

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

CLEANUP AND ABATEMENT ORDER NO. R5-2006-0721

FOR

MA-RU HOLDING COMPANY, INC.  
BONZI SANITATION LANDFILL, INC. PARTNERSHIP

BONZI SANITATION LANDFILL  
STANISLAUS COUNTY

This Order is issued to the Bonzi Sanitation Landfill Inc. Partnership and Ma-Ru Holding Company, Inc. based on provisions of California Water Code Section 13304 and 13267 that authorizes the California Regional Water Quality Control Board, Central Valley Region (hereafter Regional Water Board) to issue a Cleanup and Abatement Order (Order).

The Regional Water Board finds, with respect to the Discharger's acts, or failure to act, the following:

1. Waste Discharge Requirements (WDRs) Order No 98-093, adopted by the Regional Water Board on 17 April 1998, prescribes requirements for the Ma-Ru Holding Company, Inc. (as owner) and the Bonzi Sanitation Landfill Inc. Partnership (as operator) (hereafter jointly referred to as "Discharger") for the Bonzi Sanitation Landfill facility. The WDRs incorporate by reference the August 1997 "Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Discharges Regulated by Title 27 and/or Part 258" (Standard Provisions).
2. Bonzi Sanitation Landfill has, and continues to have, leachate and gas releases that have polluted groundwater. A groundwater monitoring system has been installed, as well as a groundwater extraction and treatment system. However, based on data provided by the Discharger, the groundwater extraction system likely is not capturing the entire present plume. Downgradient domestic wells have been polluted, and the Riverdale Community well is threatened by the Bonzi plume.
3. This Order requires the Discharger to evaluate the vertical and lateral extent of groundwater pollution and based on that evaluation, (a) submit a feasibility study with alternatives to cleanup groundwater in compliance with California Code of Regulations Title 27 (Title 27), (b) implement source control, and (c) restore the water quality of the polluted aquifer.

**BACKGROUND**

4. The Bonzi Sanitation Landfill is on a 128-acre parcel and is comprised of Assessor's Parcel Numbers 17-41-36 and 17-41-11. The site is three miles southwest of Modesto near the Tuolumne River in Section 12, T4S, R4E, MDB&M.

5. The facility includes four waste management units (WMUs), which total approximately 75-acres in area. None of the four WMUs have a leachate collection and recovery system, or a protective bottom liner. Only WMU I has an engineered cover. WMUs II and III have been covered only with interim cover and will be taking additional waste in the future to facilitate closure. WMU IV is still open and accepting waste. Attachment A (which is attached hereto and made part of this Order by reference) contains a site map.
6. The direction of groundwater flow fluctuates from the northwest to the north-northwest. The groundwater gradients, based on the Discharger's third quarter 2005 groundwater monitoring report's measurements, range from 0.0020 to 0.0030 ft/ft.
7. The Discharger's fourth quarter 2005 groundwater monitoring report contains the statement: *"Based upon groundwater elevations recorded this quarter and limited available refuse bottom elevations, groundwater appears to be inundating up to two feet of refuse in Unit I and appears to be below the bottom of refuse in Units II, III and IV"*.
8. As shown below, there are at least six known domestic, irrigation and municipal wells that are downgradient of the facility, which are or may be affected by the plume of groundwater pollution emanating from the Bonzi Landfill (as shown on Attachment B, which is attached hereto and made part of this Order by reference).

<u>Address</u>	<u>Use</u>
Bonzi Well – 2650 Hatch Road	Industrial
Riverdale Community Well	Municipal
Ace Well – 2736 Hatch Road	Domestic
VFW Well – 2801 Hatch Road	Domestic
Helmer Well – 2954 Hatch Road	Domestic
Waste Management Inc. - 2769 Hatch Road	Domestic and Industrial

9. The Riverdale Community municipal well is approximately 500-feet from the northern boundary of the landfill and directly downgradient of WMU I. This 14-inch diameter, 200-foot deep open bottom well provides drinking water for the adjacent Riverdale community.

### **GROUNDWATER POLLUTION**

10. Waste Management Units I, II and III were filled without an underlying protective liner system. Although waste was last discharged to these units seven years ago, WMUs II and III do not have their engineered final cover installed. A protective final cover minimizes the infiltration of water, and reduces the production of landfill leachate and landfill gases. Without the protective liner, leachate may freely drain to the underlying groundwater. In addition, the Discharger has also reported that groundwater itself can percolate through the waste from below. Consequently, the existing condition of these WMUs promotes landfill gas generation, uncontrolled leachate drainage, and groundwater pollution.
11. On 1 October 1984, the Discharger submitted a report titled *Groundwater Study, Bonzi Landfill*. This report disclosed that in the winters of 1981-1982 and 1982-1983 the

groundwater rose and percolated through the landfilled refuse, and that the groundwater beneath the site has been polluted with volatile organic compounds (VOCs), metals and total dissolved solids. Cease and Desist (C&D) Order No. 84-153 was adopted on 28 November 1984, directing the Discharger to evaluate the extent of the groundwater plume. As a result of the Order, the following reports were prepared:

- a. Site Investigation Report, Bonzi Sanitary Landfill, dated 8 May 1987;
- b. Design Reports/Operation and Closure Plans, dated 16 April 1987;
- c. Feasibility Study, Bonzi Sanitary Landfill, dated 1 July 1987; and
- d. Soil Gas Tube Investigation, dated June 1989.

12. The data in the above reports document that as of 1989, ten groundwater monitoring wells and three leachate monitoring wells were contaminated by VOCs. The Regional Water Board subsequently adopted Cleanup and Abatement (C&A) Order No. 89-185 and rescinded C&D Order No. 84-153. C&A Order No. 89-185 required the Discharger to implement groundwater remediation and provide drinking water for downgradient municipal water well users.
13. Since the adoption of C&A Order No. 89-185, the Discharger has installed the required remediation system. The corrective system consists of three groundwater extraction wells, an air stripper, a lined pond to contain the effluent, a land application area, and a landfill gas collection system.
14. Provision No. 1 of the WDRs Standard Provisions states: *"The discharge shall neither cause nor contribute to the contamination, degradation, or pollution of ground water via the release of waste constituents in either liquid or gaseous phase."*
15. Provision No. 4 of the WDRs Standard Provisions states: *"The discharge shall not cause the release of pollutants, or waste constituents in a manner which could cause a condition of contamination, pollution, degradation, or nuisance to occur..."*
16. Since 2001, the Discharger's groundwater monitoring program has found detectable levels of VOCs in 27 of 31 monitoring wells shown on Attachment B. The detected VOCs include: 1,1 dichloroethene, 1,1 dichloroethane, 1,1,1 trichloroethane, 1,2 dichlorobenzene, 1,2 dichloroethane, 1,2 dichloropropane, 1,4 dichlorobenzene, benzene, bromomethane, chlorobenzene, chloroethane, chloroform, chloromethane, cis-1,2-dichloroethene, dibromochloromethane, dichlorodifluoromethane, ethylbenzene, tetrachloroethene, toluene, trans-1,2-dichloroethene, trichloroethylene, trichlorofluoromethane, vinyl chloride, and total xylenes.
17. During the first quarter 2006 sampling event, monitoring well 85-25 contained 1,1-dichloroethane at 2.2 ug/l. Based on time concentration plots, the concentration of 1,1-dichloroethane has declined in the last 5-years. This well, which is located offsite and downgradient of closed Waste Management Unit I, is the furthest known defined extent of the VOC plume. The presence of VOCs in groundwater is a violation of the Discharger's WDRs.

18. During the fourth quarter 2005 monitoring event, the highest levels of chloride and total dissolved solids were reported from leachate well 92-C1L (in the middle of WMU 1) at 2,110 mg/l and 6,450 mg/l, respectively. Elevated levels of chloride and total dissolved solids in groundwater are a common indicator of a release from a landfill.
19. The 2005 Annual Groundwater Monitoring Report shows that elevated levels of chloride and total dissolved solids were also present in wells downgradient of the facility. During the fourth quarter 2005 sampling event, background well 84-20 contained chloride and total dissolved solids at 11.2 mg/l and 370 mg/l, respectively. During the same monitoring event, monitoring well 85-7, which is directly downgradient of WMU I and extraction well EW1, contained chloride and total dissolved solids at 127 mg/l and 746 mg/l, respectively. The presence of these elevated levels of chlorides and total dissolved solids in groundwater downgradient of the facility is a violation of the Discharger's WDRs.

### CHRONOLOGY OF GROUNDWATER CLEANUP

20. Following detections of volatile organic compounds in groundwater, an extraction system was installed as a requirement of Cleanup and Abatement Order 89-195. However, prior to installation the Discharger delayed design and installation of the groundwater treatment system. Consequently, on 23 March 1990, the Executive Officer signed Administrative Civil Liability (ACL) Complaint No. 90-093 in the amount of \$50,000. Finding No. 13 of the ACL states: *"The nature of the violation was such that there was a delay in the cleanup of polluted ground water which resulted from discharges from the Bonzi Sanitation Landfill. The circumstance was that the Discharger had adequate time to complete the required submittal and had agreed with the compliance date when the CAO Order No. 89-145 was adopted. The gravity of the violation is that delay in the initiation of cleanup of the groundwater allows the pollutants to spread farther from the landfill, increasing the threat to nearby domestic water supplies and complicating cleanup of the groundwater. The Discharger is able to pay the proposed liability without significantly impacting ongoing business activities. The Discharger previously violated Board compliance time schedules contained in Cease and Desist Order No. 84-153, and paid a \$3,500 Administrative Civil Liability for violations of Cease and Desist Order No. 84-153 time schedule. The Discharger realized economic savings by delaying the implementation of groundwater treatment."* The groundwater treatment system was installed in the summer of 1991 and began pumping on 1 November 1991. Since its original start up, this system has been plagued with operational problems causing poor performance.
21. As a result of staff's review of the Discharger's 1997 Annual Groundwater Monitoring Report, staff requested that the Discharger submit an evaluation of the corrective action system. In October 1998, the Discharger submitted the "Evaluation of Corrective Action Program Performance and Effectiveness Report" which states: *"...each time groundwater encroaches the base of the landfill, the potential exists for new releases of contaminants to groundwater. Based on the site's proximity to the Tuolumne River and its significant influence on local groundwater conditions, implementation of mitigation measures to abate this condition is not practical. As a result, it is reasonable to assume that the existing groundwater impacts observed to date will likely continue for the foreseeable future,*

*regardless of the effectiveness of the pump-and-treat operations. In essence, the primary function of the pump-and-treat system in the long term will be to act as a hydraulic barrier and not as a realistic mechanism to achieve aquifer restoration".* As early as 1998, the Discharger was aware that the groundwater system was incapable of restoring the beneficial uses of the aquifer, yet made no effort to upgrade their system. This is a violation of the WDRs.

22. On 24 June 1999, staff provided comments on the Discharger's October 1998 "Evaluation of Corrective Action Program Performance and Effectiveness Report." Staff stated: *"...the extent of the plume downgradient from the VFW well and from wells 85-12 and 85-13 must be determined. Since the actual capture zone of the groundwater extraction system is not known, it is uncertain if the plume has already migrated beyond the radius of influence of the extraction system..."* Currently these monitoring wells 85-12 and 85-13 are non-operational. C&D Order R5-2005-0073 required the re-installation of monitoring wells 85-12 and 85-13. As of June 1999, the Discharger has yet to comply with this requirement, which is necessary to aid in identifying the extent of the plume and the capture zone.
23. In November 1999, the Discharger submitted the ground water extraction system's Operation and Maintenance Manual. Staff noted in a 1 June 2000 comment letter on the Manual that *"...recent review of quarterly groundwater monitoring reports indicate that the extraction and treatment system was not operating as specified during several instances when the field sampler has visited the site. System shutdowns or malfunctions must be reported within seven days of the cessation of operation."* The Discharger failed to notify the Regional Water Board of the system shutdown, in violation of the WDRs.
24. On 6 September 2000, staff completed its review of the "2000 First Quarter Groundwater Monitoring Report" and again issued a letter that notified the Discharger that an ongoing release exists and that a revised corrective action program be submitted as an Amended Report of Waste Discharge. No Amended Report of Waste Discharge was submitted, in violation of Title 27.
25. On 27 September 2000, the Discharger's consultant and staff conducted a phone conference. The Discharger's consultant position, as recorded in staff's 10 October 2000 letter to the Discharger, was that elevated levels of total dissolved solids and chloride do not indicate a "new release" and therefore an Amended Report of Waste Discharge is not necessary. Regardless of the Discharger's position, failure to submit the required Amended Report of Waste Discharge is a violation of the WDRs.
26. On 30 November 2000, the Discharger submitted a letter indicating that the groundwater treatment system was not operating. The Discharger found that there were *"several burned out or malfunctioning electrical components within the system's control panel. In addition, the piping between the GTS's air stripper tower and HDPE discharge line was in bad condition due to scaling problems... extraction wells EW-1 and EW-2 appeared to operate as intended, whereas EW-3 was not functional..."* The system will be operational by 31 December 2000." These problems are typical with this system.

27. Following the review of the “2000 Combined Annual Report” and the “2001 First Quarter: Combined Detection, Corrective Action, and Remediation System Monitoring Report”, staff requested in a letter dated 3 May 2000, that the Discharger evaluate the effectiveness of the groundwater extraction and treatment unit. Specifically, staff directed the Discharger to indicate if the VOC releases located to the northwest and west of the landfill would be remediated by operating the groundwater extraction unit.
28. On 15 June 2001, the Discharger submitted its “Capture Zone Analysis” report which stated, *“In the meantime, the groundwater treatment system should be operated with the extraction wells pumping at full capacity”*. However, the Discharger did not follow the recommendations of this report.
29. On 17 September 2001 staff commented on the Capture Zone Analysis report as follows: *“...EBA Wastechнологies refers to the Dames & Moore analysis for the recommended radius of influence of the pump and treat system should be a minimum of 400 feet, determined in the design phase. This recommendation is based on the plume configuration in 1990, not the present configuration. The present radius of influence should be compared to the present plume... A capture zone analysis should be an on-going task as new data is accumulated. Information provided in this report does not support the conclusion by EBA Wastechнологies that the capture zone adequately contains the plume. There is no evidence that concentrations have diminished over time.”* The Discharger has failed to resubmit the requested information.
30. On 26 October 2001, the Discharger’s consultant responded to staff’s comments by concluding: *“as previously noted herein, the purpose of the investigation was not to determine if the plume is properly captured, but to establish whether the capture zone characteristics induced by the groundwater treatment system are sufficient to contain the plume. It is EBA’s opinion that the information and findings presented in the Report comply with this objective. Based on these circumstances, resubmittal of the Report does not appear warranted”*. The Discharger has not submitted a revised conclusion to this report.
31. The 2001 Annual Groundwater Monitoring report states that the groundwater extraction system was not operating, and provided no explanation as to the system failure. The period of non-operation allowed for pollutants to be released from the landfill units and allowed the existing plume to expand. The Discharger’s own consultants had stated (Finding No. 29) that the extraction system must be operated continuously. Failure to do so is a violation of the WDRs.
32. On 11 March 2002, following the review of the Discharger’s 2001 Third Quarter and Fourth Quarter Groundwater Monitoring reports, staff issued a Notice of Violation for the non-operation of the groundwater extraction system. Staff stated: *“It appears, based on the monitoring reports, extraction well EW-2 and the air-stripping tower were not operating for the third and fourth quarters, therefore the required monitoring results were not reported in the respective reports. Extraction wells EW-1 and EW-3 were not addressed in these Reports. The Reports did not address why the remediation system was not operating for these quarters and the Regional Board was not notified as to why the system was not*

*operating during this time.*” Failure to operate the Discharger’s groundwater remediation system is a violation of the WDRs.

33. On 16 October 2003, following a facility inspection, staff sent the Discharger another Notice of Violation which stated: *“Based on the groundwater gradient map submitted with the Second Quarter 2003 Groundwater Monitoring Report, there is no evidence that the groundwater flow has been affected by the current extraction system operation.”* As the September 2000 request (Finding No. 25) had not been addressed, staff again requested that the Discharger submit a revised engineering feasibility plan, describing how the corrective action program requirements will be met (i.e. that a sufficient groundwater depression will be maintained to capture the groundwater plume). The Discharger claims that they never received this letter.
34. On 23 January 2004, after the review of the Fourth Quarter 2003 Groundwater Monitoring Report, staff sent the Discharger a Notice of Violation which stated: *“The following wells had detectable levels of VOCs: MW1, MW2, MW3, MW6, 84-6, 84-10, 84-13R, 85-4, 85-4A, 85-7, 85-10, 85-25, 86-3, 86-5B, 86-6A, 86-6B, 88-1, 90-1, 90-2, P-1. A revised engineering feasibility study that complies with Title 27 must be submitted to update the corrective action program.”* Because of the continuing evidence of an uncontrolled release, the Discharger was again asked to upgrade its groundwater extraction system. This requirement is again no different than the requests made on 6 September 2000 and 16 October 2003, but again, the Discharger did not respond. Failure to submit the requested revised engineering feasibility plan is a violation of the WDRs.
35. On 15 September 2004, after the review of the 2004 First and Second Quarter Groundwater Monitoring Reports, staff again sent the Discharger a Notice of Violation that stated: *“VOC concentrations are still being detected in offsite wells. Consequently, the Discharger must provide an amended Report of Waste Discharge ...”* This requirement is again no different than the requests made on 6 September 2000 (see Finding 26), 16 October 2003 (see Finding 36), and 21 January 2004 (see Finding 37). The Discharger did not respond. Failure to submit the requested revised engineering feasibility plan is a violation of their WDRs. The Discharger failed to submit a response.
36. During the 3 March 2005 site inspection, staff was informed by the Discharger that the groundwater extraction system had not been operating for over a year, and that it was only turned on to collect samples for reporting purposes. Once again, the Discharger was violating its WDRs by not operating the system needed to contain and remediate the groundwater pollution caused by the landfill.
37. Following site inspections in March and April 2005 and review of the groundwater monitoring reports, the Regional Water Board adopted C&D Order R5-2005-0073. Among other items, this Order specifically addressed the nonperformance of the groundwater treatment system by requiring the following:
  - a. Submittal of a report showing that the existing groundwater and landfill gas extraction systems are continuously operating.

- b. By 1 August 2006, submittal of a "... *report demonstrating that [the Discharger] has a complete and operational corrective action remediation and monitoring system capable of capturing all contaminants from passing the point of compliance, as well as removing VOCs, metals and other constituents of concern from the wells affected by the release from the facility...*" The Discharger did not comply with this requirement, and therefore violated the C&D Order.
- c. Submittal of monthly progress report on the status of the corrective action measures during the previous month. These reports were not submitted prior to the signing of the Stipulated Judgment in late December 2005.

38. As required by the 2005 C&D Order, the Discharger submitted a report regarding the performance of the groundwater treatment system (item #5, above). The Discharger referred staff to the October 1998 "Evaluation of Corrective Action Program Performance and Effectiveness" report and the June 2001 "Capture Zone Analysis" even though staff had previously reviewed and rejected these reports (See Findings 23 and 30). Therefore, on 7 November 2005 a Notice of Violation was issued which again clarified staff's interpretation of the previously submitted data regarding the performance of the groundwater treatment system. The Notice of Violation stated, "*The data submitted in the earlier reports do not appear to support the contention that the groundwater treatment system is capable of containing the groundwater contaminants at the point of compliance...It appears that the Discharger is aware of the system's inadequacy and has not proposed any changes to comply with the Water Code, Title 27 or 40CFR.*" Failure to update the groundwater extraction system to capture the entire plume is a violation of the WDRs.
39. On 28 December 2005 the Discharger submitted a letter clarifying the capabilities of the groundwater treatment system. The Discharger stated: "*Based on the recent discussions with RWQCB staff, it became apparent that EBA and the RWQCB had a different understanding as to the focus of the requested capture zone analysis stipulated in Cease and Desist Order R5-2005-0073. It has been EBA's understanding all along that the focus of the analysis was to establish whether the GTS performed as designed and if the capture zone induced by the groundwater treatment system was sufficient to provide hydraulic control at the Point of Compliance along the Landfill's western and northwestern property boundary, which coincided with the area of concern for which the groundwater treatment system was originally designed by Dames and Moore*". As staff have continually stated, the intent of the C&D and previous staff correspondence was not to determine whether the extraction system "performed as designed" but to ensure that the entire groundwater plume is captured. Due to the continued non-operation of the extraction system, it is reasonable to conclude that the groundwater plume has expanded since the system was designed in 1990.
40. The Discharger's former consultant claims that the groundwater extraction system was operating as originally designed by Dames and Moore in 1990. They contend that the subsurface conditions have not changed since 1990 and therefore the original design is still adequate. However, the Discharger's former consultant has not taken into account the impact of unlined WMUs II and III. Each of these units now contain municipal solid waste

that had not been discharged when the system was designed. In addition, WMU IV has opened and accepted waste. WMUs II and III each received the last waste in 1999; however, they are still covered with interim cover. There is no protective cover installed to prevent rainfall percolation. The lack of a final cover ultimately promotes leachate and landfill gas generation and is likely the source of groundwater VOCs detected in monitoring wells MW3 and P-1. These detections of VOCs necessitates the need to upgrade the groundwater extraction system.

41. On 28 February 2006, after seven months of operation, the Discharger informed staff that the system was again shutdown for maintenance. Thirty days later, the Discharger informed staff that the groundwater extraction system is still not operational. During a site inspection on 13 April 2006, staff observed that the groundwater treatment system had been clogged by mineralization. It was evident that the Discharger has neglected to perform any preventive maintenance to mitigate mineral buildup in the system.
42. The groundwater monitoring data submitted by the Discharger supports the contention that the remedial system has not been operating. Since 2001, the Discharger's groundwater monitoring program has found detectable levels of VOCs in 27 of 31 monitoring wells. The monitoring data indicates that an ongoing release is occurring. Consequently, the system's original design is inadequate to capture and remediate the current plume and it is therefore reasonable to require the Discharger to determine the full extent of the plume and then design a system that will reliably extract and treat the entire plume.
43. In April 2006, the Discharger changed its approach to site compliance and is now working cooperatively with the Regional Water Board. The Discharger hired a new consultant and in May of 2006 successfully completed its 40 CFR Part 254 Appendix II sample collection from all wells in the Monitoring and Reporting Program. The Discharger has also committed to upgrading the groundwater monitoring system, which will include the installation of 10 new groundwater monitoring wells, abandonment of 16 old wells, redevelopment of several wells, and a complete well survey. The Discharger's new consultant is performing an engineering review of the groundwater extraction and treatment system and the consultant is taking over operation, monitoring, and reporting for the system. The closure plan and the Joint Technical Document for the site have been revised to meet comments submitted by Regional Water Board staff and staff of the California Integrated Waste Management Board. The Discharger has also implemented a number of new onsite housekeeping activities.

### **MODESTO DISPOSAL SERVICE GROUNDWATER ISSUES**

44. Modesto Disposal Service/Waste Management Inc. (MDS) operates a facility located 300 feet northwest and downgradient of the site. In 1988, this company was directed to investigate the source of trichloroethane in monitoring well 83-3. During the investigation, MDS identified 46 crushed drums, which at one time contained adhesive compounds. As a result of the drum discovery, MDS removed the contamination by excavating approximately 850 cubic yards of contaminated soils, abandoned steel drums, and previously buried refuse. All of this material was shipped to a landfill for disposal. Following the removal of contamination, MDS implemented a groundwater-monitoring program, and in November

1992, submitted the final groundwater sampling report.

45. On 14 June 2000, the Discharger submitted a report identifying the MDS facility, instead of the Bonzi Landfill, as the probable source of the offsite groundwater contamination.
46. The 2001 "Capture Zone Analysis" contains statements regarding the groundwater flow direction that are not supported by the Discharger's own historical groundwater monitoring reports. Page 12 of the report states: *"As discussed in the "Evaluation" section of this Report, the Tuolumne River has a significant influence on local groundwater elevations and flows. This is clearly demonstrated by the data plots presented in Appendix C. This particular issue is emphasized herein because the groundwater flow reversals induced by the Tuolumne River provide a mechanism for potential volatile organic compound contaminants associated with the Modesto Disposal Service facility to migrate into the areas of the monitoring wells that are located north of Hatch Road (i.e. downgradient of the GTS)." Staff has reviewed the historical groundwater reports from 1999 through 2005, and finds no evidence of a groundwater flow direction reversal and no evidence that the VOC contamination at MDS moved upgradient into the Bonzi monitoring wells.*
47. In response to the April 2005 tentative C&D Order, staff received the following response regarding the need to characterize the offsite groundwater contamination *"be advised that the conclusions presented herein are not intended to relieve the Ma-Ru Holding Company, Inc. for taking responsibility for their portion of the groundwater impacts caused by the Bonzi Sanitation Landfill. However, before assuming financial responsibility for further offsite plume delineation and treatment, it's important that the questions raised regarding the Modesto Disposal Service/Waste Management Inc facility be addressed."*
48. On 20 June 2005, in an effort to resolve the contention that MDS is the source of offsite groundwater pollution, staff contacted MDS regarding the need for additional characterization of the site. On 18 November 2005, staff took duplicate groundwater samples in the company of both MDS and of Bonzi personnel. The samples from monitoring wells 90-1 and 90-2 were analyzed for VOCs, and no detectable concentrations were detected. The following table depicts the historical data for VOCs in MDS wells 90-1 and 90-2 (the locations of which are shown on Attachment B).

Modesto Disposal Service Historical Groundwater Data

	Modesto Disposal Service Monitoring Well 90-1					Modesto Disposal Service Monitoring Well 90-2				
	12/91	4/92	7/92	8/92	11/05	12/91	4/92	7/92	8/92	11/05
1,1,1- Trichloroethane	NS	2.3	7.1	48	ND	100	66	48	200	ND
1,1,2- Trichloroethane	NS	ND	ND	1.5	ND	11	14	14	38	ND
1,1- Dichloroethane	NS	ND	1.4	5.7	ND	49	29	20	120	ND
1,2- Dichloroethane	NS	ND	ND	1.7	ND	21	16	12	58	ND

	Modesto Disposal Service Monitoring Well 90-1					Modesto Disposal Service Monitoring Well 90-2				
1,1- Dichloroethene	NS	ND	1.6	18	ND	32	21	13	92	ND
Vinyl Chloride	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND

49. The historical groundwater flow directions reported by the Discharger have been from Bonzi Landfill towards the MDS facility. By combining the physical evidence, the fact that MDS had removed the source of contamination in the late 1980's, and the clean groundwater analytical data in 2005, it is apparent that the Bonzi Sanitation Landfill is the source of the current offsite VOC pollution.

### CLOSURE OF WMUS II AND III

50. Section 20430 of California Code of Regulations Title 27 states: *“The discharger shall implement corrective action measures that ensure that COCs achieve their respective concentration limits at all Monitoring Points and throughout the zone affected by the release, including any portions thereof that extend beyond the facility boundary, by removing the waste constituents or treating them in place. The discharger shall take other action approved by the RWQCB to prevent noncompliance with those limits due to a continued or subsequent release from the Unit, including but not limited to, source control. ...”*
51. Section 21110 of California Code of Regulations Title 27 states: *“(a) Within thirty (30) days of receipt of the final shipment of waste to a discrete unit or if the entire disposal site has reached permitted capacity, the operator shall begin implementation of the closure schedule as specified in the approved closure plan”*. WMUs II and III each received the last waste in 1999, however they are still covered with interim cover.
52. State Water Resources Control Board Resolution No. 93-62 states: *“... a Synthetic Liner at least 40-mils thick (or at least 60-mils thick if of high density polyethylene) that is installed in direct and uniform contact with the underlying compacted soil component described in paragraph III.A.1.a.ii.”*
53. Section 22206 of California Code of Regulations Title 27 states: *“(a) Except as otherwise noted in section 22228 of Article 1 of Subchapter 3 of this Chapter, the operator of each solid waste landfill shall demonstrate financial responsibility to the CIWMB for closure in at least the amount of the current closure cost estimate”*.
54. On 29 February 2006, the Discharger submitted its final closure plan for WMU II, III and IV. The Discharger has proposed an engineered alternative, which includes a two-foot compacted foundation layer; a 30-mil PVC low permeability layer; and an 18-inch vegetation layer. Upon review of the document, the following items are deficient:

- a. The Discharger has proposed a closure date of 30 October 2010, which does not comply with Federal Code of Regulations Subtitle D;
  - b. The use of a 30-mil PVC barrier does not comply with State Water Board Resolution No. 93-62;
  - c. The grading plan does not depict a landfill with the required three degrees of overall slope as required by Title 27 Section 21090(b);
  - d. The Discharger states that the closure fund is under-funded by \$714,000 but does not provide a mechanism to fully fund the closure fund, in violation of Title 27;
  - e. The stability analysis required by Title 27 Section 21750(f)(5) & (7) was incomplete; and
  - f. The design did not include protective measures to prevent inundation of the landfill from the 100-year flood event.
55. In order to prevent a continuing source of groundwater pollution, WMUs II and III must be closed within an accelerated time period and in compliance with the regulations.
56. In May of 2006, the Discharger informed staff that the schedule for closure was being reassessed in order to provide sufficient time for the landfill to receive the minimum waste quantities needed to attain closure base foundation layer grades and to accrue the necessary funding. The closure plan has been revised to meet the comments of the Regional Water Board and CIWMB staff, and the new closure date is the year 2011.

### **REGULATORY CONSIDERATIONS**

57. Groundwater quality data and the Discharger's flow direction measurements indicate that (a) historical neglect and nonoperation of the groundwater treatment system, (b) failure to close WMUs II and III, and (c) the inability to keep groundwater from inundation the waste may have caused the groundwater plume to expand beyond its originally defined boundary. Consequently, the groundwater downgradient of the Bonzi Landfill is polluted.
58. The Discharger has caused or permitted waste to be discharged or deposited where it has discharged to waters of the state and has created, and continues to threaten to create, a condition of pollution or nuisance.
59. The Water Quality Control Plan for the California Regional Water Quality Control Board, Central Valley Region, 4<sup>th</sup> Edition (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin.
60. The designated beneficial uses of underlying groundwater, as stated in the Basin Plan, are domestic and municipal supply, agricultural supply, and industrial supply.

61. Surface water runoff from this site is to the Tuolumne River. The beneficial uses of the Tuolumne River in the stretch between New Don Pedro Dam and the San Joaquin River are municipal and domestic supply; agricultural supply; water contact recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; migration of aquatic organisms; spawning, reproduction and/or early development; and wildlife habitat.
62. The State Water Resources Control Board (hereafter State Board) has adopted Resolution No. 92-49, the *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304*. This Policy sets forth the policies and procedures to be used during an investigation or cleanup of a polluted site and requires that cleanup levels be consistent with State Board Resolution NO. 68-16, the *Statement of Policy With Respect to Maintaining High Quality of Waters in California*. Resolution No. 92-49 and the Basin Plan establish the cleanup levels to be achieved. Resolution No. 92-49 requires the waste to be cleaned up to background, or if that is not reasonable, to an alternative level that is the most stringent level that is economically and technologically feasible in accordance with Title 23, California Code of Regulations (CCR) Section 2550.4. Any alternative cleanup level to background must (1) be consistent with the maximum benefit to the people of the state; (2) not unreasonably affect present and anticipated beneficial use of such water; and (3) not result in water quality less than that prescribed in the Basin Plan and applicable Water Quality Control Plans and Policies of the State Board.
63. Chapter IV of the Basin Plan contains the *Policy for Investigation and Cleanup of Contaminated Sites*, which describes the Regional Water Board's policy for managing contaminated sites. This policy is based on CWC Sections 13000 and 13304, the Title 27, Division 2, Subdivision 1 regulations, and State Board Resolution Nos. 68-16 and 92-49. The policy addresses site investigation, source removal or containment, information required to be submitted for consideration in establishing cleanup levels, and the bases for establishment of soil and groundwater cleanup levels.
64. The State Board's *Water Quality Enforcement Policy* states in part: "At a minimum, cleanup levels must be sufficiently stringent to fully support beneficial uses, unless the Regional Board allows a containment zone. In the interim, and if restoration of background water quality cannot be achieved, the Order should require the discharger(s) to abate the effects of the discharge. Abatement activities may include the provision of alternate water supplies." (Enforcement Policy, p. 19)
65. CWC Section 13304(c)(1) provides that: "Any person who has discharged or discharges waste into waters of this state in violation of any waste discharge requirements or other order or prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the Regional Board clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including but not limited to, overseeing cleanup and abatement efforts... Upon failure of any person to comply with the cleanup or abatement order, the Attorney General, at the request of the board, shall petition the superior court for that county for the issuance of an injunction

*requiring the person to comply with the order. In the suit, the court shall have jurisdiction to grant a prohibitory or mandatory injunction, either preliminary or permanent, as the facts may warrant.”*

66. CWC Section 13267(b) provides that: *“In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste outside of its region that could affect the quality of waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports”.*

67. The technical reports required by this Order are necessary to assure compliance with this Order and the WDRs, and to protect the waters of the state. Existing data and information about the site indicates that waste has been discharged or may continue to be discharged at the property, which is currently owned and operated by the Discharger named in this Order.

68. Applicable sections from Title 27, CCR are as follows:

*Section 20425(i) states: “RWQCB-Initiated EMP Changes — Any time the RWQCB determines that the evaluation monitoring program does not satisfy the requirements of this section, the RWQCB shall send written notification of such determination to the discharger by certified mail, return receipt requested. The discharger shall, within 90 days of such notification by the RWQCB, submit an amended report of waste discharge to make appropriate changes to the program.”*

*Section 20430(b) states: “The discharger shall take corrective action to achieve the following goals: to remediate releases from the Unit; to ensure that the discharger achieves compliance with the Water Standard adopted under section 20390 for that Unit.”*

*Section 20430(c) states: “The discharger shall implement corrective action measures that ensure that COCs achieve their respective concentration limits at all Monitoring Points and throughout the zone affected by the release, including any portions thereof that extend beyond the facility boundary, by removing the waste constituents or treating them in place.”*

*Section 20430(j) states: “RWQCB-Initiated CAP Changes — Any time the RWQCB determines that the corrective action program does not satisfy the requirements of this section, the discharger shall, within 90 days of receiving written notification of such determination by the RWQCB, submit an amended report of waste discharge to make appropriate changes to the program.”*

69. Applicable sections of the Federal Code of Regulations Title 40 are as follows:

Part 258.57 (a) states: *“Based on the results of the corrective measures assessment conducted under §258.56, the owner or operator must select a remedy that, at a minimum, meets the standards listed in paragraph (b) of this section.”*

Part 258.57(b)(3) states: *“Control the source(s) of releases so as to reduce or eliminate, to the maximum extent practicable, further releases of appendix II constituents into the environment that may pose a threat to human health or the environment.”*

70. The issuance of this Order is an enforcement action taken by a regulatory agency and is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.), pursuant to Title 14 CCR Section 15321(a)(2). The implementation of this Order is also an action to assure the restoration of the environment and is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.), in accordance with Title 14 CCR, Sections 15308 and 15330.
71. Any person adversely affected by this action of the Regional Water Board may petition the State Water Resources Control Board (State Board) to review the action in accordance with Sections 2050-2068 of CCR Title 23. The State Board must receive the petition within 30 days of the date of this Order. Copies of the law and regulations applicable to filing petitions may be found on the Internet at <http://www.waterboards.ca.gov/centralvalley> or will be provided upon request.

**IT IS HEREBY ORDERED THAT**, pursuant to Sections 13267 and 13304 of the California Water Code, the Ma-Ru Holding Company Inc., the Bonzi Sanitation Landfill, Inc. Partnership, and the Bonzi Sanitation Landfill, their agents, successors, and assigns, shall investigate the discharges of waste, clean up the waste, and abate the effects of the waste, forthwith, resulting from activities at the Bonzi Sanitation Landfill in conformance with State Board Resolution No. 92-49 *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304* and with the Regional Water Board’s *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins* (in particular the Policies and Plans listed within the Control Action Considerations portion of Chapter IV). “Forthwith” means as soon as is reasonably possible. Compliance with this requirement shall include, but not be limited to, completing the tasks listed below.

Each report submitted to the Regional Water Board shall be included in the Discharger’s Operating Record. Furthermore, any person signing a document submitted under this Order shall make the following certification:

“I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my knowledge and on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.”

### Health Risk Assessment

1. By **30 March 2007**, the Discharger shall submit a work plan and time schedule to prepare a *Health Risk Assessment* (HRA). The work plan for the HRA and the HRA shall be prepared in accordance with the Department of Toxic Substances Control and U.S. EPA guidance and contain the detail and clarity necessary for a lay person from the general public to follow the process and duplicate calculations. Inhalation of the volatile components of the waste (e.g., halogenated and aromatic solvents) must be considered an exposure pathway. The Discharger may elect to begin the process with a Tier I analysis. However, if the result show that it is warranted, then the Discharger must continue with an expanded health risk assessment.
2. Within **30 days** of Regional Water Board concurrence with the work plan for the HRA, but no later than **1 June 2007**, the Discharger shall implement the work plan and submit a draft HRA in accordance with the approved time schedule, which shall become part of this Order.
3. Within **45 days** of receiving comments from Regional Water Board staff on the draft HRA, the Discharger shall append agency comments and the Discharger's responses to these comments to a revised draft HRA, submit the document to the Regional Water Board and distribute to interested persons the *Draft for Public Comment HRA*. The public comment period shall extend for 45 days.
4. Within **30 days** of the end of the public comment period, the Discharger shall submit and distribute to interested parties a final HRA with an appendix that contains responses to all public comments.

### Public Water Supply Concerns

5. The Discharger shall notify the owners of wells identified in Finding No. 8 whenever samples are taken from their wells.
6. During the third quarter 2006 groundwater-sampling event, the Discharger shall collect samples from the Bonzi Well, Ace Well, VFW Well Influent, and Waste Management Inc. well and analyze the samples for 40 CFR Part 254 Appendix II constituents of concern.
7. Within **45 days** of the sample collection the Discharger shall submit the sampling results report to Regional Water Board, the well owners, and Stanislaus County. This report shall include: an evaluation of each well's water chemistry, and documentation that the owners received the data for their well with an explanation of the results.
8. Based on an evaluation of the results from the Third Quarter 40 CFR Part 254 Appendix II sample collection, and in conjunction with an evaluation of historical results of sampling, the Discharger shall provide a written recommendation regarding which of the wells identified in Finding No. 8 should be included in the quarterly groundwater monitoring program. Upon concurrence of Regional Water Board staff, the Discharger shall

implement these recommendations as of the Fourth Quarter 2006 groundwater sampling round.

9. All water quality monitoring data collected in accordance with this Order, including actual values of constituents and parameters, shall be maintained in the facility Operating Record as well as distributed amongst the well owners listed in Finding 8.

#### Extent of Release

10. By **13 October 2006**, the Discharger shall submit a report that explains in detail how each deficiency identified in the groundwater monitoring system has been resolved (i.e., wells replaced, wells redeveloped, etc) (For more detail discussion on this issue see the 15 June 2005 Notice of Violation, and Compliance Item 3 of Cease and Desist Order No. R5-2005-0073.). The following list presents the modifications agreed to during the 15 May 2006 meeting with the Discharger's consultant.

Type of Work	Well Identification
Abandonment	84-8, 84-9, 84-12, 84-13, 84-14, 84-19, 84-21, 85-6, 85-11, 85-12, 85-13, 86-2, 86-8, 86-10, 86-11, 86-12, MW-3, MW-4, and MW-5
Replacement	84-6, 84-10, 84-11, 84-18, 84-20, 85-3AR, MW-1, and MW-2

11. Following four quarters of sampling the upgraded groundwater monitoring system, and no later than **1 November 2007**, the Discharger shall submit an evaluation monitoring work plan to collect and analyze all data necessary to assess the nature and extent of the release from WMUs I, II, III, and IV. Consistent with Title 27 Section 20425, this assessment shall include a determination of the spatial distribution and concentration of each constituent of concern throughout all zones (both vertically and horizontally) affected by the release. The Discharger shall comply with the additional notification and monitoring system requirements incorporated by reference into State Board Resolution No. 92-49, regarding notification and monitoring relative to offsite or potential off-site migration of waste constituents.
12. No later than **30 days** after concurrence with the evaluation monitoring investigation work plan the Discharger shall implement the investigation.
13. **Seven days** prior to initiating the investigation, the Discharger shall notify the Regional Water Board in writing regarding the date on which the fieldwork will begin.
14. Within **90 days** of initiating the evaluation monitoring investigation, the Discharger shall submit a revised engineering feasibility study in the form of a Report of Waste Discharge in compliance with Section 20425(d) that includes:
  - (A) A well installation completion report for any newly installed monitoring points.

- (B) A complete evaluation of the vertical and lateral extent of all detected 40CFR Part254 Appendix II constituents of concern. Such that each constituent of concern has been characterized to levels below its applicable water quality protection standard.
  - (C) A schedule for implementation of selected remedy from the engineering feasibility study. This schedule shall include milestones as well as the final completion date for capturing the entire groundwater plume and a date when groundwater pollution remediation will reach applicable water quality protection standard for all constituents of concern.
  - (D) A redesign of the corrective action treatment and monitoring system that meets the following performance criteria:
    - 1. Capture all groundwater contaminates from Bonzi Landfill at the point of compliance. After the Discharger has made a reasonable attempt to capture all groundwater contaminates and if the Discharger believes it is technically or economically infeasible to achieve this criteria, then the Discharger must provide a report to Regional Water Board demonstrating their conclusion. If the Regional Water Board does not concur with the report's conclusion, the Discharger must make further attempts to comply with the criteria.
    - 2. Prevent groundwater from inundating the bottom of the four waste management units. After the Discharger has made a reasonable attempt to prevent groundwater from inundating the bottom of the waste management units and if the Discharger believes it is technically or economically infeasible to achieve this criteria, then the Discharger must provide a report to Regional Water Board demonstrating their conclusion. If the Regional Water Board does not concur with the report's conclusion, the Discharger must make further attempts to comply with the criteria.
    - 3. Clean-up groundwater to background or a concentration limit greater than background (CLGBC) in compliance with Title 27 Section 20400(c). This includes the entire groundwater plume as described in Title 27 Section 20430(c).
    - 4. Be able to monitor the groundwater and leachate levels from three locations within the footprint of each landfill unit.
    - 5. Remove any leachate generated from with the unit.
    - 6. Continuous treatment system (24 hours a day, 365-days a year) operation until the groundwater plume is remediated to background or a concentration limit greater than background (CLGBC) in compliance with Section 20400(c).
    - 7. Corrective action monitoring program that meets the requirements in Title 27 Section 20430(d).
15. By **1 September 2008**, the Discharger shall maintain a corrective action monitoring system, in compliance with Section 20415(b)(1)(D) of Title 27 and approved by the Executive Officer, to evaluate the continuous operational performance of the entire corrective action remediation systems.

Closure of Waste Management Units

16. By **15 October 2011**, the Discharger shall close Waste Management Units II and III under an engineered cover that complies with California Code of Regulations Title 27 such that:
- (A) All containment structures shall be designed by, and construction shall be supervised by, a California registered civil engineer or a certified engineering geologist, and shall be certified by that individual as meeting the prescriptive standards, or approved engineered alternative design, in accordance with this Order.
  - (B) Materials used in the final cover shall have appropriate chemical and physical properties to ensure that such structures do not fail to contain waste because of pressure gradients, physical contact with waste or leachate, chemical reactions with soil or rock, climatic conditions, the stress of installation, or because of the stress of daily operations.
  - (C) Any report, or any amendment or revision of a report, that proposes a design or design change that might affect a WMU's containment features or monitoring systems shall be approved by a registered civil engineer or a certified engineering geologist [Title 27 Section 21710(d)].
  - (D) Any proposed engineered alternative cover for WMUs II and III must comply with State Water Board Resolution No. 93-62. Furthermore, the performance requirements of any geosynthetic membrane shall include, but are not limited to, a need to limit infiltration of water, to the greatest extent possible; a need to control any gas emissions; mechanical compatibility with stresses caused by equipment traffic, and for final covers the result of differential settlement over time and durability throughout the post-closure maintenance period [Title 27 Section 20324(i)(1)].
  - (E) WMU II and III final cover shall be designed and constructed to limit, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, washout, and overtopping [Title 27 Section 20365(a)]. Furthermore, the upper surface of the landfill shall be graded such that the overall slope is graded with an overall slope greater than three degrees as required by Title 27 Section 21090(b).
  - (F) WMUs II and III cover shall be designed to withstand the maximum probable earthquake without damage to the foundation or to the structures that control leachate, or surface drainage, or erosion, or gas [Title 27 Section 20370(a)]. In addition, any seismic analysis shall comply with Title 27 Section 21750(f)(5) & (7).
  - (G) WMUs II and III shall include protective barriers to prevent washout or inundation from the 100-year flood event.
  - (H) All construction of liner systems and final cover systems shall be performed in accordance with a Construction Quality Assurance Plan certified by a registered civil engineer or a certified engineering geologist [Title 27 Section 20323] and approved by

the Executive Officer.

- (I) The Construction Quality Assurance (CQA) program shall be supervised by a registered civil engineer or a certified engineering geologist who shall be designated the CQA officer [Title 27 Section 20324(b)(2)].
- (J) All Financial Assurance Funds (closure, post closure and foreseeable release) shall be fully funded and accepted by the California Integrated Waste Management Board no later than **15 October 2011**.

17. By **31 December 2011**, the Discharger shall submit the final Construction Quality Assurance Report for Waste Management Units II and III that contains all reports submitted concerning the placement of the final cover. This document shall provide evidence that the CQA plan was implemented as proposed and that the construction proceeded in accordance with design criteria, plans, and specifications. The discharger shall submit copies of the Final Documentation report to the RWQCB as prepared by the CQA officer.

In accordance with California Business and Professions Code Sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall contain the professional's signature and/or stamp of the seal.

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement or may issue a complaint for administrative civil liability.

Failure to comply with this Order may result in the assessment of an Administrative Civil Liability up to \$1,000 per day or up to \$10,000 per day of violation, depending on the violation, pursuant to the California Water Code, including Sections 13268, 13271, and 13350. The Regional Water Board reserves its right to take any enforcement actions authorized by law.

This Order is effective upon the date of signature.

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PAMELA C. CREEDON, Executive Officer

\_\_\_\_\_  
August 2, 2006

(Date)



