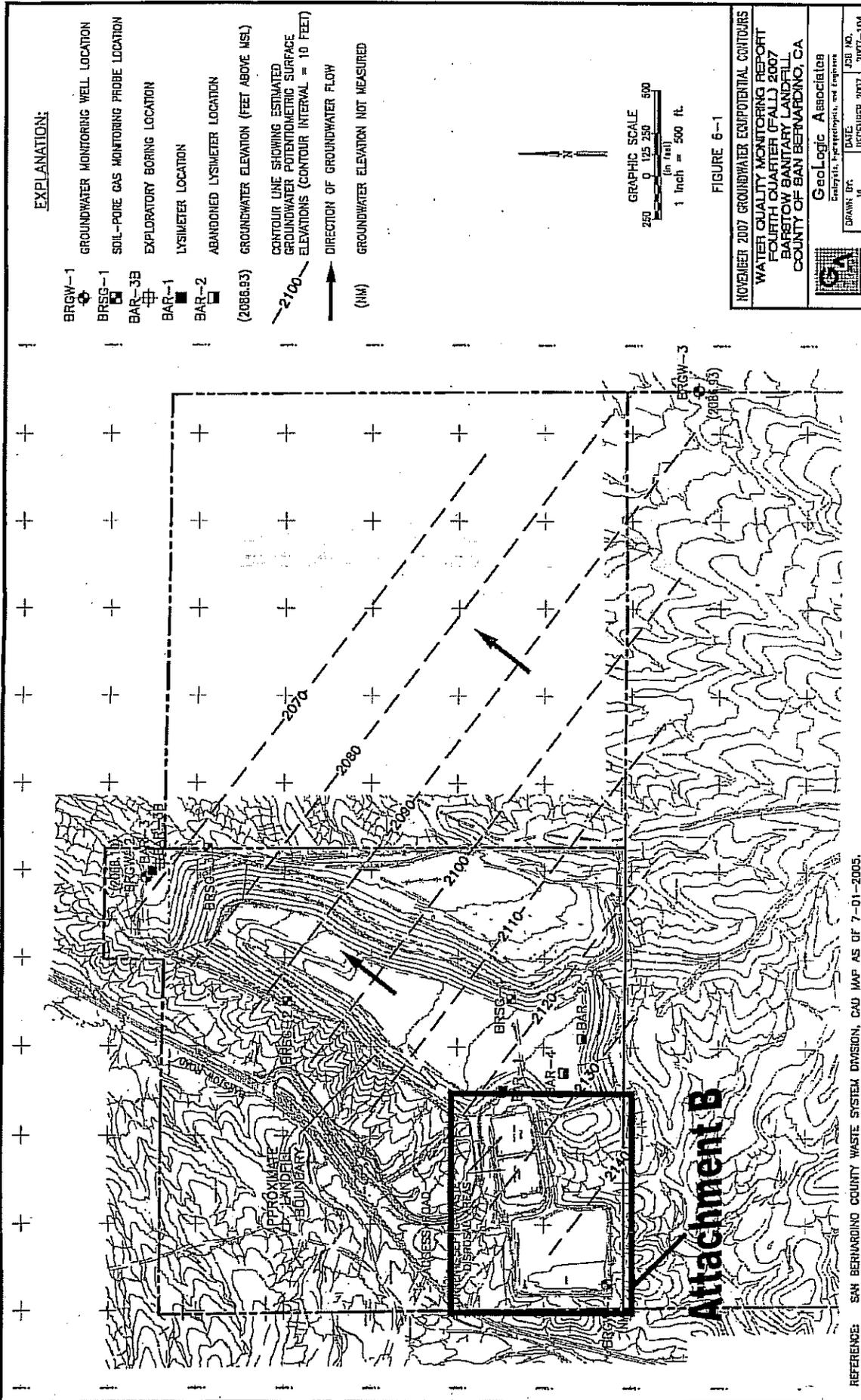
D. Summary of Reporting Frequency

<b>Table 3 – Monitoring and Reporting Frequency</b>		
<b>Monitoring Period</b>	<b>Monitoring Data</b>	<b>Date Due (no later than)</b>
<u>Quarterly</u> 1 <sup>st</sup> Qrt (Jan – Mar) 2 <sup>nd</sup> Qrt (Apr – June) 3 <sup>rd</sup> Qrt (July – Sept) 4 <sup>th</sup> Qrt (Oct – Dec)	Septage monitoring and sampling analysis data, Impoundment LCRS, soil moisture monitoring data, Impoundment inspection, load checking data.	1 <sup>st</sup> Qrt report – May 15 2 <sup>nd</sup> Qrt report – August 14 3 <sup>rd</sup> Qrt report – November 14 4 <sup>th</sup> Qrt report – February 14
<u>Semi-annual</u> 1 <sup>st</sup> Semester (Jan – June) 2 <sup>nd</sup> Semester (July – Dec)	Groundwater and unsaturated zone monitoring analysis results. Groundwater elevation. Septage wastewater sampling analysis data.	1 <sup>st</sup> semester report – August 14 2 <sup>nd</sup> semester report – February 14
Annual (Jan – Dec)	Previous three years of groundwater/unsaturated zone monitoring sampling and analysis data. Landfarm soil verification sampling analysis data.	March 30
Bi-annual 2 year (Jan – Dec)	Septage sludge sampling analysis data.	February 14
Five year (calendar based) 1 <sup>st</sup> (July – Dec) 2010 2 <sup>nd</sup> (Jan – Jun) 2015	Groundwater monitoring sampling and analysis for those constituents listed in Appendix II of 40 CFR, Part 258.	February 14, 2011 August 14, 2015

Ordered by: \_\_\_\_\_  
**HAROLD J. SINGER**  
**EXECUTIVE OFFICER**

Dated: July 23, 2008

Attachments: A. Location of Monitoring Points for Facility  
 B. Proposed Monitoring Points - Impoundments  
 C. General Provisions for Monitoring and Reporting



09-0036



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

file: general pro mrp