CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. _____

WASTE DISCHARGE REQUIREMENTS
FOR
COUNTY OF LASSEN
AND THE
LASSEN REGIONAL SOLID WASTE MANAGEMENT AUTHORITY
FOR
POST-CLOSURE MAINTENANCE AND CORRECTIVE ACTION MONITORING
BIEBER CLASS III MUNICIPAL SOLID WASTE LANDFILL
LASSEN COUNTY

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

1. The County of Lassen owns Bieber Class III Municipal Solid Waste Landfill (Bieber Landfill), located about ¼ mile north of Highway 299 off of Bieber Dump Road in the town of Bieber, in Section 14, T38N, R7E, MDB&M, as shown in Attachment A, which is incorporated herein and made part of this Order by reference.

2. Solid waste operations within Lassen County are managed by the Lassen Regional Solid Waste Management Authority (LRSWMA). The County of Lassen and the LRSWMA are hereafter jointly referred to as Dischargers. The LRSWMA is a state-recognized Joint Powers Agency formed by and between the City of Susanville and the County of Lassen on 8 September 1998. The purpose of forming the LRSWMA is to have a regional agency responsible for all aspects of municipal solid waste management, including waste diversion and disposal, regulatory reporting and compliance, and oversight and local regulation of refuse collection services. The LRSWMA consists of a Board of Directors, which includes two county supervisors, two city councilors, and an appointed public member-at-large. LRSWMA personnel consist of a manger and associated staff.

3. The site is approximately 20 acres in size and consists of one unlined waste management unit (Unit) covering approximately 11 acres, as shown in Attachment B, which is incorporated herein and made part of this Order by reference. Approximately 6.5 acres were used for disposal of municipal solid wastes, while the remaining 4.5 acres were used for disposal of wood wastes from nearby Big Valley Lumber Company. The facility is located on property designated with Assessor's Parcel Number (APN) 001-130-004.

4. The landfill operated for over 40 years, but ceased accepting wastes in January 1994. Prior to 1974, two small pits were used for open burning of wastes. From 1974 to 1994, a combination of trench and area fill methods were used at the site. An estimated 39,000 cubic yards of municipal solid waste (MSW), extending to a depth of 12 feet, were disposed of at the site. An unknown quantity of wood waste was disposed of adjacent to and just east of the MSW area. A solid waste transfer station was constructed on the landfill property but off the waste footprint in 1989. The transfer station was permitted to

operate by the California Integrated Waste Management Board in January 1994. Wastes from the Bieber Transfer Station are shipped to Bass Hill Landfill in Lassen County for disposal.

5. The Dischargers submitted a Final Closure and Post-Closure Maintenance Plan dated 30 August 1996. The Regional Water Board issued an 18 December 1996 letter approving the Final Closure and Post-Closure Maintenance Plan. A Negative Declaration for the landfill closure project was filed with the State Clearinghouse on 27 March 1997.

6. Landfill closure activities began in July 2000 and included surface grading to a minimum 3% slope. The landfill cover over the MSW portion of the Unit includes, from top to bottom, a 24-inch vegetative layer consisting of clean fill for the first lift and a mixture of wood chips and imported soil thereafter; a non-woven geocomposite clay liner (GCL) as the barrier layer; and a 12-inch foundation layer placed at 90% relative compaction over the existing intermediate cover. The wood chip disposal area located east of the MSW portion of the Unit was not addressed in the Final Closure and Post-Closure Maintenance Plan and no engineered cover was installed over that portion of the Unit. The wood chip disposal area was covered with the vegetative layer described above. A drainage swale was constructed around the north, east, and south sides of the Unit, which conveys storm water to a discharge point at the southwest corner of the Unit.

7. In October 2001, the Dischargers submitted the *Bieber Landfill Closure Construction Final Report* (Final Report) dated January 2001. In a 2 May 2002 letter, Regional Water Board staff informed the Dischargers that the Final Report was incomplete because there was insufficient information describing closure construction activities; it lacked quality control certification records, subgrade acceptance records, and destructive and non-destructive test reports; two permanent survey markers were not installed; and proof of land use restrictions on the landfill property deed or other documents used during title searches was not provided as required by existing Waste Discharge Requirements Order No. 95-041.

8. In a 21 August 2002 letter from the landfill closure consultant engineer, Ronald Young, additional information describing closure activities was provided. However, Quality Assurance/Quality Control (QA/QC) test records, Acceptance Reports, and proof of recording the landfill closure on the property deed were not included and the Final Report was again found to be incomplete. The findings of incompleteness were transmitted to the Discharger in a Regional Water Board letter dated 13 September 2002.

9. This facility was formerly regulated under Waste Discharge Requirements Order No. 74-462, adopted 24 October 1974, which classified the disposal site as an unlined Class II-2 landfill. Order No. 74-462 was amended 17 September 1993 by Order No. 93-200 implementing State Water Resources Control Board Resolution 93-62 and federal municipal solid waste regulations (Subtitle D). Order No. 74-462 was revised

24 February 1995 when Waste Discharge Requirements Order No. 95-041 was issued. Order No. 95-041 required closure of Bieber Landfill.

10. Effective 18 July 1997, the water quality regulations for Class II and Class III disposal facilities formerly contained in Chapter 15, Title 23, California Code of Regulations (CCR) and the solid waste regulations formerly in Title 14, CCR, were consolidated into Division 2, Subdivision 1, Chapters 1 through 7, Title 27, CCR (Title 27 or 27 CCR). These WDRs implement Title 27 regulations and prescribe updated requirements for performing post-closure maintenance and corrective action monitoring at Bieber Landfill.

SITE DESCRIPTION

11. The Bieber Landfill is in Big Valley, which has local exposures of Quaternary alluvial and lacustrine sediments. These unconformably overlie Tertiary rhyolitic tuffs with interbedded sandstones and conglomerates. Mapping (Grose, T.L.T., 2000) indicates the Quaternary/Tertiary contact is less than 0.5 miles east of the landfill and trends roughly northeast to southwest. Quaternary deposits thicken west of the contact. The site vicinity is hydrothermally active, with a hot spring, Bassett Hot Springs, about two miles northeast of the landfill. Local groundwater temperatures can be elevated at relatively shallow depths.

12. Subsurface stratigraphy at the landfill generally consists of inter-bedded fine-grained fluvial sands, and diatom-bearing lacustrine silts and clays to about 30 to 35 feet below grade surface (bgs). Below these depths, black pyroclastic sands and welded tuffs occur; therefore, the Quaternary/Tertiary contact is likely at these depths.

13. Several potentially active Quaternary normal faults, with displacements in the last two million years, trend northwest to southeast through the site vicinity. However, most show local offset in Tertiary rocks; Quaternary deposits tend to bury fault traces. The nearest identified Holocene displacements, in the last 11,000 years, are the Iron Canyon Reservoir Fault, about 45 miles west, and the Fort Sage and Honey Lake Faults, about 95 to 100 miles south-southeast. In 1950, surface rupture occurred on both the Iron Canyon Reservoir and Fort Sage Faults. Between 1869 and 1931, at least three recorded earthquakes greater than Magnitude 6.0 occurred on the Fort Sage and Honey Lake Faults. Overall, probabilistic seismic hazard for Bieber is relatively low; estimated peak ground acceleration in Bieber is 10-20%g.

14. Land uses within 1,000 feet of the facility are zoned Heavy Industrial District, General Agriculture District, and Exclusive Agricultural District. Several distinct parcels nearby the landfill are also zoned Town Service District and Institutional Use District. The parcel directly north of the landfill is a private residence on Indian Trust Land.

15. The facility receives an average of 16.58 inches of precipitation per year as measured at Bieber Station. The mean pan evaporation is estimated to be 55 inches per year.

16. The 100-year, 24-hour precipitation event is estimated to be 2.89 inches and the 100-year wet season is estimated to be 30.01 inches, based on Department of Water Resources' bulletin 195 entitled *Rainfall Analysis for Drainage Design Volume 1, October 1976*.

17. The waste management facility is not within a 100-year flood plain based on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map, Community-Panel Number 060092 0050 B.

18. The closest well to the site is a hand dug well located approximately 50 feet north of Bieber Landfill property on Indian Trust Property. This well was reportedly constructed in the 1890s and is currently used for irrigation purposes. Static water level in the well fluctuates seasonally between 10 and 30 feet below ground surface. Another reported domestic well lies 0.3 miles northeast of the landfill, on Lookout Road #419; this well is of unknown construction to 40 feet bgs. Owners are Harlon and Opal Wade. Two other identified private domestic wells, about 0.8 miles east and northeast of the landfill, are at the Big Valley Medical Center on State Road A-2 and at a real estate office on Highway 299. The neighboring Big Valley Power plant, formerly Big Valley Lumber, east of the landfill, has six industrial supply wells. These have terminal depths ranging 160 to 580 feet bgs. Three of these are capped. Additional wells located within ½ mile of the landfill may be present and further investigation is warranted.

SURFACE AND GROUND WATER CONDITIONS

19. The *Water Quality Control Plan for Sacramento and San Joaquin River Basins, Fourth Edition* (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin.

20. The landfill is situated on a slight knoll at an elevation of approximately 4140 feet above mean sea level (msl). Surface drainage is generally south and southwest of the site toward the Pit River in the Bieber Hydrologic Subarea (526.61) of the Sacramento Hydrologic Basin.

21. The designated beneficial uses of the Pit River, as specified in the Basin Plan, are municipal and domestic supply, irrigation and stock watering, water contact and non-contact water recreation, warm and cold fresh water habitat and spawning, and wildlife habitat.

22. Shallowest groundwater at Bieber Landfill is hydraulically unconfined and generally about 15 to 30 feet bgs. Three of four monitoring wells at the landfill, wells MW-1, MW-2, and MW-4, have slotted casing intervals with terminal depths between 35 and 40 feet bgs;

based on pilot boring logs, these appear to sample permeable saturated Tertiary beds. Well MW-3, with slotted casing to 36 feet bgs, has relatively shallow static water levels and may sample a Quaternary sand; the pilot boring for MW-3 refused at 35 feet bgs on hard volcanic rock.

23. A regional aquifer, which is the source of drinking water for the town of Bieber, is drawn from two wells located south of Highway 299. Supply Well No. 1 is screened from 105 to 120 feet bgs and has a static water level of 26 feet bgs. Supply Well No. 2 is screened from 95 to 110 feet bgs and has a static water level of 82 feet bgs. The aquifer that the Lassen County Water District No. 1 (serving Bieber) taps into has dissimilar characteristics in each of its two supply wells: Supply Well No. 1 produces clear water, but does not meet secondary drinking standards for iron and manganese; Supply Well No. 2 produces more turbid water with higher mineral concentrations. According to the Manager of the Lassen County Water District No. 1, there is no local surface recharge of the aquifer that the district draws from; rather all recharge is from upland areas surrounding Big Valley. The regional aquifer is confined.

24. The designated beneficial uses of the groundwater, as specified in the Basin Plan, are domestic and municipal water supply, agricultural supply, industrial service supply, and industrial process supply.

GROUNDWATER MONITORING

25. Four wells make up the existing groundwater monitoring system at Bieber Landfill. The first two monitoring wells (MW-1 and MW-2) were installed in March 1985. MW-1 has a total depth of 40.6 feet bgs and is screened between 30.6 and 40.6 feet bgs. MW-2 has a total depth of 39.5 feet bgs and is screened from 29.5 to 39.5 feet bgs. Monitoring wells MW-3 and MW-4 were installed as part of the SWAT investigation in January 1988. Both MW-3 and MW-4 have total depths of 36 feet bgs with screen intervals between 26 and 36 feet bgs. There is no vadose zone monitoring system at Bieber Landfill.

26. Monitoring wells at Bieber Landfill are on lateral spacings from about 700 to 900 feet. Nearby sites have relatively much closer spaced monitoring wells; the Big Valley Power Plant, and the Red Barn Bieber convenience store, an open underground storage tank case. These sites indicate laterally discontinuous permeability trends in both Quaternary and Tertiary intervals, and highly variable groundwater flows. Based on this information, groundwater velocity and flow direction are currently indeterminate at Bieber Landfill. Assuming an inferred southwesterly regional groundwater flow direction, MW-1 and MW-2 at the south and southwest portion of the landfill may be down-gradient of the Unit. However, other methods such as major ion and stable isotope geochemistry should further support deductions based on hydraulic heads.

27. While no true background or up-gradient monitoring well has been established on the Bieber Landfill property, the existing monitoring system is sufficient for detecting whether a release of waste has occurred from the Unit. Additional monitoring wells may be necessary to evaluate off-site groundwater impacts.

28. 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 (see Finding Nos. 33, 34 and 35). Since volatile organic compounds 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.

29. 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.

30. The Regional Water 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 Water 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.

31. 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.

32. 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.

GROUNDWATER DEGRADATION

33. Groundwater samples have been collected from on-site monitoring wells since 1987. Comparison of time series graphs and analytical data for the site monitoring wells show that concentrations of TDS, chloride, chemical oxygen demand, and sulfate in well MW-1 are significantly higher than the other three site monitoring wells. Additionally, the VOCs cis-1,2-Dichloroethene (1,2 DCE) and 1,4-Dichlorobenzene (1,4 DCB) have been consistently detected in well MW-1 since 2001. Historical maximum concentrations for 1,2 DCE and 1,4 DCB are 3.1 μg/L and 1.6 μg/L, respectively, both at MW-1. These concentrations are still below the Water Quality Objectives of 6 μg/L and 5 μg/L for 1,2 DCE and 1,4 DCB, respectively. However, the high inorganic compound concentrations, along with consistent detection of VOCs in well MW-1 indicates the groundwater in the vicinity of this well has been impacted.

34. The Dischargers conducted an additional groundwater investigation at the site in 2004 in an attempt to define the lateral extent of shallow groundwater impacts. During this investigation, six soil borings were completed with five producing sufficient volumes of water to sample. Only one boring (SB-1) located 27 feet south of impacted well MW-1 had measurable concentrations of cis-1,2-Dichloroethene (0.78 μg/L). Boring SB-1 also had elevated inorganic constituents as compared to the other four samples. Inorganic constituent concentrations decreased as the sample point distance increased from impacted well MW-1. This investigation satisfied the evaluation monitoring requirements of Title 27. It appears that the lateral extent of VOC and elevated inorganic compound concentrations at the landfill are localized in the vicinity of well MW-1.

35. Landfill closure and construction of an engineered cap over the MSW portion of the Unit were implemented by the Dischargers, which constitutes corrective action at the site and limits precipitation infiltration into the wastes. Corrective action monitoring is warranted at this time so that groundwater impacts can be evaluated for decreasing or increasing trends.

FINANCIAL ASSURANCE

36. The Dischargers have been requested to submit a cost estimate for corrective action of all known or reasonably foreseeable releases as required by Division 2, Subdivision 1, Chapter 6, Subchapter 2, Article 4, beginning with Section 22220 of Title 27, California Code of Regulations. However, the Dischargers requested to delay submittal of the cost estimate for known or reasonably foreseeable releases until the investigation of groundwater impacts was complete. This Order requires the Dischargers to provide cost estimates for corrective action of known or reasonably foreseeable releases and to demonstrate proof of financial assurances in the amount of the cost estimate (once approved by the Executive Officer).

CEQA AND OTHER CONSIDERATIONS

37. The action to revise waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resources Code Section 21000, et seq., and the CEQA guidelines, in accordance with Title 14 CCR, Section 15301.

38. 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.

39. 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 regional 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."

40. The technical reports required by this Order and the attached Monitoring and Reporting Program No. ____ are necessary to evaluate existing groundwater impacts and assure compliance with these waste discharge requirements. The Dischargers own and operate the facility that discharges the waste subject to this Order.

PROCEDURAL REQUIREMENTS

41. 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.

42. The Regional Water Board notified the Dischargers and interested agencies and persons of its intent to prescribe waste discharge requirements for this site, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

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

44. Any person affected by this action of the Regional Water Board may petition the State Water Resources Control Board to review the action in accordance with Sections 2050 through 2068, Title 23, California Code of Regulations. The petition must be received by the State Water Resources Control Board, Office of Chief Counsel, P.O. Box 100, Sacramento, California 95812, within 30 days of the date of adoption of this Order. Copies of the laws and regulations applicable to the filing of a petition are available on the Internet at http://www.waterboards.ca.gov/water_laws/index.html and will be provided on request.

IT IS HEREBY ORDERED, pursuant to Sections 13263 and 13267 of the California Water Code, that Order No. 95-041 is rescinded and that the County of Lassen and the Lassen Regional Solid Waste Management Authority, their 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 any waste to land, the unsaturated zone, groundwater, surface water drainage courses, or storm water runoff at this site is prohibited.

3. All waste disposal activities are prohibited at this site with the exception of approved disposal activities associated with operation of the Bieber Solid Waste Transfer Station, which is also located on-site.

B. FACILITY SPECIFICATIONS

1. The Dischargers shall, in a timely manner, remove and relocate any wastes discharged at this facility in violation of this Order.

2. The Dischargers shall immediately notify the Regional Water Board of any flooding, unpermitted discharge of waste on or off site, equipment failure, slope failure, or other

change in site conditions, which could impair the integrity of waste or leachate 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 Dischargers 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, degradation, 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 Dischargers shall submit **by 1 July 2008** cost estimates for response to all known or reasonably foreseeable releases from the landfill, as required by Division 2, Subdivision 1, Chapter 6, Subchapter 2, Article 4, beginning with Section 22220 of Title 27.

8. The Dischargers shall provide **by 1 October 2008** proof of financial assurances for initiating and completing corrective action for all known or reasonably foreseeable releases from the landfill in the amount of the approved cost estimate. The California Integrated Waste Management Board (CIWMB) reviews and approves the financial assurance mechanism that the Dischargers use to demonstrate adequate financial resources for completing corrective action. The CIWMB also requires the Dischargers to maintain the financial assurances and comply with provisions of Title 27 that require calculation of an annual inflation factor and increases to the financial assurances based on the annual inflation factor calculation.

C. POST-CLOSURE MAINTENANCE SPECIFICATIONS

1. The Dischargers shall provide proof **by 1 April 2008** that the deed to the landfill property, or some other instrument that is normally examined during title search, has been modified to include, in perpetuity, a notation to any potential purchaser of the property stating that: (1) the parcel has been used as a MSW landfill; (2) land use options for the parcel are restricted with the post-closure land uses set forth in the post-closure maintenance plan and in waste discharge requirements for the landfill; and (3) in the event that the Dischargers default on carrying out either the post-closure

maintenance plan or any corrective action needed to address a release, then the responsibility for carrying out such work falls to the property owner.

2. The Dischargers shall submit **by 1 April 2008** a proposal to perform a Periodic Leak Search of the low-hydraulic conductivity layer of the landfill cover system, in accordance with Section 21090(a)(4)(A) of Title 27. The Periodic Leak Search shall be conducted within 60 days after the proposal is approved.

3. The Dischargers shall submit **by 1 April 2008** a proposal to perform a topographic survey of the final cover system in accordance with Section 21090(e) of Title 27. The purpose of the survey is to determine whether differential settlement has occurred that may allow surface water to infiltrate portions of the Unit, thereby contributing to existing groundwater impacts. The topographic survey shall be conducted within 60 days after the proposal is approved.

4. The Dischargers shall maintain a minimum three percent slope across the entire final cover system for both the MSW and wood waste portions of the Unit.

D. CORRECTIVE ACTION MONITORING SPECIFICATIONS

1. The Dischargers shall comply with the corrective action monitoring program provisions of Title 27 and this Order for groundwater.

2. The Dischargers shall provide Regional Water Board staff a minimum of **one week** notification prior to commencing any field activities related to the installation, repair, or abandonment of monitoring devices associated with a corrective action monitoring program.

3. The Dischargers shall submit **by 1 April 2008** an updated Water Quality Protection Standard (WQPS) Report that lists all monitoring parameters and constituents of concern, the concentration limit for each monitoring parameter and constituent of concern, the point of compliance, and all water quality monitoring points in accordance with Section 20390 of Title 27. The updated WQPS Report shall include proposed data analysis methods in accordance with Section 20415(e)(7) of Title 27.

4. The Dischargers shall submit **by 1 September 2008** an Engineering Feasibility Study (EFS) based on data collected to date and potential threats from the release to sensitive receptors located within ½ mile of the landfill. The EFS shall include a thorough sensitive receptor survey that identifies all wells (domestic, municipal, agricultural, and monitoring) and surface water drainage courses located within the survey area. The EFS should assess the results of the Periodic Leak Search and final cover system topographic survey and evaluate potential corrective action measures that may be necessary to achieve compliance with this Order, Title 27, 40 Code of Federal

Regulations part 258 (Subtitle D), and the Water Quality Protection Standard. The EFS should further include appropriate major ion and stable isotope geochemical assessments. Such assessments should augment assignments of up-gradient versus down-gradient monitoring wells as solely based on hydraulic heads.

5. The Dischargers shall implement a corrective action monitoring program until the concentration of each constituent of concern in each sample from each monitoring point remains at or below its respective WQPS for a period of at least one year.

6. After completion of the corrective action monitoring program, the concentrations of the constituents of concern (COC) in waters passing the Point of Compliance shall not exceed the concentration limits established in the WQPS Report. If COC concentrations exceed the WQPS at the Point of Compliance, it is an indication of new release from the Unit.

7. For each monitoring event, the Dischargers shall determine whether the landfill is in compliance with the WQPS using procedures specified in Title 27 CCR Section 20415(e).

8. The Dischargers shall perform all required groundwater monitoring in accordance with the approved facility Sample Collection and Analysis Plan. Any changes or revisions to the plan shall be incorporated into an amended report and re-submitted to Regional Water Board staff for review and approval.

9. 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 a longer time period is approved, 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. 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.

10. If methods other than USEPA-approved methods or Standard Methods are proposed, then exact methodology shall be submitted to Regional Water Board staff for review and approval prior to use.

11. 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.

12. **"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.

13. **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.

14. 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.

15. 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) performing the analyses. 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.

16. 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.

17. The statistical method shall account for data below the practical quantitation limit (PQL) with one or more statistical procedure that is 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 Dischargers' 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, CCR, for guidance when specifying limits of precision and accuracy. For any given constituent monitored at a background or down-gradient 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 Dischargers 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".

18. The Dischargers 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, 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 down-gradient sample shall be reported and flagged for easy reference by Regional Water Board staff.

19. Sample data shall also be analyzed after each monitoring event using trend analysis methodology and time series plots to monitor the effectiveness of corrective actions conducted at the site.

E. PROVISIONS

1. The Dischargers shall maintain a copy of this Order at the facility 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 Dischargers 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 Dischargers shall comply with Monitoring and Reporting Program No. ___, which is incorporated into and made part of this Order.

4. The Dischargers 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 (Title 27 CCR Section 20005 et seq. and 40 CFR 258 et seq.), dated April 2000, which are hereby incorporated into this Order.

5. In the event the Dischargers do not comply or will be unable to comply with any prohibition or limitation of this Order for any reason, the Dischargers shall notify the appropriate Regional Water 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.

6. 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 Water 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."

7. The Dischargers 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.

8. 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 post-closure maintenance period of the Unit and during subsequent use of the property for other purposes.

9. 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 Dischargers' violation of the Order.

10. To assume ownership or operation under this Order, the succeeding owner or operator must apply in writing to the Regional Water 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 Water Board, and a statement. The statement shall comply with the signatory requirements contained in Provision E.6 above 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 Water Board.

11. The Dischargers shall obtain and maintain assurances of financial responsibility for initiating and completing corrective action for all known or reasonably foreseeable releases from the landfill in the amount of the approved cost estimate. The Dischargers shall submit the approved cost estimate and proposed financial assurance mechanism meeting the requirements of Chapter 6, Title 27 to the Financial Assurances Section of the California Integrated Waste Management Board (CIWMB). If the CIWMB determines that either the amount of coverage or the mechanism is inadequate, then within 90 days of notification, the Dischargers shall submit an acceptable mechanism for at least the amount of the approved cost estimate.

12. The Dischargers shall maintain assurances of financial responsibility for post-closure maintenance costs in the amount of the cost estimates in the approved preliminary or final closure and post-closure maintenance plan, as applicable.

13. The Dischargers shall complete the tasks contained in these waste discharge requirements in accordance with the following time schedule:

Task	Compliance Date
A. Financial Assurances	
Submit cost estimates for all known or or reasonably foreseeable releases. (see Facility Specification B.7)	**1 July 2008**
Submit proof of financial assurances for all known or reasonably foreseeable releases in the amount of the approved cost estimate. (see Facility Specification B.8)	**1 October 2008**
B. Post-Closure Maintenance	
Submit proof of deed restriction regarding use of property for waste disposal activities. (see Post-Closure Maintenance Specification C.1)	**1 April 2008**
Submit proposal to perform a Periodic Leak Search of the low-hydraulic conductivity layer of the landfill cover system. (see Post-Closure Maintenance Specification C.2)	**1 April 2008**
Submit proposal to perform a topographic survey of the final cover system. (see Post-Closure Maintenance Specification C.3)	**1 April 2008**

C. Corrective Action Monitoring

Submit an updated Water Quality Protection Standard Report. (see Corrective Action Monitoring Specification D.3)	**1 April 2008**
Submit an Engineering Feasibility Study based on data collected to date. (see Corrective Action Monitoring Specification D.4)	**1 September 2008**

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

25 September 2007
DPS: sae