

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO.

WASTE DISCHARGE REQUIREMENTS
FOR
CALAVERAS COUNTY
POST-CLOSURE MAINTENANCE OF
RED HILL LANDFILL FACILITY
CLASS III LANDFILL
CLASS II SURFACE IMPOUNDMENTS
CALAVERAS COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Regional Board) finds that:

1. Calaveras County (hereafter referred to as Discharger) owns and operates the Red Hill Landfill Facility (Facility).
2. The Facility was designed and operated as a Class III landfill. The Facility began accepting waste in mid-1975 and ceased acceptance in October 1990.
3. The Facility consists of 310-acres and is comprised of Assessor Parcel Numbers 64-002-005, -007, -013, and -001. The Facility is located two miles east of Angels Camp, in Section 36, T3N, R13E, MDB&M, as shown in Attachment A (attached hereto and made part of this Order by reference). Waste disposal operations were limited to 17-acres consisting of three separate landfill units (landfill Units A, B and EA-1) and two lined Class II surface impoundments (SI-A and SI-B) as shown in Attachment B (attached hereto and made part of this Order by reference).
4. The facility was previously regulated by Waste Discharge Requirements (WDRs) Order Nos. 95-201 and 89-206 in conformance with Title 23, California Code of Regulations (CCR), Division 3, Chapter 15. WDR Order No. 89-206 was rescinded and Order No. 95-201 will be rescinded upon the adoption of this Order. These updated WDRs include information from WDR Order Nos. 95-201 and 89-206 and are in conformance with Title 27, CCR, Section 20005, et seq. (hereafter Title 27).

BACKGROUND

5. Landfill Units A and B have a minimum 2-foot thick clay liner with a collection trench installed along the downgradient portion of each unit for leachate collection and removal. Construction of landfill Unit EA-1 was completed in October 1989 with a 2-foot thick clay liner and an underlying dendritic leachate collection and removal system (LCRS).

6. Construction of the Class II surface impoundments SI-A and SI-B was completed in December 1989 at the former locations of two unlined leachate collection ponds (Ponds A and B). SI-A and SI-B consist of a double liner system composed of a synthetic LCRS layer between a 45-mil Hypalon upper liner and a 2-foot thick compacted clay bottom liner. The capacities of SI-A and SI-B are 143,200 gallons and 85,000 gallons, respectively. Leachate from the Units A and B LCRS traps are pumped into SI-A, while leachate from Unit EA-1 gravity drains to SI-A. SI-B has been used seasonally for leachate evaporation.
7. Each landfill Unit was closed in accordance with an approved closure plan. The cover consists of a two-foot thick foundation layer, a one-foot thick clay cap and a one-foot thick vegetative layer.
8. Leachate seepage was observed adjacent to Indian Creek in 1982. Corrective measures were undertaken consisting of the construction of two 200-foot long bentonite slurry walls downgradient of the surface impoundments. Sumps A-1 and B were installed upgradient of the slurry walls to remove groundwater from the upgradient side. In 1985, an additional 200-foot long extension joining the two original slurry walls was constructed along with Sump A-2.

SITE DESCRIPTION

9. The site is underlain primarily by the Permian-age Calaveras Formation, a metamorphic unit of steeply dipping quartz-mica schists and phyllites. A Jurassic-age, medium grained granodiorite intrusive is situated at the extreme northeastern portion of the site. A weathered bedrock zone occurs in the Calaveras Formation from the surface to depths of 10 to 50 feet. The contact between weathered and unweathered bedrock is gradational. Topsoil overlies the bedrock in some areas ranging in thickness from one to three feet. Along the banks of Indian Creek, alluvial material has been deposited in localized areas, up to 20 feet thick.¹
10. The Facility is centered on a northeast-trending ridge between the southeast draining intermittent Indian Creek to the north and the east draining intermittent Murders Gulch to the south. Slopes are moderately steep, in excess of 40% for a substantial part of the area. Elevations at the site range from approximately 1810 to 1970 feet mean sea level.
11. Land within 1000 feet of the Facility is used for agriculture and limited residential housing.
12. The Facility is in an area of low to moderate seismicity. The Melones fault zone is within two miles to the southwest and is part of the Foothills fault system. The California Division of Mines and Geology estimates that the Foothills fault system may be capable of generating a 6.5 Richter magnitude earthquake.

¹ Golder Associates, Third Quarter 2005 Monitoring Report, Red Hill Solid Waste Facility, Calaveras County, California, October 4, 2005.

13. The site receives a mean annual precipitation of 30.01 inches per year as measured at the Calaveras Ranger Station in Angels Camp. The mean evaporation for this facility is 53.74 inches per year as measured at Pardee Reservoir, approximately 14 miles to the west. Average annual net evaporation at the Facility is 23.73 inches. Mean monthly precipitation is expected to exceed mean monthly evaporation from November through March.
14. The 1000-year, 24-hour precipitation event for the Facility is 7.6 inches, as determined from the rainfall Intensity-Duration-Frequency curves for the Calaveras Ranger Station.
15. The 100-year, 24-hour precipitation event for the Facility is 7.03 inches, as determined from the rainfall Intensity-Duration-Frequency curves for the Calaveras Ranger Station.
16. The Facility is not within a 100-year flood plain.

WASTE CLASSIFICATION AND FACILITY OPERATION

17. The Facility operated as a Class III landfill from 1975 through 1990. Approximately 350,000 to 400,000 tons of non-hazardous solid waste was disposed of at the Facility. An adjoining parcel is currently being used as a waste transfer station. Wastes accepted at the transfer station are currently being hauled to the Rock Creek Municipal Solid Waste Class II Landfill located in Calaveras County. The Rock Creek Facility is owned and operated by Calaveras County and is regulated under Waste Discharge Requirements in conformance with Title 27.
18. The Discharger submitted Proposed Final Closure and Post Closure Maintenance Plans for the Facility in March 1992. The plans were later revised on June 1993 and September 1994. The Regional Board concurred with the revised plans on 10 November 1994. Closure was completed in 1996 in accordance with the final closure plans.
19. The Class II surface impoundments, SI-A and SI-B, remain in operation to provide leachate containment. Leachate generated from Trap A, Sump A-1, Sump B, and Unit EA-1 is discharged into SI-A. SI-A is covered to prevent precipitation from entering the surface impoundment.
20. The Discharger proposes to discontinue dedicated use of SI-B for leachate storage and evaporative disposal. SI-B will be decontaminated and reserved for future potential use either as a stormwater detention basin or for emergency temporary leachate storage. The Discharger shall submit documentation certifying that SI-B has been decontaminated. Upon review and approval, the discharge of non-contact storm water will be allowed to overflow through a discharge weir to Indian Creek.

SURFACE AND GROUNDWATER CONDITIONS

21. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basin, Fourth Edition* (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin.
22. Surface drainage is to Indian Creek, a tributary to Angels Creek, which flows into New Melones Reservoir. The New Melones Reservoir is in Hydrologic Area 534.00 of the Stanislaus River Hydrologic Unit.
23. As described in the Basin Plan, the existing and potential beneficial uses of the New Melones Reservoir are municipal and domestic supply, irrigation, stock watering, power, contact recreation, other non-contact recreation, cold freshwater habitat, and wildlife habitat.
24. Groundwater flow in the Calaveras Formation generally occurs in secondary porosity, provided by fractures in the bedrock. Groundwater flow rate is controlled by the number, size and continuity of the fractures. Areas of increased fracture density are generally found in weathered bedrock. Based on a series of in situ permeability tests, permeability of the water bearing zones ranges from 2×10^{-6} to 3×10^{-5} cm/s. Groundwater is unconfined and the water table generally mimics the topography. The water table occurs at a depth ranging from 5 to 95 feet below grade. Generally, groundwater flow is towards the southwest.²
25. The designated beneficial uses of the groundwater, as specified in the Basin Plan, are domestic and municipal supply, agricultural supply, industrial service supply, and industrial process supply.
26. The Discharger is covered under the State Water Resources Control Board's Industrial Storm Water General Permit Order 97-03-DWQ.

GROUNDWATER MONITORING

27. The groundwater monitoring network consists of eight monitoring wells: HMW-1, HMW-2, HMW-3, HP-2 (replaces HMW-4), HMW-5, HMW-6, HMW-6R and MC-7.
28. The existing groundwater monitoring network satisfies the requirements contained in Title 27.
29. Detection monitoring well HMW-4 historically has had slow recovery rates, producing sufficient sample volumes only twice in the past 12 years. The Discharger has been

² Conor Pacific, 2004 Fourth Quarter and Annual Monitoring Report, Red Hill Solid Waste Facility, Calaveras County, California, January 2005.

sampling piezometer HP-2 as a replacement monitoring location. Monitoring well HMW-4 shall be decommissioned and HP-2 sampled as its replacement.

30. Volatile organic compounds (VOCs) are often detected in a release from a landfill, and are the primary waste constituents detected in groundwater beneath a municipal solid waste landfill. Since VOCs are not naturally occurring and thus have no background value, they are not amenable to the statistical analysis procedures contained in Title 27 for the determination of a release of wastes from a Unit.
31. Title 27 CCR Sections 20415(e)(8) and (9) provide for the non-statistical evaluation of monitoring data that will provide the best assurance of the earliest possible detection of a release from a Unit in accordance with Title 27 CCR Section 20415(b)(1)(B)2.-4. However, Title 27 CCR does not specify a specific method for non-statistical evaluation of monitoring data.
32. The Regional Board may specify a non-statistical data analysis method pursuant to Title 27 CCR Section 20080(a)(1). Section 13360(a)(1) of the California Water Code allows the Regional Board to specify requirements to protect underground or surface waters from leakage from a solid waste site, which includes a method to provide the best assurance of determining the earliest possible detection of a release.
33. In order to provide the best assurance of the earliest possible detection of a release of non-naturally occurring waste constituents from a Unit, this Order specifies a non-statistical method for the evaluation of monitoring data.
34. The specified non-statistical method for evaluation of monitoring data provides two criteria (or triggers) for making the determination that there has been a release of non-naturally occurring waste constituents from a Unit. The presence of two non-naturally occurring waste constituents above their respective method detection limit (MDL), or one non-naturally occurring waste constituent detected above its practical quantitation limit (PQL), indicates that a release of waste from a Unit has occurred. Following an indication of a release, verification testing will be conducted to determine whether there has been a release from the Unit, or there is a source of the detected constituents other than the landfill, or the detection was a false detection. Although the detection of one non-naturally occurring waste constituent above its MDL is sufficient to provide for the earliest possible detection of a release, the detection of two non-naturally occurring waste constituents above the MDL as a trigger is appropriate due to the higher risk of false-positive analytical results and the corresponding increase in sampling and analytical expenses from the use of one non-naturally occurring waste constituent above its MDL as a trigger.
35. The Discharger has established Water Quality Protection Standards (WQPS) for a portion of the naturally occurring constituents. Intrawell concentration limits are updated using the

tolerance interval method. The WQPS shall be updated to reflect those constituents that do not have a WQPS. An updated WQPS report is required per this Order.

GROUNDWATER DEGRADATION

36. The facility is under corrective action monitoring. In 1988, low concentrations of volatile organic compounds (VOCs) were detected in downgradient well MC-7. From 1990 to 1993, low levels of VOCs were detected in wells HMW-1, HMW-2 and HMW-6. The Discharger implemented the following corrective action measures: completion of landfill closure, covering of SI-A, installing an automated pumping system in traps, sumps, and subdrains, and installing a subdrain to improve leachate control below Unit A. Since 1998 VOCs have not been detected. Trend tests indicate that there are downward trends at each of these wells for inorganics. HMW-1 is decreasing in specific conductance, total dissolved solids, dissolved iron, dissolved manganese and chloride; HMW-2 is decreasing in specific conductance, dissolved iron and dissolved manganese; HMW-6 is decreasing in dissolved iron.
37. Since 2001, seasonally elevated levels of dissolved manganese, total dissolved solids, chloride and dissolved iron have been detected in monitoring well HMW-6R. In 2005, the Discharger initiated a corrective action pumping scheme that entails pumping Sump A-1, located upgradient of the slurry wall. The pressure on the slurry wall should decrease with additional pumping, thereby controlling the hydraulic gradient and groundwater migration. The Discharger will continue to evaluate inorganic trends in HMW-6R to determine the effectiveness of this corrective action. HMW-6R will be considered both a detection monitoring and a corrective action monitoring well. The water pumped from Sump A-1 is discharged into SA-1.
38. Monitoring well HMW-3 has shown increasing levels of dissolved iron; however, other inorganic constituents (chloride, TDS and dissolve manganese) have remained stable. The discharger has stated that increasing iron is from the dissolution of limonite, a general form of iron oxide, into the groundwater.

WASTE MANAGEMENT UNITS

39. Units A and B were constructed with a minimum two-foot-thick clay liner with a trench installed along the downgradient portion of each unit for leachate collection and removal. Unit EA-1 was constructed with a clay liner, which is overlain by a dendritic leachate collection and recovery system. Each unit received an engineered final cover that was comprised of a two-foot thick foundation layer, a one-foot clay cap, and a one-foot thick vegetation layer.

40. The Discharger has demonstrated that suction lysimeters will not operate with the soil conditions that exist under the landfill and that retrofitting the landfill with a pan lysimeter will be unreasonably burdensome. Therefore, the Discharger has demonstrated to the satisfaction of the Regional Board that there is no unsaturated zone monitoring device or method designed to operate under the subsurface conditions existent at the site. Under the provisions of Title 27 CCR Section 20415(d)(5), the facility is exempt from the requirement to establish an unsaturated zone monitoring system.

CEQA AND OTHER CONSIDERATIONS

41. The action to revise waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resource Code §21000, et seq., and the CEQA guidelines, in accordance with Title 14, CCR, §15301.
42. This order implements:
- a. *The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition;*
 - b. The prescriptive standards and performance goals of Chapters 1 through 7, Subdivision 1, Division 2, Title 27, of the California Code of Regulations, effective 18 July 1997, and subsequent revisions;
 - c. The prescriptive standards and performance criteria of RCRA Subtitle D, Part 258; and
 - d. State Water Resources Control Board Resolution No. 93-62, *Policy for Regulation of Discharges of Municipal Solid Waste*, adopted 17 June 1993.
43. Section 13267(b) of California Water Code 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 discharging, or who proposed to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who had discharged, discharges, or is suspected of discharging, or who proposed to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. The monitoring and reporting program required by this Order and the attached "Monitoring and Reporting Program No. ____" are necessary to assure compliance with these waste discharge requirements. The Discharger owns and operates the facility that discharges the waste subject to this Order.

PROCEDURAL REQUIREMENTS

44. All local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved the use of this site for the discharges of waste to land stated herein.
45. The Regional Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
46. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to Sections 13263 and 13267 of the California Water Code, that Order No. 95-201 is rescinded, and that Calaveras County, its agents, successors, and assigns, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

A. PROHIBITIONS

1. The discharge of 'hazardous waste' or 'designated waste' is prohibited. For the purposes of this Order, the term 'hazardous waste' is as defined in Title 23, California Code of Regulations, Section 2510 et seq., and 'designated waste' is as defined in Title 27.
2. The discharge of wastes outside of a Unit or portions of a Unit specifically designed for their containment is prohibited.
3. The discharge of waste to a closed Unit or surface impoundment is prohibited.
4. Facility operations, including maintenance and repair, shall not cause the release of pollutants or waste constituents in a manner which could cause a condition of nuisance, degradation, contamination, or pollution of groundwater to occur, as indicated by the most appropriate statistical or nonstatistical data analysis method and retest method listed in this Order, the Monitoring and Reporting Program, or the Standard Provisions and Reporting Requirements.
5. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, or groundwater is prohibited.
6. The discharge of additional nonhazardous or other wastes not already contained within the existing waste management units, is prohibited.

7. The discharge shall not cause any increase in the concentration of waste constituents in soil-pore gas, soil-pore liquid, soil, or other geologic materials outside of the Unit if such waste constituents could migrate to waters of the State — in either the liquid or the gaseous phase — and cause a condition of nuisance, degradation, contamination, or pollution.

B. DISCHARGE SPECIFICATIONS

1. Wastes shall only be discharged into, and shall be confined to, the Units specifically designed for their containment.
2. All leachate recovered during the postclosure period shall be disposed of in SI-A. SI-A shall be covered during the months when precipitation exceeds evaporation. SI-B may be used for emergency leachate storage upon notification of Regional Board staff.
3. The discharge of non-contact storm water will be allowed to overflow through a discharge weir to Indian Creek upon review and approval of documentation certifying that SI-B has been decontaminated.

C. FACILITY SPECIFICATIONS

1. The Discharger shall, in a timely manner, remove and relocate any wastes discharged at this facility in violation of this Order.
2. The Discharger shall immediately notify the Regional Board of any flooding, unpermitted discharge of waste off-site, equipment failure, slope failure, or other change in site conditions, which could impair the integrity of waste or containment facilities or precipitation and drainage control structures.
3. Water used for facility maintenance shall be limited to the minimum amount necessary for dust control and construction.
4. The Discharger shall maintain in good working order any facility, control system, or monitoring device installed to achieve compliance with the waste discharge requirements.
5. Methane and other landfill gases shall be adequately vented, removed from the Unit, or otherwise controlled to prevent the danger of adverse health effects, nuisance conditions, or the impairment of the beneficial uses of surface water or groundwater due to migration through the unsaturated zone.
6. Surface drainage within the waste management facility shall either be contained on-site or be discharged in accordance with applicable storm water regulations.

7. The Discharger shall maintain a *Storm Water Pollution Prevention Plan and Monitoring Program and Reporting Requirements* in accordance with State Water Resources Control Board Order No. 97-03-DWQ, or retain all storm water on-site.
8. Precipitation and drainage control systems shall be designed and constructed to accommodate the anticipated volume of precipitation and peak flows from surface runoff under 1000-year, 24-hour precipitation conditions.
9. SI-A and SI-B shall be operated to contain precipitation and leachate generated during a 1000-year storm, 24-hour precipitation event while maintaining two feet of freeboard.
10. Leachate generation by a surface impoundment shall not exceed 85% of the design capacity of (a) the LCRS, or (b) the sump pumps. If leachate generation exceeds this value and/or if the depth of fluid in an LCRS exceeds the minimum needed for the efficient pump operation, then the Discharger shall immediately cease the discharge of waste, excluding leachate, to the impoundment and shall notify the Regional Board in writing within seven days. Notification shall include a timetable for the remedial action to repair the upper liner of the impoundment or other action necessary to reduce leachate production.

D. POST-CLOSURE MAINTENANCE SPECIFICATIONS

1. Prior to any construction, the Discharger shall submit all design plans and specifications for any on-site construction or major repairs to landfill structures.
2. Construction shall precede only after approval of all applicable construction quality assurance plans.
3. Following the completion of any landfill construction, the final documentation required in Title 27 CCR Section 20324(d)(1)(C) shall be submitted within **60 days** following construction. The report shall be certified by a registered civil engineer or a certified engineering 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.
4. A third party independent of both the Discharger and the construction contractor shall oversee the performance of all of the construction quality assurance monitoring and testing.
5. The Discharger shall keep a maintenance log to identify and address cover problems including:

- a. Areas of the vegetative cover requiring replanting;
 - b. Eroded portions of the erosion-resistant layer requiring regrading, repair, or increased erosion resistance;
 - c. Eroded or damaged portions of the low-hydraulic conductivity layer needing repair or replacement;
 - d. Areas lacking free drainage;
 - e. Areas damaged by equipment operation; and
 - f. Localized areas identified in the iso-settlement survey as having sustained repeated or severe differential settlement.
6. The Discharger shall promptly repair any breach or other cover problem discovered by periodic monitoring.
 7. Annually, prior to **1 October**, any necessary erosion control measures shall be implemented, and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding and to prevent surface drainage from contacting or percolating through wastes.
 8. The Discharger shall maintain the vegetative cover, including fertilization, elimination of species that violate the rooting depth limit, and replanting.
 9. At least every five years after completing closure of the landfill the Discharger shall produce and submit to the Regional Board an iso-settlement map accurately depicting the estimated total change in elevation of each portion of the final cover.
 10. Prior to conducting any periodic grading operations on the closed landfill, the Discharger shall note on a map of the landfill the approximate location and outline of any areas where differential settlement is visually obvious.

E. DETECTION AND CORRECTIVE ACTION MONITORING SPECIFICATIONS

1. The Discharger shall comply with the detection and corrective action monitoring programs provisions of Title 27 for groundwater and surface water, and in accordance with Monitoring and Reporting Program No._____.
2. The Discharger shall provide Regional Board staff a minimum of **one week** notification prior to commencing any field activities related to the installation, repair, or abandonment of monitoring devices, and a minimum 48 hour notification prior to the

collection of samples associated with a detection and corrective action monitoring program.

3. The Discharger shall comply with the Water Quality Protection Standard as specified in this Order, Monitoring and Reporting Program No. _____, and the Standard Provisions and Reporting Requirements, dated April 2000.
4. The Water Quality Protection Standard for organic compounds which are not naturally occurring and not detected in background groundwater samples shall be taken as the detection limit of the analytical method used (i.e., US-EPA methods 8260 and 8270). The presence of non-naturally occurring organic compounds in samples above the Water Quality Protection Standard from detection monitoring wells is evidence of a release from the Unit.
5. The concentrations of the constituents of concern in waters passing the Point of Compliance shall not exceed the concentration limits established pursuant to Monitoring and Reporting Program No._____.
6. For each monitoring event, the Discharger shall determine whether the landfill is in compliance with the Water Quality Protection Standard using procedures specified in Monitoring and Reporting Program No._____ and §20415(e) of Title 27.
7. For any given monitored medium, the samples taken from all monitoring points and background monitoring points to satisfy the data analysis requirements for a given reporting period shall all be taken **within a span not to exceed 30 days**, unless the Executive Officer approves a longer time period, and shall be taken in a manner that ensures sample independence to the greatest extent feasible. Specific methods of collection and analysis must be identified in the Discharger's approved Sample and Analysis Plan. Sample collection, storage, and analysis shall be performed according to the most recent version of USEPA Methods, such as the latest editions, as applicable, of: (1) *Methods for the Analysis of Organics in Water and Wastewater* (USEPA 600 Series), (2) *Test Methods for Evaluating Solid Waste* (SW-846, latest edition), and (3) *Methods for Chemical Analysis of Water and Wastes* (USEPA 600/4-79-020), and in accordance with the approved Sample Collection and Analysis Plan.
8. If methods other than USEPA-approved methods or Standard Methods are used, the exact methodology shall be submitted for review and approval by the Executive Officer prior to use.
9. The **methods of analysis and the detection limits** used must be appropriate for the expected concentrations. For the monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (i.e.,

“trace” or “ND”) in data from background monitoring points for that medium, the analytical method having the lowest method detection limit (MDL) shall be selected from among those methods which would provide valid results in light of any matrix effects or interferences.

10. **“Trace” results** - results falling between the MDL and the practical quantitation limit (PQL) - shall be reported as such, and shall be accompanied both by the estimated MDL and PQL values for that analytical run.
11. **MDLs and PQLs** shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. In relatively interference-free water, laboratory-derived MDLs and PQLs are expected to closely agree with published USEPA MDLs and PQLs.
12. If the laboratory suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived MDL/PQL values, the results shall be flagged accordingly, along with estimates of the detection limit and quantitation limit actually achieved. **The MDL shall always be calculated such that it represents the lowest achievable concentration associated with a 99% reliability of a nonzero result.** The PQL shall always be calculated such that it represents the lowest constituent concentration at which a numerical value can be assigned with reasonable certainty that it represents the constituent’s actual concentration in the sample. Normally, PQLs should be set equal to the concentration of the lowest standard used to calibrate the analytical procedure.
13. All **QA/QC data** shall be reported, along with the sample results to which they apply, including the method, equipment, analytical detection and quantitation limits, the percent recovery, an explanation for any recovery that falls outside the QC limits, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and qualifications of the person(s) reviewing the final laboratory report. Sample results shall be reported unadjusted for blank results or spike recoveries. In cases where contaminants are detected in QA/QC samples (i.e., field, trip, or lab blanks), the accompanying sample results shall be appropriately flagged.
14. Unknown chromatographic peaks shall be reported, flagged, and tracked for potential comparison to subsequent unknown peaks that may be observed in future sampling events. Identification of unknown chromatographic peaks that recur in subsequent sampling events may be required.

15. The statistical method shall account for data below the practical quantitation limit (PQL) with one or more statistical procedures that are protective of human health and the environment. Any PQL validated pursuant to Title 27 CCR Section 20415(e)(7) that is used in the statistical method shall be **the lowest concentration (or value) that can be reliably achieved** within limits of precision and accuracy specified in the WDRs for routine laboratory operating conditions that are available to the facility. The Discharger's technical report, pursuant to Title 27 CCR Section 20415(e)(7), shall consider the PQLs listed in Appendix IX to Chapter 14 of Division 4.5 of Title 22, California Code of Regulations, for guidance when specifying limits of precision and accuracy. For any given constituent monitored at a background or downgradient monitoring point, an indication that falls between the MDL and the PQL for that constituent (hereinafter called a "trace" detection) shall be identified and used in appropriate statistical or nonstatistical tests. Nevertheless, for a statistical method that is compatible with the proportion of censored data (trace and ND indications) in the data set, the Discharger can use the laboratory's concentration estimates in the trace range (if available) for statistical analysis, in order to increase the statistical power by decreasing the number of "ties".
16. Background for water samples or soil-pore gas samples shall be represented by the data from all samples taken from applicable background monitoring points during that reporting period (at least one sample from each background monitoring point). The Discharger may propose an alternate statistical method [to the methods listed under Title 27 CCR Section 20415(e)(8)(A-D)] in accordance with Title 27 CCR Section 20415(e)(8)(E). The proposal shall be submitted in an Alternate Statistical Method Report for review and approval.
17. The Discharger may propose an alternate statistical method [to the methods listed under Title 27 CCR Section 20415(e)(8)(A-D)] in accordance with Title 27 CCR Section 20415(e)(8)(E), for review and approval. Upon receiving written approval, the alternate statistical procedures may be used for determining the significance of analytical results for common laboratory contaminants (i.e., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate). Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Regional Board staff.
18. The Discharger shall use the following non-statistical method for all analytes that are detected in less than 10% of the background samples. The non-statistical method shall be implemented as follows:
 - a. From the constituent of concern or monitoring parameter list, identify each analyte in the **current** sample that exceeds either its respective MDL or PQL. The Discharger

shall conclude that the exceedance provides a preliminary indication of a release or a change in the nature or extent of the release, at that monitoring point, if *either*:

- 1) The data contains two or more analytes that are detected in less than 10% of background samples that equal or exceed their respective MDLs; or
- 2) The data contains one or more analyte that equals or exceeds its PQL.

b. **Discrete Retest** [Title 27 CCR Section 20415(e)(8)(E)]:

- 1) In the event that the Discharger concludes (pursuant to paragraph 20.a., above) that there is a preliminary indication of a release, then the Discharger shall immediately notify Regional Board staff by phone or e-mail and, within 30 days of such indication, shall collect two new (retest) samples from the monitoring point where the release is preliminarily indicated.
- 2) For any given retest sample, the Discharger shall include, in the retest analysis, **only the laboratory analytical results for those analytes detected in the original sample**. As soon as the retest data are available, the Discharger shall conclude that there is measurably significant evidence of a release if two or more analytes equal or exceed their respective MDLs or if one or more analyte equals or exceeds its PQL and shall:
 - a) **Immediately** notify the Regional Board about any constituent or constituents verified to be present at the monitoring point, and follow up with written notification submitted by certified mail **within seven days** of validation; and
 - b) Comply with ¶21, below if any constituent or constituents were verified to be present.
- 3) Any analyte that triggers a discrete retest per this method shall be added to the monitoring parameter list such that it is monitored during each regular monitoring event.

19. If the Discharger determines that there is measurably significant evidence of a release from the Unit at any monitoring point, the Discharger shall **immediately** implement the requirements of **XI. Response To A Release, C. Release Has Been Verified**, contained in the Standard Provisions and Reporting Requirements.

F. REPORTING REQUIREMENTS

1. In the event the Discharger does not comply or will be unable to comply with any prohibition or limitation of this Order for any reason, the Discharger shall notify the appropriate Regional Board office by telephone **as soon as** it or its agents have knowledge of such noncompliance or potential for noncompliance, and shall confirm this notification in writing **within two weeks**. The written notification shall state the nature, time, and cause of noncompliance, and shall describe the measures being taken to prevent recurrences and shall include a timetable for corrective actions.
2. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained throughout the life of the facility including the postclosure period.

Such legible records shall show the following for each sample:

- a. Sample identification and the monitoring point or background monitoring point from which it was taken, along with the identity of the individual who obtained the sample;
 - b. Date, time, and manner of sampling;
 - c. Date and time that analyses were started and completed, and the name of the personnel and laboratory performing each analysis;
 - d. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;
 - e. Calculation of results; and
 - f. Results of analyses, and the MDL and PQL for each analysis.
3. A transmittal letter explaining the essential points shall accompany each report. At a minimum, the transmittal letter shall identify any violations found since the last report was submitted, and if the violations were corrected. If no violations have occurred since the last submittal, this shall be stated in the transmittal letter. The transmittal letter shall also state that a discussion of any violations found since the last report was submitted, and a description of the actions taken or planned for correcting those violations, including any references to previously submitted time schedules, is contained in the accompanying report.

4. Each monitoring report shall include a compliance evaluation summary. The summary shall contain at least:
 - a. For each monitoring point and background monitoring point addressed by the report, a description of:
 - 1) The time of water level measurement;
 - 2) The type of pump - or other device - used for purging and the elevation of the pump intake relative to the elevation of the screened interval;
 - 3) The method of purging (the pumping rate; the groundwater elevation at the beginning and end of the purging period; the equipment and methods used to monitor field pH, temperature, and conductivity during purging; the calibration of the field equipment; results of the pH, temperature, conductivity, and turbidity testing; and the method of disposing of the purge water) to remove all portions of the water in the well bore while the sample is being taken;
 - 4) The type of pump - or other device - used for sampling, if different than the pump or device used for purging; and
 - 5) A statement that the sampling procedure was conducted in accordance with the approved Sampling and Analysis Plan.
 - b. A map or aerial photograph showing the locations of observation stations, monitoring points, and background monitoring points.
 - c. For each groundwater body, a description and graphical presentation of the gradient and direction of groundwater flow under/around the Unit, and the groundwater flow rate, based upon water level elevations taken prior to the collection of the water quality data submitted in the report.
 - d. Laboratory statements of results of all analyses evaluating compliance with requirements.
 - e. An evaluation of the effectiveness of the leachate monitoring and control facilities, and of the run-off/run-on control facilities.
 - f. A summary and certification of completion of all **Standard Observations** for the Unit(s), for the perimeter of the Unit, and for the receiving waters. The Standard Observations shall include:
 - 1) For the Unit:

- a) Evidence of ponded water at any point on the facility (show affected area on map);
 - b) Evidence of odors - presence or absence, characterization, source, and distance of travel from source; and
 - c) Evidence of erosion and/or of day-lighted refuse.
- 2) Along the perimeter of the Unit:
- a) Evidence of liquid leaving or entering the Unit, estimated size of affected area, and flow rate (show affected area on map);
 - b) Evidence of odors - presence or absence, characterization, source, and distance of travel from source; and
 - c) Evidence of erosion and/or of day-lighted refuse.
- 3) For receiving waters:
- a) Floating and suspended materials of waste origin - presence or absence, source, and size of affected area;
 - b) Discoloration and turbidity - description of color, source, and size of affected area;
 - c) Evidence of odors - presence or absence, characterization, source, and distance of travel from source;
 - d) Evidence of water uses - presence of water-associated wildlife;
 - e) Estimated flow rate; and
 - f) Weather conditions - wind direction and estimated velocity, total precipitation during recent days and on the day of observation.
5. The Discharger shall report by telephone any seepage from the disposal area **immediately** after it is discovered. A written report shall be filed with the Regional Board **within seven days**, containing at least the following information:
- a. A map showing the location(s) of seepage;
 - b. An estimate of the flow rate;

- c. A description of the nature of the discharge (e.g., all pertinent observations and analyses);
 - d. Verification that samples have been submitted for analyses of the Constituents of Concern and Monitoring Parameters, and an estimated date that the results will be submitted to the Regional Board; and
 - e. Corrective measures underway or proposed, and corresponding time schedule.
6. The Discharger shall submit an **Annual Monitoring Summary Report** to the Regional Board covering the reporting period of the previous monitoring year. This report shall contain:
- a. All monitoring parameters and constituents of concern shall be graphed so as to show historical trends at each monitoring point and background monitoring point, for all samples taken within at least the previous five calendar years. Each such graph shall plot the concentration of one or more constituents for the period of record for a given monitoring point or background monitoring point, at a scale appropriate to show trends or variations in water quality. The graphs shall plot each datum, rather than plotting mean values. For any given constituent or parameter, the scale for background plots shall be the same as that used to plot downgradient data. Graphical analysis of monitoring data may be used to provide significant evidence of a release.
 - b. Unless otherwise exempted by the Executive Officer, all monitoring analytical data obtained during the previous two six month reporting periods shall be submitted in tabular form as well as in a digital file format acceptable to the Executive Officer. The Regional Board regards the submittal of data in hard copy and in digital format as "...the form necessary for..." statistical analysis [§20420(h)], in that this facilitates periodic review by the Regional Board.
 - c. A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements.
 - d. A written summary of the monitoring results, indicating any changes made or observed since the previous annual report.
 - e. An evaluation of the effectiveness of the leachate monitoring/control facilities.

G. PROVISIONS

1. The Discharger shall maintain a copy of this Order at the facility or County office and make it available at all times to facility operating personnel, who shall be familiar with its contents, and to regulatory agency personnel.
2. The Discharger shall comply with all applicable provisions of Title 27 and 40 Code of Federal Regulations Part 258 (Subtitle D) that are not specifically referred to in this Order.
3. The Discharger shall comply with Monitoring and Reporting Program No. ____, which is incorporated into and made part of this Order.
4. The Discharger shall comply with the applicable portions of the Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Title 27 and/or Subtitle D (27 CCR §20005 et seq. and 40 CFR 258 et seq.), dated April 2000, which are hereby incorporated into this Order.
5. All reports and transmittal letters shall be signed by persons identified below:
 - a. For a corporation: by a principal executive officer of at least the level of senior vice-president.
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor.
 - c. For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected or appointed official.
 - d. A duly authorized representative of a person designated in a, b or c above if;
 - 1) The authorization is made in writing by a person described in a, b, or c of this provision;
 - 2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a Unit, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - 3) The written authorization is submitted to the Regional Board.
 - e. Any person signing a document under this Section 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 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.”

6. The Discharger shall take all reasonable steps to minimize any adverse impact to the waters of the State resulting from noncompliance with this Order. Such steps shall include accelerated or additional monitoring as necessary to determine the nature, extent, and impact of the noncompliance.
7. The owner of the waste management facility shall have the continuing responsibility to assure protection of waters of the state from discharged wastes and from gases and leachate generated by discharged waste during the active life, closure, and postclosure maintenance period of the Unit(s) and during subsequent use of the property for other purposes.
8. The fact that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this Order shall not be regarded as a defense for the Discharger’s violations of the Order.
9. To assume ownership or operation under this Order, the succeeding owner or operator must apply in writing to the Regional Board requesting transfer of the Order within 14 days of assuming ownership or operation of this facility. The request must contain the requesting entity’s full legal name, the State of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Regional Board, and a statement. The statement shall comply with the signatory requirements contained in Provision F.5. and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer of this Order shall be approved or disapproved by the Regional Board.
10. The Discharger shall obtain and maintain an approved amount of assurances of financial responsibility for initiating and completing corrective action for all known or reasonably foreseeable releases from the landfill in accordance with Title 27 CCR Section 20380. The Discharger is required to submit the financial assurance mechanism to the Financial Assurances Section of the California Integrated Waste Management Board, which determines if the mechanism meets the requirements of Chapter 6, Title 27, and if the amount of coverage is adequate. If the California Integrated Waste Management Board determines that either the amount of coverage or the mechanism is inadequate, then

within 90 days of notification, the Discharger shall submit an updated cost estimate or mechanism.

11. The Discharger shall obtain and maintain irrevocable fund (or provide other means) for closure and post-closure maintenance of the landfill in accordance with an approved closure and post-closure maintenance plan per Title 27 CCR Section 20950. The Discharger is required to submit the financial assurance mechanism to the Financial Assurances Section of the California Integrated Waste Management Board, which determines if the mechanism meets the requirements of Chapter 6, Title 27, and if the amount of coverage is adequate. If the California Integrated Waste Management Board determines that either the amount of coverage or the mechanism is inadequate, then within 90 days of notification, the Discharger shall submit an updated cost estimate or mechanism.
12. The following reports shall be submitted pursuant to Section 13267 of the California Water Code:
 - a. By **31 July 2006**, the Discharger shall submit a *Five-Year Constituent of Concern Report* in accordance with Title 27 CCR Section 20420(g). The constituents of concern are listed in Monitoring and Reporting Program Order No. _____ .
 - b. By **31 July 2006**, the Discharger shall provide an Iso-Settlement Map in accordance with Title 27 CCR Section 21090 (e)(2).
 - c. By **31 July 2006**, the Discharger shall submit a *Monitoring Well HMW-4 Abandonment Workplan*.
 - d. By 30 November 2006 the Discharger shall submit a *Monitoring Well HMW-4 Well Abandonment Completion Report* showing the well was abandon in accordance with the workplan.
 - e. By **31 January 2007**, the Discharger shall submit an *Updated Water Quality Protection Standard Report* that includes all of the information as outlined in Section B.1 of Monitoring and Reporting Program Order No _____ .

WASTE DISCHARGE REQUIREMENTS ORDER NO. _____

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CALAVERAS COUNTY

POST-CLOSURE MAINTENANCE OF

RED HILL LANDFILL FACILITY

CLASS III LANDFILL and CLASS II SURFACE IMPOUNDMENTS

CALAVERAS COUNTY

I, PAMELA C. CREEDON, 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, Central Valley Region, on _____.

PAMELA C. CREEDON, Executive Officer

MMW: 4/4/06