

California Regional Water Quality Control Board
Santa Ana Region

Cease and Desist Order No. R8-2002-0096, for the County of
Riverside Waste Management Department
for
Violations and Threatened Violations of Waste Discharge Requirements Order
No. 91-105, as Amended by Order No. 98-99

The California Regional Water Quality Control Board (RWQCB), Santa Ana Region (hereinafter Board), finds that:

1. The Riverside County Waste Management Department (hereinafter discharger) has operated the Badlands Sanitary Landfill (BSL) since 1965. The site is located in the San Timoteo Badlands, Section 32, T2S, R2W, and portions of Sections 4 and 5, T3S, R2W, SBB&M. The site consists of 1093.2 acres and is designated as a Class III landfill. One-hundred-and-fifty (150) acres are currently permitted to accept only non-hazardous municipal solid waste (MSW).
2. Landfill operations at the BSL are currently regulated by Waste Discharge Requirements, Order No. 91-105 adopted by the Board on July 19, 1991, as amended by Order No. 98-99, adopted by the Board on and November 20, 1998.
3. Regulatory requirements for municipal solid waste (MSW) landfills are contained in California Code of Regulations, Title 27, Division 2 (Title 27).
4. Provision C.2 of Order No. 98-99 stipulates, "Discharge of waste to MSW landfills that have not received waste as of October 9, 1993 or to any area beyond the Existing Footprint of the unit is prohibited unless such discharge is to an area equipped with a containment system. The containment system shall be constructed in accordance with the industry standards and the additional requirements of Resolution 93-62, Section III and Title 27, §20330 and §20340."
5. Title 27, §20323 states, "After July 18, 1997, the RWQCB shall require construction for all liner systems and final cover systems to be carried out in accordance with a CQA plan certified by an appropriately registered professional to satisfy the requirements of §20324. If the RWQCB finds that any construction of the liner system or final cover system was undertaken in the absence of a CQA plan that satisfies the requirements of §20324, the RWQCB shall require the discharger to undertake any corrective construction needed to achieve such compliance."
6. Title 27, §20324(a) states, "Performance Standards - The construction quality assurance (CQA) program, including all relevant aspects of construction quality control (CQC), shall provide evidence that materials and procedures utilized in the placement of any containment feature at a waste management unit (Unit) will be tested and monitored to assure the structure is constructed in accordance with the design specifications approved by the RWQCB."

7. On July 29, 2002, the discharger submitted a Joint Technical Document (JTD), Amendment No. 1, requesting the Board's approval for the use of an engineered alternative to the prescriptive liner design. The engineered alternative design was proposed for both bottom and side slope liners for the remaining floor and side slope areas that will be lined at the BSL.
8. Following reviews of several drafts, Board staff conditionally approved JTD Addendum No. 1 for the BSL on August 28, 2002. The following conditions were included in the conditional approval letter of JTD Addendum No. 1:
 - i. The bottom liner system must include a geosynthetic clay liner (GCL) that is encapsulated with a minimum of 40-mil double textured high-density polyethylene (HDPE) geomembrane on the bottom, and a minimum of 60-mil double textured geomembrane on the top. The interface direct shear laboratory testing results presented in Attachment No. 4 of JTD Addendum No. 1 indicates that only Bentomat DN GCL was tested. If Riverside County Waste Management Department (RCWMD) would like to use another GCL brand or a different type of Bentomat product on the bottom or side slopes, additional testing will be required and the results must be submitted for approval.
 - ii. A GCL with 40-mil or 60-mil geomembrane backing may not be substituted for a needle-punched non-woven GCL and 60-mil geomembrane on the side slopes (single-sided textured geomembrane).
 - iii. Due to the absence of cushion geotextile between the combined operations/ leachate collection recovery system (LCRS) layer and the geomembrane on the side slopes, the operations layer/ LCRS layer must be comprised of material with a particle size of less than 1-inch in diameter (1-inch minus material), and no angular or subangular soil particles greater than 3/8-inch may be present in the soil.
 - iv. Temporary cut slopes at inclinations of 1.5:1 and 1:1 are proposed for the site. RCWMD is responsible for ensuring that the integrity of the steep cut slopes and the side slope liner system can be maintained until the slopes are adequately buttressed by refuse.
9. On October 25, 2002, Order No. R8-2002-0085 was adopted to amend the existing waste discharge requirements to allow for the use of engineered alternative liner systems. The adopted profiles of the engineered alternative liner systems are described below, starting from the bottom up:

Bottom Liner

1. Prepared subgrade
2a. 12-inch soil layer consisting of 1-inch minus material with a hydraulic conductivity $\leq 1 \times 10^{-5}$ cm/s
2b. 40-mil GCL hydration barrier (textured both sides)
2c. Geosynthetic Clay Liner (GCL)
3. 60-mil HDPE liner (textured both sides)

Bottom Liner continued

4. 12-inch leachate collection recovery system (LCRS) Drainage Layer with a permeability of no less than 1×10^{-2} cm/s (1-inch minus clean gravel with less than 2 percent fines with no angular or subangular soil for particles greater than 3/8-inch in diameter)
5. 8 oz. Geotextile filter fabric
6. 24-inch protective soil layer (3-inch minus for the lower 12-inches and 6-inch minus for the upper 12-inches)
7. Refuse placement

Side Slope Liner

1. Prepared subgrade
2. Needle punched, non-woven GCL ¹
3. 60-mil HDPE liner (single-sided textured geomembrane)
4. 24-inch protective soil layer/leachate drainage layer (1-inch minus material)
5. Refuse placement

10. On June 3, 2002, the discharger submitted a request to place protective cover directly on top of geomembrane within the remaining exposed areas of Canyon 3, Phase 1. The Discharger's request was based on evaluations prepared by Geosyntec Consultants for Canyon 4, Phase 2, which were then modified by RCWMD for Canyon 3, Phase 1. The results of the evaluation demonstrated that operations layer soil with a particle diameter less than 1.7 inches, will not puncture a 60-mil HDPE side slope geomembrane if the protective layer soil is placed directly on top of the smooth side of the geomembrane. Published articles from the Geosynthetics International Journal supported the evaluations. In a letter dated June 19, 2002, Board staff requested additional information prior to approval of the Discharger's request.
11. On August 26, 2002, the Discharger presented additional information as requested in the June 19, 2002 letter. On August 28, 2002, Board staff approved the request to place protective soil layer material directly against the smooth side of the geomembrane within the remaining exposed areas of Canyon 3, Phase 1, provided that the soil had particle sizes less than 1 inch in diameter (1-inch minus) and no angular or subangular soil particles greater than 3/8 inch in diameter.
12. On October 9, 2002, Board staff, accompanied by RCWMD staff, conducted an inspection of the BSL. During the inspection, Board staff noted several angular rocks greater than 1.5-inch in diameter in the screened "1-inch minus" stockpile. At the time of the inspection, RCWMD was verbally notified that large rocks were found in the "1-inch minus" stockpile and that this material was not acceptable as "1-inch minus" material. On October 16, 2002, Board staff notified the discharger via electronic mail that the material in the "1-inch minus" stockpile did not comply with the conditions of approval for the project. The presence of large rocks indicated that approved CQA procedures for

¹ Geosynthetic Clay Liners are factory manufactured, hydraulic barriers typically consisting of bentonite clay or other very low permeability clay materials, supported by geotextiles and/or geomembranes, which are held together by needling, stitching and/or chemical adhesives.

- screening and placement of the operations layer had not been followed. Because the operations layer is in direct contact with the side slope HDPE liner, large rocks have the potential to puncture the underlying liner, threatening the integrity of the landfill's containment system.
13. On October 22, 2002, RCWMD submitted a letter stating that RCWMD stopped using the "1-inch minus" stockpile for placement directly against the geomembrane in Canyon 3, Phase 1 on October 17, 2002. They also indicated that the reason the oversized rocks were present in the "1-inch minus" stockpile was the use of a screen with 1-inch by 4-inch openings.
 14. At an October 24, 2002 meeting, RCWMD informed Board staff that the 1-inch by 4-inch screen had been replaced by a 1-inch by 1-inch screen, and a new 1-inch minus stockpile had been generated. Further, it was agreed that RCWMD had failed to adhere to the construction specifications in Board staff's approval letter dated August 28, 2002, and that improper CQA procedures had been followed during protective soil layer placement, thereby violating Order No. 98-99 and Title 27 requirements. RCWMD agreed to remove the unacceptable protective soil layer and to replace it with the newly screened 1-inch minus protective soil material. Board staff requested that RCWMD submit a work plan outlining the areas of the Canyon 3, Phase 1 side slope that were constructed in violation of the protocols set forth in the approved CQA plan, and a description of the removal and CQA activities for removal of the unacceptable material.
 15. On October 28, 2002, Board staff met with RCWMD staff at the BSL to inspect the Canyon 3, Phase 1 unacceptable side slope liner and the new 1-inch by 1-inch screened stockpile. Board staff agreed that the new 1-inch by 1-inch screened stockpile met the requirement of 1-inch minus material. During the inspection, Board staff also inspected the slopes of Canyon 3, Phase 1, where unacceptable 1-inch by 4-inch protective soil layer had been placed. Numerous angular rocks were found against the geomembrane that were greater than 1-inch in diameter. This finding confirmed that RCWMD violated Order No. 98-99 and Title 27 requirements.
 16. On October 29, 2002, RCWMD submitted a letter entitled "Work Plan, Phase 1, to Remove Screened Protective Cover Material – Badlands Landfill."
 17. On November 4, 2002, Board staff responded to the RCWMD October 29, 2002 work plan. Board staff found the work plan unacceptable as written and requested additional information and clarification.
 18. RCWMD submitted an amended work plan on November 14, 2002 to address the comments in Board staff's November 4, 2002 letter.
 19. By failing to construct the Canyon 3, Phase 1 side slope liner system in accordance with the conditions of approval and without proper CQA, as required by the approved CQA plan, RCWMD violated Order No. 98-99 as well as the requirements of Title 27. Furthermore, placement of wastes within those portions of Canyon 3, Phase 1 that do not comply with the approved construction plans and technical specifications report, is a violation of Order No. 98-99 and Title 27.

20. The Board has notified RCWMD and other interested parties of its intent to adopt this Cease and Desist Order.
21. The Board, at a public hearing held on December 3, 2002, considered all relevant information pertaining to this order.
22. This enforcement action is being taken for the protection of the environment and, as such, is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000 et seq.) in accordance with Section 15321, Article 19, Division 3, Title 14, California Code of Regulations.

IT IS HEREBY ORDERED that, in accordance with Section 13301 of the California Water Code:

1. Forthwith, the discharger shall cease and desist violations and threatened violations of waste discharge requirements, Order No. 98-99, and Title 27 by:
 - a. Immediately ceasing all discharges of wastes to Canyon 3, Phase 1 at the BSL where the unacceptable operations layer was placed.
2. The County shall perform all of the following corrective actions by January 2, 2003, in accordance with an approved remedial workplan:
 - a. Removing the unacceptable operations layer placed on the side slopes of Canyon 3, Phase 1 (Figure 1).
 - b. Removing all wastes that are present on the side slopes of Canyon 3, Phase 1 where unacceptable operations layer was placed against side slope liner.
 - c. Inspecting and certifying the integrity of the geomembrane liner on the side slopes of Canyon 3, Phase 1 where no geotextile was present beneath the unacceptable operations layer. The inspection and certification shall be performed by a third party CQA company qualified to perform these tasks.
 - d. Reconstructing the operations layer on Canyon 3, Phase 1 side slopes in compliance with the approved CQA plan using soil that complies with the technical specifications outlined in the conditional approval letter dated August 28, 2002.
3. A final CQA report shall be submitted by January 16, 2003, describing all corrective action activities at Canyon 3, Phase 1.

If, in the opinion of the Executive Officer, RCWMD fails to comply with any part of this order, the Executive Officer is directed to issue a complaint assessing administrative civil liability or to request that the Attorney General take judicial enforcement action against RCWMD, including an injunction and civil monetary remedies, if appropriate, pursuant to Sections 13308 and 13331 of the California Water Code.

I, Gerard J. Thibeault, 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, Santa Ana Region, on December 3, 2002.

Gerard J. Thibeault
Executive Officer

California Regional Water Quality Control Board
Santa Ana Region

December 3, 2002

STAFF REPORT

ITEM: 15

SUBJECT: Cease and Desist Order No. R8-2002-0096 for Badlands Sanitary Landfill,
Riverside County

DISCUSSION:

The Riverside County Waste Management Department (hereinafter RCWMD) owns and operates the Badlands Sanitary Landfill (BSL) located in Moreno Valley.

Landfill operations at the BSL are currently regulated by Waste Discharge Requirements, Order No. 81-124 adopted by the Board on June 12, 1981, as amended by Orders No. 91-105 and 98-99, adopted by the Board on July 19, 1991 and November 20, 1998, respectively.

On October 28, 2002, Board staff determined that the placement of the operations layer on several side slopes of Canyon 3, Phase 1 was not in compliance with the approved specifications and Construction Quality Assurance (CQA) plan. This is a violation of the BSL WDRs and Title 27 of the California Code of Regulations.

This Order would require RCWMD to cease all disposal activities in those areas where operations layer was placed in violation of the WDRs and Title 27, and to perform corrective actions by January 2, 2003 to eliminate violations of the WDRs and Title 27.

RECOMMENDATION:

Adopt Cease and Desist Order No. R8-2002-0096 as presented.