

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2005-0048

WASTE DISCHARGE REQUIREMENTS
FOR
CITY OF PORTOLA
FOR
CORRECTIVE ACTION AND CLOSURE OF
PORTOLA CLASS III MUNICIPAL SOLID WASTE LANDFILL
PLUMAS COUNTY

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

1. The City of Portola (hereafter Discharger) owns and operates a municipal solid waste landfill about 1.5 miles northeast of the City of Portola and north of State Highway 70 in the northeast quadrant of Section 30, T23N, R14E, MDB&M, as shown in Attachment A, which is incorporated herein and made part of this Order.
2. The 31 acre facility consists of one existing unlined waste management unit (Unit) covering approximately eight acres of the site, as shown in Attachment B, which is incorporated herein and made part of this Order. A scrap metal storage area, public household hazardous waste collection facility, and green waste storage area are located along the eastern portion of the facility. The Discharger proposes to continue operation of these recycling facilities after closure of the Unit. The facility is comprised of Assessor's Parcel Numbers (APN) 025-10-023 and 025-10-026. Solid waste operations have been conducted wholly within the 22.46-acre APN 025-10-026.
3. The Portola Class III Municipal Solid Waste Landfill is an existing facility that first began operations under the authority of Plumas County in 1968 as an open burn dump. In 1974, Plumas County, in agreement with the City of Portola, began operating the site as a sanitary landfill. On 27 May 1978, the City of Portola took over landfill operations.
4. On 2 November 1990, the Regional Board issued Order No. 90-307, in which the facility was classified as a Class III waste disposal site for the discharge of non-hazardous municipal solid wastes in accordance with the regulations in effect when the Order was issued. This Order rescinds Order No. 90-307 and requires the Discharger to implement corrective action measures in response to confirmed groundwater impacts at the site. This Order also updates the requirements in accordance with Title 27, California Code of Regulations (CCR), Section 20005, et seq. (Title 27) and State Water Resources Control Board Resolution No. 93-62, *Policy for Regulation of Discharges of Municipal Solid Waste*, adopted 17 June 1993.

SITE DESCRIPTION

5. The average hydraulic conductivity of native soils beneath the facility as measured in monitoring wells MW-2 and MW-3 during the 1990 SWAT investigation is approximately 2.1×10^{-4} cm/sec.
6. Review of Fault Activity Maps and publications prepared by the California Department of Conservation, Division of Mines and Geology, finds that there are no active faults in Plumas County. The nearest active fault to the site is the Honey Lake Fault, located approximately 23 miles northeast of the landfill. The maximum moment magnitude earthquake on the Honey Lake Fault is 6.9. The Mohawk Valley Fault, located approximately 10 miles southwest of the site, is designated as a potentially active fault. According to modeling by Cao, et. al. (2003), the maximum moment magnitude for northeastern California (from earthquakes that cannot be assigned to a particular fault) is 7.3. According to the U.S. Geological Survey Earthquake Hazards Program, the probabilistic ground motion value for the site vicinity is 0.24 g.
7. Property that surrounds the landfill is zoned "1-V", State Game Refuge, and is designated as Agricultural Preserve in the Plumas County General Plan. A rural residential neighborhood, some of which utilize individual domestic water supplies, exists within 1,500 feet south and southwest of the landfill.
8. The facility receives an average of 23.90 inches of precipitation per year on a 10-year return period as measured at the Portola Station. The mean pan evaporation is approximately 45 inches per year.
9. The 100-year, 24-hour precipitation event is estimated to be 4.32 inches, based on Department of Water Resources' Bulletin 195 entitled *Rainfall Analysis for Drainage Design Volume II*, dated October 1976.
10. The waste management facility is not within a 100-year flood plain.
11. The Discharger has identified 15 domestic groundwater supply wells within 2,000 feet of the landfill. The properties where these wells are located are generally south and southwest of the facility.
12. The landfill is located within the Basin and Range physiographic province, an area characterized by uplifted and tilted mountain ranges separated by broad elongated basins. Bedrock in the vicinity of the landfill has been mapped as predominantly Mesozoic age quartz diorite. This quartz diorite is the predominant geologic unit beneath the site. The quartz diorite is generally very deeply weathered at the surface and grades to a silty sand. Where exposed, the quartz diorite is highly fractured. A large majority of the joints, especially at depth, are filled with clay.

SURFACE AND GROUND WATER CONDITIONS

13. Shallow groundwater flow beneath and surrounding the landfill occurs in the highly weathered quartz diorite. Groundwater flow in the shallow zone is likely to be controlled by primary porosity due to the granular nature of the weathered rock. It is believed that although flow characteristics are controlled by primary porosity, flow may be enhanced in areas of highly faulted, fractured, or jointed rock due to a higher degree of weathering along these features. Flow direction in the shallow zone is largely controlled by topography, and generally parallels the slope of the landscape with a flow direction of northeast to southwest. However, localized groundwater flow in the shallow zone will also be controlled by irregularities in the surface of the unweathered bedrock. Because topography is greatly influenced by structural features such as faults, fractures, and joints, these features are also likely to play a role in groundwater flow direction in the shallow zone. The average groundwater gradient is approximately 0.375 feet per foot upgradient of the Unit, 0.08 feet per foot directly below the refuse, and 0.176 feet per foot downgradient of the landfill as determined using third quarter 2001 monitoring data.
14. At depth, the weathered bedrock grades into competent (fresh) bedrock. Groundwater flow characteristics in the competent bedrock appear to be controlled by the predominance of faults and their associated secondary fracture and fault patterns. Groundwater occurrence in the deeper bedrock is likely controlled by fracture pervasiveness, interconnectedness, and orientation. Recharge to the deeper water-bearing zone probably occurs primarily higher up in the watershed, although some recharge from the shallow weathered water-bearing zone may also occur.
15. An intermittent surface spring has been identified near a fault structure at the landfill northeast of the waste footprint. The fault structure is thought to impede groundwater flow downhill towards the landfill. Additional intermittent surface springs may be located south and topographically down gradient of the landfill and along Meadow Way below the landfill.
16. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basin*, (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin.
17. Surface drainage is toward the Feather River in the Sierra Valley Hydrologic Sub-area (No. 18.35) of the Sacramento Hydrologic Basin.
18. The designated beneficial uses of the Feather River, as specified in the Basin Plan, are municipal and domestic water supply, agricultural irrigation and stock watering, power generation, contact and non-contact water recreation, warm and cold freshwater habitat, cold water spawning habitat, and wildlife habitat.

19. First encountered groundwater is generally about 13 to 38 feet below the native ground surface. Groundwater elevations appear to range from 5,012 feet MSL to 5,184 feet MSL.
20. Monitoring data indicates background groundwater quality has an electrical conductivity (EC) ranging between 70 and 100 micromhos/cm, with total dissolved solids (TDS) ranging between 78 and 120 mg/l.
21. 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.

GROUNDWATER MONITORING

22. Nine groundwater wells have been installed at the facility for detection monitoring and to assess the vertical and horizontal extent of groundwater impacts. Wells MW-1, MW-2, and MW-3 were installed in late 1987. Well MW-4 was installed in May 1995. Wells MW-5, MW-6, MW-7, MW-8S (shallow), and MW-8D (deep) were installed in July 2001. Well MW-1 is located approximately 450 feet east of the upper portion of the Unit and provides background water quality data. MW-1 is installed 50.5 feet below ground surface (bgs) and is screened between 30.5 and 50.5 feet bgs. Point of compliance wells MW-2 and MW-3 are located just south and topographically downgradient of the Unit. MW-2 is installed 57.5 feet bgs and MW-3 is installed 48 feet bgs. MW-2 is screened between 38 and 57.5 feet bgs and MW-3 is screened between 14 and 48 feet bgs. Well MW-4 is situated near the southwestern edge of the Unit and is considered a point of compliance well. MW-4 is installed 47 feet bgs with a screen interval of 27 to 47 feet bgs. Well MW-5 is located just west of the landfill property and is somewhat topographically crossgradient of the Unit. MW-5 is installed 37 feet bgs with a screen interval of 17 to 37 feet bgs. Well MW-6 is the furthest downgradient well and is located approximately 400 feet south of the southern landfill boundary. MW-6 is installed 24.5 feet bgs with a screen interval between 14.5 and 24.5 feet bgs. Well MW-7 is located along the south property line southeast and crossgradient of the Unit. MW-7 is installed 45 feet bgs with a screen interval between 25 and 45 feet bgs. Point of compliance wells MW-8S and MW-8D are clustered near well MW-3, the most impacted well, along the southern landfill property boundary. MW-8S is installed 25 feet bgs with a screen interval between 15 and 25 feet bgs and MW-8D is installed 49 feet bgs with a screen interval between 44 and 49 feet bgs. This cluster of wells was installed to evaluate vertical gradients and the magnitude of groundwater impacts downgradient of the Unit.
23. The Unit is unlined; therefore, no vadose zone monitoring occurs. No surface water monitoring occurs at the spring identified at the northeast corner of the landfill and discussed in Finding No. 15 above. Any springs subsequently identified topographically

- downgradient of the Unit will be incorporated into the evaluation monitoring program for the site.
24. The Discharger is in the process of implementing a corrective action program due to groundwater impacts associated with a release of waste from the facility. Closure is the preferred remedial alternative chosen by the Discharger. The existing monitoring network meets the requirements contained in Title 27 for a corrective action and evaluation monitoring program. Additional wells may be installed to assess vertical and horizontal groundwater impacts and to evaluate the efficacy of the corrective action program. Any additional wells installed to assess groundwater impacts will be incorporated into the corrective action and evaluation monitoring program.
 25. 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. 30 and 31). 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 waste from a Unit.
 26. 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.
 27. 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.
 28. 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.
 29. 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

30. Groundwater quality beneath and downgradient of the facility has been impacted by landfill operations. Specifically, elevated levels of alkalinity, chloride, sulfate, and total dissolved solids have been detected in down and cross gradient wells MW-2, MW-3, MW-4, MW-6, and MW-8 (shallow and deep). Additionally, volatile organic compounds (VOC) have been detected in downgradient wells MW-2, MW-3, MW-4, and MW-6.
31. Volatile organic compounds (VOC) detected at or above method detection limits in site monitoring wells includes Benzene, Chlorobenzene, Chloroethane, 4-Chlorotoluene, Chloromethane, 1,4-Dichlorobenzene, 1,1-Dichloroethane, cis-1,2-Dichloroethene, Dichlorofluoromethane, Methyl-tert-Butyl Ether (MtBE), and Methylene Chloride. The lateral extent of groundwater impacts has not yet been delineated.
32. Groundwater impacts were evaluated and confirmed in the September 2001 *Groundwater Investigation Report, City of Portola Sanitary Landfill*. In October 2001, the City of Portola submitted *Engineering Alternatives for Corrective Action, Portola Sanitary Landfill*, which recommended landfill closure as the preferred remedial alternative.
33. Three individual domestic water supply wells, on properties located within 1,500 feet southwest of the landfill, are monitored in accordance with Order No. 90-307. Two of these wells, owned by Mack (APN 125-080-018) and Prinvale (APN 125-080-024), had detections of volatile organic compounds for the first time during first quarter 2004 monitoring. The Mack well had 1.4 µg/L MtBE and the Prinvale well had 0.62 µg/L Chloroform. Both wells were resampled by the Discharger during June 2004 with similar results. This time, the Mack well contained 3.1 µg/L MtBE and the Prinvale well contained 0.65 µg/L Chloroform. The Discharger notified the affected property owners of the VOC detections in letters dated 1 July 2004. On 10 August 2004, Regional Board staff sampled the domestic supply wells and found similar results to those of the Discharger, with 3.7 µg/L MtBE detected in the Mack well and 0.66 µg/L Chloroform detected in the Prinvale well. It should be noted that Chloroform has never been detected in any of the landfill monitoring wells.
34. On 28 October 2004, the Executive Officer issued Cleanup and Abatement Order No. R5-2004-0719 to the Discharger in response to confirmed groundwater impacts at the

two domestic water supply wells described in Finding 33. The Order requires the Discharger to submit Final Closure and Postclosure Maintenance Plans, provide information (including type of water supply) for properties located within 2,000 feet of the site, submit a work plan for investigating and delineating off-site groundwater impacts (including assessment of additional private domestic water supplies), and to complete landfill closure activities by 15 October 2005.

CEQA AND OTHER CONSIDERATIONS

35. 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 Section 21000, et seq., and the CEQA guidelines, in accordance with Title 14 CCR, Section 15301.
36. This Order implements:
 - a. *The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins;*
 - 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.
37. 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. R5-2005-0048" are necessary to assure compliance with these waste discharge requirements. The Discharger operates the facility that discharges the waste subject to this Order.

PROCEDURAL REQUIREMENTS

38. 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.
39. 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.
40. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.
41. Any person affected by this action of the Regional 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 issuance of this Order. Copies of the laws and regulations applicable to the filing of a petition are available on the Internet at http://www.swrcb.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. 90-307 is rescinded, Attachment 1 of Order No. 93-200 is amended to delete the Portola Class III Landfill, which is on line No. 37, and that the City of Portola, 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. After **15 October 2005 and site closure is complete**, the discharge of waste to any Unit is prohibited.

4. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, or groundwater is prohibited.
5. 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. FACILITY SPECIFICATIONS

1. The Discharger shall, in a timely manner, remove and relocate any wastes discharged at the 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 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 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.

C. CLOSURE CONSTRUCTION SPECIFICATIONS

1. The Discharger shall submit for Executive Officer review and approval **no later than 1 June 2005**, Earthwork Specifications for the soil component of the final cover system to be installed over the Unit.

2. The soil component of the final cover system shall have no irregularities, rocks, or protrusions larger than $\frac{3}{4}$ inch diameter at the surface of the foundation layer below the geomembrane barrier layer. Additionally, rocks, protrusions, and other objects larger than one inch diameter shall be removed from the first six inches of the soil vegetative layer, which is placed over the geomembrane barrier layer.
3. In accordance with the conditionally approved October 2003 Final Closure and Postclosure Maintenance Plan (and subsequent November 2004 amendments), the Discharger shall construct a final cover system over the Unit that includes, from bottom to top:
 - a. A two foot thick foundation layer;
 - b. An 8 oz/yd² non-woven geotextile installed on the landfill top deck;
 - c. A 40 mil linear low-density polyethylene (LLDPE) geomembrane, textured on both sides;
 - d. A geocomposite drainage layer installed along the landfill sideslope areas; and
 - e. An 18 inch thick vegetative soil layer.
4. A landfill gas passive venting system shall be installed along the hinge line of the landfill top deck below the barrier layer to reduce gas pressure on the geomembrane.
5. The final cover system over the Unit shall be constructed to achieve a minimum 3% slope that facilitates lateral drainage away from the Unit and prevents ponding over buried wastes.
6. All landfill closure construction activities shall be completed **by 15 October 2005**.
7. The landfill final cover system shall be designed and constructed to withstand a maximum probable earthquake.
8. At least two permanent monuments, installed by a licensed surveyor, shall be installed into the final cover system so that the locations and elevations of all wastes, containment structures, and monitoring facilities can be determined throughout the postclosure maintenance period.
9. All necessary precipitation and drainage control systems shall be designed, constructed, and maintained to accommodate the anticipated volume of precipitation and peak flows from surface runoff under 100-year, 24-hour storm events. The

design of these structures must also account for rain-on-snow events that create peak flow conditions.

10. The Discharger may propose changes to the final cover system design prior to construction, provided that approved components are not eliminated, the engineering properties of the components are not substantially reduced, and the proposed final cover system results in the protection of water quality equal to or greater than the design prescribed by Title 27 and this Order. The proposed changes may be made following approval by the Executive Officer. Substantive changes to the design require reevaluation as an engineered alternative and approval by the Regional Board.
11. Construction shall proceed only after all applicable construction quality assurance plans have been approved by the Executive Officer.
12. Landfill closure and all containment structures shall be designed and constructed under the direct supervision of a California registered civil engineer or certified engineering geologist and shall be certified by that individual as meeting the prescriptive standards and performance goals of Title 27.
13. Following completion of construction of the landfill cover system **and no later than 15 December 2005**, the final documentation required in Title 27 CCR Section 20324(d)(1)(C) shall be submitted to the Executive Officer for review and approval. 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.
14. A third party independent of both the Discharger and the construction contractor shall perform all of the construction quality assurance monitoring and testing during the construction of the landfill cover system.

D. CORRECTIVE ACTION AND EVALUATION MONITORING SPECIFICATIONS

1. The Discharger shall comply with the corrective action and evaluation monitoring program provisions of Title 27 for groundwater and surface water. Surface water monitoring will only be required for intermittent springs that may be identified topographically down or cross gradient of the Unit.
2. The Discharger shall submit semiannual progress reports evaluating the effectiveness of the landfill closure and corrective action program in accordance with Section 20430(h), Title 27. The progress reports shall be included with the second and fourth quarter monitoring reports annually until the corrective action program is completed.

3. 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 monitoring program, evaluation monitoring program, or corrective action program.
4. The Discharger shall submit **by 15 December 2005** a revised Water Quality Protection Standard Report with updated concentration limits for all constituents of concern.
5. 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 repeated detection of one or more non-naturally occurring organic compounds in samples above the Water Quality Protection Standard from site monitoring wells is evidence of a release from the Unit.
6. For each monitoring event, the Discharger shall determine whether the landfill is in compliance with the Water Quality Protection Standard using appropriate statistical methods acceptable to the Executive Officer in accordance with Title 27 CCR Section 20415(e).
7. The Discharger may request termination of the corrective action program once it is demonstrated that the concentration limits of all monitoring parameters and constituents of concern are reduced to levels below their respective concentration limits (established in the Water Quality Protection Standard pursuant to Section 20390 of Title 27) throughout the entire zone affected by the release for a period of at least three consecutive years.
8. The Discharger shall submit **by 15 December 2005** for Executive Officer review and approval a Sample Collection and Analysis Plan. The Sample Collection and Analysis Plan shall at a minimum include:
 - a. Sample collection procedures describing purging techniques, sampling equipment, and decontamination of sampling equipment;
 - b. Sample preservation information and shipment procedures;
 - c. Sample analytical methods and procedures;
 - d. Sample quality assurance/quality control (QA/QC) procedures; and
 - e. Chain of Custody control.
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 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. 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 used, the exact methodology shall be submitted for review and approval by the Executive Officer 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 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, CCR, 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".
 18. 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).
 19. 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 by the Executive Officer. Upon receiving written approval from the Executive Officer, 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.

20. 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.
21. 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.

E. 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. The Discharger shall submit monitoring reports, which includes the information required in E.2, E.4, and E.5 of Reporting Requirements of Order No. R5-2005-0048, in accordance with requirements of Monitoring and Reporting Program No. R5-2005-0048.
 4. 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.
 5. 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 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 that was in the well bore while the sample was 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 Sample Collection 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. A summary and certification of completion of all **Standard Observations** for the Unit, for the perimeter of the Unit, and for the receiving waters or surface water drainage courses. 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) Identification of surface springs topographically cross or down gradient of the Unit;
 - c) Evidence of odors - presence or absence, characterization, source, and distance of travel from source; and
 - d) Evidence of erosion and/or of day-lighted refuse.
 - 3) For receiving waters and surface water drainage courses (including intermittent surface springs):
 - 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) Flow rate; and
 - f) Weather conditions - wind direction and estimated velocity, total precipitation during recent days and on the day of observation.

6. 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.

7. 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 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 five calendar years, 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 [Title 27 CCR Section 20420(h)], in that this facilitates periodic review by the Regional Board.
 - c. A comprehensive discussion of the compliance record and a status update regarding the efficacy of the corrective action program. The Discharger shall also propose recommendations for achieving remedial action goals, which includes compliance with the Water Quality Protection Standard.
 - d. A written summary of the monitoring results, indicating any changes made or observed since the previous annual report.

F. PROVISIONS

1. The Discharger 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 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. R5-2005-0048, 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 (Title 27 CCR Section 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 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 assurances of financial responsibility for initiating and completing corrective action for all known or reasonably foreseeable releases from the landfill in an amount approved by the Executive Officer, and shall submit the financial assurance mechanism to the Financial Assurances Section of the California Integrated Waste Management Board.
11. The Discharger is required to maintain financial assurance mechanisms for closure and post-closure maintenance costs as specified in Chapter 6 of Title 27. 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.

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

<u>Task</u>	<u>Compliance Date</u>
A. Closure Construction	
1) Submit Earthwork Specifications for the soil component of the final cover system for Executive Officer review and approval. (see Closure Construction Specification C.1)	1 June 2005
2) Complete all landfill closure construction activities. (see Closure Construction Specification C.6)	15 October 2005
3) Submit the final report of landfill closure activities demonstrating construction was in accordance with approved design and CQA plans. (see Closure Construction Specification C.13)	15 December 2005
B. Report Submittals	
1) Submit a revised Water Quality Protection Standard Report with updated concentration limits for all constituents of concern. (see Corrective Action and Evaluation Monitoring Specification D.4)	15 December 2005
2) Submit a Sample Collection and Analysis Plan. (see Corrective Action and Evaluation Monitoring Specification D.8)	15 December 2005

I, THOMAS R. PINKOS, 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 17 March 2005.

Original signed by
THOMAS R. PINKOS, Executive Officer

WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2005-0048
CITY OF PORTOLA
FOR CORRECTIVE ACTION AND CLOSURE OF
PORTOLA CLASS III MUNICIPAL SOLID WASTE LANDFILL
PLUMAS COUNTY

-23-

DPS:KLC: sae 3/22/05

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2005-0048
FOR
CITY OF PORTOLA
FOR
CORRECTIVE ACTION AND CLOSURE OF
PORTOLA CLASS III MUNICIPAL SOLID WASTE LANDFILL
PLUMAS COUNTY

Compliance with this Monitoring and Reporting Program, with Title 27, California Code of Regulations, Section 20005, et seq. (hereafter Title 27), and with 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)*, dated April 2000, is ordered by Waste Discharge Requirements Order No. R5-2005-0048.

A. REQUIRED MONITORING REPORTS

<u>Report</u>	<u>Due</u>
1. Groundwater Monitoring (Section D.1)	See Table I
2. Corrective Action Status Reports (Order No. R5-2005-0048, D.2)	With 2nd and 4th Quarter Monitoring Report
2. Annual Monitoring Summary Report (Order No. R5-2005-0048, E.7)	Annually by 31 January
3. Facility Monitoring (Section D.4)	Annually by 15 November
4. Response to a Release (Standard Provisions and Reporting Requirements)	As necessary

B. REPORTING

The Discharger shall report monitoring data and information as required in this Monitoring and Reporting Program and as required in Order No. R5-2005-0048 and the Standard Provisions and Reporting Requirements. Reports that do not comply with the required format will be **REJECTED** and the Discharger shall be deemed to be in noncompliance with the waste discharge requirements. In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner so as to illustrate clearly compliance with the waste discharge requirements or lack thereof. Data shall also be submitted in a digital format acceptable to the Executive Officer.

Each monitoring report shall include a compliance evaluation summary as specified in Section E.5 Reporting Requirements, of Order No. R5-2005-0048.

Field and laboratory tests shall be reported in each monitoring report. Quarterly and annual monitoring reports shall be submitted to the Regional Board in accordance with the following schedule for the calendar period in which samples were taken or observations made.

<u>Sampling Frequency</u>	<u>Reporting Frequency</u>	<u>Reporting Periods End</u>	<u>Report Date Due</u>
Quarterly	Quarterly	31 March	30 April
		30 June	31 July
		30 September	31 October
		31 December	31 January
Annually	Annually	31 December	31 January

The Discharger shall submit an **Annual Monitoring Summary Report** to the Regional Board covering the previous monitoring year. The annual report shall contain the information specified in E.7 Reporting Requirements of Order No. R5-2005-0048 and a discussion of compliance with the Waste Discharge Requirements and the Water Quality Protection Standard.

The results of **all monitoring** conducted at the site shall be reported to the Regional Board in accordance with the reporting schedule above for the calendar period in which samples were taken or observations made.

C. **WATER QUALITY PROTECTION STANDARD AND COMPLIANCE PERIOD**

1. **Water Quality Protection Standard Report**

The Discharger shall revise and update the Water Quality Protection Standard in accordance with D.4 Corrective Action and Evaluation Monitoring Specifications of Order No. R5-2005-0048.

For each waste management unit (Unit), the Water Quality Protection Standard shall consist of all constituents of concern, the concentration limit for each constituent of concern, the point of compliance, and all water quality monitoring points.

The Water Quality Protection Standard for naturally occurring waste constituents

consists of the constituents of concern, the concentration limits, the point of compliance, and all monitoring points. The Executive Officer shall review and approve the Water Quality Protection Standard, or any modification thereto, for each monitored medium.

The report shall:

- a. Identify **all distinct bodies of surface and ground water** that could be affected in the event of a release from a Unit or portion of a Unit. This list shall include at least the uppermost aquifer and any permanent or ephemeral zones of perched groundwater underlying the facility.
- b. Include a map showing the monitoring points and background monitoring points for the surface water monitoring program and the groundwater monitoring program. The map shall include the point of compliance in accordance with §20405 of Title 27.
- c. Evaluate the perennial direction(s) of groundwater movement within the uppermost groundwater zone(s).

If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste management activities at the site, the Discharger may request modification of the Water Quality Protection Standard.

2. **Constituents of Concern**

The constituents of concern include all the waste constituents, their reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Unit. The constituents of concern for all Units at the facility are those listed in Tables I through IV for the specified monitored medium. The Discharger shall monitor all constituents of concern at the frequencies listed in Tables I through III for the specified monitoring medium and in accordance with a Corrective Action Program and State Water Resources Control Board Resolution No. 93-62 *Policy for Regulation of Discharges of Municipal Solid Waste*.

a. **Monitoring Parameters**

Monitoring parameters are constituents of concern that are the waste constituents, reaction products, hazardous constituents, and physical parameters that provide a reliable indication of a release from a Unit. The monitoring parameters for the Unit are those listed in Tables I through III

and Table V for the specified monitored medium.

3. Concentration Limits

For a naturally occurring constituent of concern, the concentration limit shall be determined as follows:

- a. By calculation in accordance with a statistical method pursuant to §20415 of Title 27; or
- b. By an alternate statistical method acceptable to the Executive Officer in accordance with §20415 of Title 27.

4. Point of Compliance

The point of compliance for the water standard at each Unit is a vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the Unit.

5. Compliance Period

The compliance period for each Unit shall be the number of years equal to the active life of the Unit plus the closure period. The compliance period is the minimum period during which the Discharger shall conduct a water quality monitoring program subsequent to a release from the Unit. The compliance period shall begin anew each time the Discharger initiates an evaluation monitoring program.

D. MONITORING

The Discharger shall comply with the corrective action and evaluation monitoring program provisions of Title 27 for groundwater and surface water in accordance with Corrective Action and Evaluation Monitoring Specification D.1 of Waste Discharge Requirements, Order No. R5-2005-0048. All monitoring shall be conducted in accordance with a Sample Collection and Analysis Plan, which includes quality assurance/quality control standards, that is acceptable to the Executive Officer.

All point of compliance monitoring wells established for the corrective action and evaluation monitoring program shall constitute the monitoring points for the groundwater Water Quality Protection Standard. All corrective action and evaluation monitoring program groundwater monitoring wells and surface water monitoring points shall be sampled and analyzed for monitoring parameters and constituents of concern as indicated and listed in Tables I, III, IV, and V.

Method detection limits and practical quantitation limits shall be reported. All peaks shall be reported, including those that cannot be quantified and/or specifically identified. Metals shall be analyzed in accordance with the methods listed in Table IV.

The Discharger may, with the approval of the Executive Officer, use alternative analytical test methods, including new USEPA approved methods, provided the methods have method detection limits equal to or lower than the analytical methods specified in this Monitoring and Reporting Program.

1. Groundwater (Site Monitoring Wells and Private Domestic Supply Wells)

The Discharger shall operate and maintain a groundwater monitoring system that complies with applicable provisions of §20415 and §20430 of Title 27 in accordance with a Corrective Action and Evaluation Monitoring Program approved by the Executive Officer. The Discharger shall collect, preserve, and transport groundwater samples in accordance with an approved Sample Collection and Analysis Plan. Nine groundwater monitoring wells exist at the site as described below:

Well I.D.	Service Type	*Location	Depth	Screen Interval
MW-1	Background	450 ft. E of upper Unit	50.5 ft.	30.5 to 50.5 bgs.
MW-2	Downgradient - Point of Compliance	50 ft. SSE of lower Unit	57.5 ft.	38 to 57.5 ft. bgs.
MW-3	Downgradient - Point of Compliance	150 ft SSW of lower Unit	48 ft.	14 to 48 ft. bgs.
MW-4	Downgradient - Point of Compliance	50 ft. SW of lower Unit	47 ft.	27 to 47 ft. bgs.
MW-5	Crossgradient - Point of Compliance	60 ft. W of upper Unit	37 ft.	17 to 37 ft. bgs.
MW-6	Downgradient - Point of Compliance	500 ft. S of lower Unit	24.5 ft.	14.5 to 24.5 ft. bgs.
MW-7	Downgradient - Point of Compliance	200 ft SSE of lower Unit	45 ft.	25 to 45 ft. bgs.
MW-8S	Downgradient - Point of Compliance	150 ft. S of lower Unit	25 ft.	15 to 25 ft. bgs.
MW-8D	Downgradient - Point of Compliance	150 ft. S of lower Unit	49 ft.	44 to 49 ft. bgs.

bgs = Below Ground Surface

* Location distances are estimated

This Order requires the Discharger to obtain samples quarterly from each well described above, **with the exception of MW-2**, and analyze for the monitoring parameters and constituents of concern using the methods and at the frequencies

listed in Tables I, IV, and V. Additional wells may be added to the monitoring system in accordance with the Corrective Action and Evaluation Monitoring Program.

The Discharger shall also sample **the Mack (APN 125-080-018), Oestreich (APN 125-080-025), and the Prinvale (APN 125-080-024) private domestic supply wells**, due to previous detections of volatile organic compounds (VOCs) and the proximity of these wells to the landfill. Samples from these wells shall be obtained quarterly and analyzed for VOCs. During the first and third calendar quarter annually, domestic water supply samples shall be analyzed for VOCs using EPA Method 8260 extended list as specified in Tables IV. During the second and fourth calendar quarter annually, the domestic water supply wells shall be analyzed for VOCs using EPA Method 8260 short list as specified in Table V. The locations of these monitoring points shall be indicated on a site map to be submitted with each quarterly report. Additional private domestic supply wells may be added to the groundwater monitoring system in accordance with the Corrective Action and Evaluation Monitoring Program.

At each quarterly monitoring event, the Discharger shall measure the groundwater surface elevation (in feet and hundredths MSL) in order to determine the groundwater flow rate and direction in the uppermost aquifer and in any zones of perched water and in any additional zone of saturation monitored pursuant to this Monitoring and Reporting Program.

Hydrographs of each well shall be submitted showing the elevation of groundwater with respect to the elevations of the top and bottom of the screened interval and the elevation of the pump intake. Hydrographs of each well shall be prepared and submitted quarterly.

The monitoring parameters shall also be evaluated each reporting period with regards to the cation/anion balance, and the results shall be graphically presented using a Stiff diagram, a Piper graph, or a Schoeller plot.

2. Leachate Monitoring

The Unit is unlined and there are no leachate monitoring devices or sample points. Leachate seeps are not anticipated after site closure is completed. However, the possibility exists for leachate to discharge at the ground surface outside of the closed Unit. If leachate is observed discharging, the Discharger shall immediately obtain a sample and analyze it for all constituents listed in Table II. Emergency steps shall be taken to contain the discharge on site and the Discharger shall notify Regional Board staff by phone or e-mail within 48 hours of the observation. Locations of any observed leachate seep shall be indicated on

a facility map and submitted with each quarterly monitoring report.

3. Surface Water Monitoring

There are no existing surface water monitoring points and the Discharger has not implemented a surface water monitoring program. However, an intermittent surface spring has been identified near a fault structure northeast of the Unit near MW-1. The fault structure is thought to impede groundwater flow downhill towards the landfill. Additional intermittent surface springs may exist south and topographically downgradient in the swale below the Unit and along Meadow Way below the landfill. The Discharger shall investigate and determine the presence or absence of surface springs adjacent and below the landfill as part of the required Standard Observations specified in E.5.e. Reporting Requirements of Order No. R5-2005-0048. Surface springs are most likely to occur in late winter and throughout spring and the Discharger shall report the dates of the Standard Observation inspections for surface springs in each quarterly monitoring report. If surface springs are observed topographically cross or down gradient of the Unit, then the Discharger shall obtain samples from each identified spring meeting the above criteria and analyze the sample(s) for the monitoring parameters and constituents of concern using the methods and at the frequencies listed in

Table III. All surface springs located within 2,000 feet of the Unit shall be indicated on a facility map to be included with each quarterly monitoring report.

4. Facility Monitoring

a. Facility Inspection

Annually, prior to the anticipated rainy season, but no later than **30 September**, the Discharger shall conduct an inspection of the facility. The inspection shall assess damage to the drainage control system, groundwater monitoring equipment (including wells, etc.), and shall include the Standard Observations contained in section E.5.e. of Order No. R5-2005-0048. Any necessary construction, maintenance, or repairs shall be completed by **31 October**. By **15 November** of each year, the Discharger shall submit an annual report describing the results of the inspection and the repair measures implemented, including photographs of the problem and the repairs.

b. Storm Events

The Discharger shall inspect all precipitation, diversion, and drainage facilities for damage **within 7 days** following *major storm events*. Major

storm events are defined as 1.5 inches or more of precipitation within a 24-hour period and/or 0.5 inches or more of precipitation within a 24-hour period when snow is covering the ground. Dates of inspections conducted after major storm events shall be reported in each quarterly monitoring report. Necessary repairs shall be completed **within 30 days** of the inspection. The Discharger shall report any damage and subsequent repairs within 45 days of completion of the repairs, including photographs of the problem and the repairs.

The Discharger shall implement the above monitoring program on the effective date of this Program.

Ordered by: Original signed by
THOMAS R. PINKOS, Executive Officer

17 March 2005
(Date)

DPS/KLC: sae
3/22/05

TABLE I
GROUNDWATER CORRECTIVE ACTION AND EVALUATION
MONITORING PROGRAM

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Field Parameters		
Groundwater Elevation	Ft. & hundredths, M.S.L.	Quarterly
Temperature	°C	Quarterly
Electrical Conductivity	µmhos/cm	Quarterly
pH	pH units	Quarterly
Turbidity	Turbidity units	Quarterly
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Quarterly
Chloride	mg/L	Quarterly
Carbonate	mg/L	Quarterly
Bicarbonate	mg/L	Quarterly
Nitrate - Nitrogen	mg/L	Quarterly
Sulfate	mg/L	Quarterly
Calcium	mg/L	Quarterly
Magnesium	mg/L	Quarterly
Potassium	mg/L	Quarterly
Sodium	mg/L	Quarterly
Volatile Organic Compounds (USEPA Method 8260, short list specified in Table V)	µg/L	2 nd & 4 th Quarter
Volatile Organic Compounds (USEPA Method 8260, extended list specified in Table IV)	µg/L	1 st & 3 rd Quarter
Constituents of Concern (see Table IV)		
Inorganics (dissolved)	mg/L	Annually
Semi-Volatile Organic Compounds (USEPA Method 8270C)	µg/L	2 years
Chlorophenoxy Herbicides (USEPA Method 8151A)	µg/L	5 years
Organophosphorus Compounds (USEPA Method 8141A)	µg/L	5 years

TABLE II
LEACHATE CORRECTIVE ACTION AND EVALUATION
MONITORING PROGRAM

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Field Parameters		
Estimated Total Flow	Gallons	Upon Detection
Estimated Flow Rate	Gallons/Day	Upon Detection
Electrical Conductivity	µmhos/cm	Upon Detection
pH	pH units	Upon Detection
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Upon Detection
Chloride	mg/L	Upon Detection
Carbonate	mg/L	Upon Detection
Bicarbonate	mg/L	Upon Detection
Nitrate - Nitrogen	mg/L	Upon Detection
Sulfate	mg/L	Upon Detection
Calcium	mg/L	Upon Detection
Magnesium	mg/L	Upon Detection
Potassium	mg/L	Upon Detection
Sodium	mg/L	Upon Detection
Constituents of Concern (see Table IV)		
Inorganics (dissolved)	mg/L	Upon Detection
Volatile Organic Compounds (USEPA Method 8260B, extended list)	µg/L	Upon Detection
Semi-Volatile Organic Compounds (USEPA Method 8270C)	µg/L	Upon Detection
Chlorophenoxy Herbicides (USEPA Method 8151A)	µg/L	Upon Detection
Organophosphorus Compounds (USEPA Method 8141A)	µg/L	Upon Detection

TABLE III
SURFACE WATER (SPRINGS) CORRECTIVE ACTION AND EVALUATION
MONITORING PROGRAM

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Field Parameters		
Estimated Flow Rate	gallons/minute	
Temperature	°C	Upon Detection
Electrical Conductivity	µmhos/cm	Upon Detection
pH	pH units	Upon Detection
Turbidity	Turbidity units	Upon Detection
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Upon Detection
Carbonate	mg/L	Upon Detection
Bicarbonate	mg/L	Upon Detection
Chloride	mg/L	Upon Detection
Nitrate - Nitrogen	mg/L	Upon Detection
Sulfate	mg/L	Upon Detection
Calcium	mg/L	Upon Detection
Magnesium	mg/L	Upon Detection
Potassium	mg/L	Upon Detection
Sodium	mg/L	Upon Detection
Inorganics (dissolved)	mg/L	Upon Detection
Volatile Organic Compounds (USEPA Method 8260B, extended list specified in Table IV)	µg/L	Upon Detection
Constituents of Concern (see Table IV)		
Semi-Volatile Organic Compounds (USEPA Method 8270C)	µg/L	As directed by the Executive Officer
Chlorophenoxy Herbicides (USEPA Method 8151A)	µg/L	As directed by the Executive Officer
Organophosphorus Compounds (USEPA Method 8141A)	µg/L	As directed by the Executive Officer

TABLE IV
CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

<u>Inorganics (dissolved):</u>	<u>USEPA Method</u>
Aluminum	6010
Antimony	7041
Barium	6010
Beryllium	6010
Cadmium	7131A
Chromium	6010
Cobalt	6010
Copper	6010
Silver	6010
Tin	6010
Vanadium	6010
Zinc	6010
Iron	6010
Manganese	6010
Arsenic	7062
Lead	7421
Mercury	7470A
Nickel	7521
Selenium	7742
Thallium	7841
Cyanide	9010B
Sulfide	9030B

Volatile Organic Compounds (extended list):

USEPA Method 8260

Acetone
Acetonitrile (Methyl cyanide)
Acrolein
Acrylonitrile
Allyl chloride (3-Chloropropene)
Benzene
Bromochloromethane (Chlorobromomethane)
Bromodichloromethane (Dibromochloromethane)
Bromoform (Tribromomethane)
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane (Ethyl chloride)
Chloroform (Trichloromethane)
Chloroprene
Dibromochloromethane (Chlorodibromomethane)

TABLE IV

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Continued

1,2-Dibromo-3-chloropropane (DBCP)
1,2-Dibromoethane (Ethylene dibromide; EDB)
o-Dichlorobenzene (1,2-Dichlorobenzene)
m-Dichlorobenzene (1,3-Dichlorobenzene)
p-Dichlorobenzene (1,4-Dichlorobenzene)
trans- 1,4-Dichloro-2-butene
Dichlorodifluoromethane (CFC 12)
1,1 -Dichloroethane (Ethylidene chloride)
1,2-Dichloroethane (Ethylene dichloride)
1,1 -Dichloroethylene (1, 1-Dichloroethene; Vinylidene chloride)
cis- 1,2-Dichloroethylene (cis- 1,2-Dichloroethene)
trans- 1,2-Dichloroethylene (trans- 1,2-Dichloroethene)
1,2-Dichloropropane (Propylene dichloride)
1,3-Dichloropropane (Trimethylene dichloride)
2,2-Dichloropropane (Isopropylidene chloride)
1,1 -Dichloropropene
cis- 1,3-Dichloropropene
trans- 1,3-Dichloropropene
Di-isopropylether (DIPE)
Ethanol
Ethyltertiary butyl ether
Ethylbenzene
Ethyl methacrylate
Hexachlorobutadiene
Hexachloroethane
2-Hexanone (Methyl butyl ketone)
Isobutyl alcohol
Methacrylonitrile
Methyl bromide (Bromomethane)
Methyl chloride (Chloromethane)
Methyl ethyl ketone (MEK; 2-Butanone)
Methyl iodide (Iodomethane)
Methyl t-butyl ether
Methyl methacrylate
4-Methyl-2-pentanone (Methyl isobutyl ketone)
Methylene bromide (Dibromomethane)
Methylene chloride (Dichloromethane)
Naphthalene
Propionitrile (Ethyl cyanide)
Styrene
Tertiary amyl methyl ether
Tertiary butyl alcohol
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane

TABLE IV

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Continued

Tetrachloroethylene (Tetrachloroethene; Perchloroethylene; PCE)
Toluene
1,2,4-Trichlorobenzene
1,1,1 -Trichloroethane, Methylchloroform
1,1,2-Trichloroethane
Trichloroethylene (Trichloroethene; TCE)
Trichlorofluoromethane (CFC- 11)
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride (Chloroethene)
Xylene (total)

Semi-Volatile Organic Compounds:

USEPA Method 8270 - base, neutral, & acid extractables

Acenaphthene
Acenaphthylene
Acetophenone
2-Acetylaminofluorene (2-AAF)
Aldrin
4-Aminobiphenyl
Anthracene
Benzo[a]anthracene (Benzanthracene)
Benzo[b]fluoranthene
Benzo[k]fluoranthene
Benzo[g,h,i]perylene
Benzo[a]pyrene
Benzyl alcohol
Bis(2-ethylhexyl) phthalate
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC (Lindane)
Bis(2-chloroethoxy)methane
Bis(2-chloroethyl) ether (Dichloroethyl ether)
Bis(2-chloro-1-methylethyl) ether (Bis(2-chloroisopropyl) ether; DCIP)
4-Bromophenyl phenyl ether
Butyl benzyl phthalate (Benzyl butyl phthalate)
Chlordane
p-Chloroaniline
Chlorobenzilate
p-Chloro-m-cresol (4-Chloro-3-methylphenol)
2-Chloronaphthalene
2-Chlorophenol

TABLE IV

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Continued

4-Chlorophenyl phenyl ether
Chrysene
o-Cresol (2-methylphenol)
m-Cresol (3-methylphenol)
p-Cresol (4-methylphenol)
4,4'-DDD
4,4'-DDE
4,4'-DDT
Diallate
Dibenz[a,h]anthracene
Dibenzofuran
Di-n-butyl phthalate
3,3'-Dichlorobenzidine
2,4-Dichlorophenol
2,6-Dichlorophenol
Dieldrin
Diethyl phthalate
p-(Dimethylamino)azobenzene
7,12-Dimethylbenz[a]anthracene
3,3'-Dimethylbenzidine
2,4-Dimethylphenol (m-Xylenol)
Dimethyl phthalate
m-Dinitrobenzene
4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-n-octyl phthalate
Diphenylamine
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Ethyl methanesulfonate
Famphur
Fluoranthene
Fluorene
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexachlorocyclopentadiene
Hexachloropropene
Indeno(1,2,3-c,d)pyrene

TABLE IV

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Continued

Isodrin
Isophorone
Isosafrole
Kepone
Methapyrilene
Methoxychlor
3-Methylcholanthrene
Methyl methanesulfonate
2-Methylnaphthalene
1,4-Naphthoquinone
1-Naphthylamine
2-Naphthylamine
o-Nitroaniline (2-Nitroaniline)
m-Nitroaniline (3-Nitroaniline)
p-Nitroaniline (4-Nitroaniline)
Nitrobenzene
o-Nitrophenol (2-Nitrophenol)
p-Nitrophenol (4-Nitrophenol)
N-Nitrosodi-n-butylamine (Di-n-butylnitrosamine)
N-Nitrosodiethylamine (Diethylnitrosamine)
N-Nitrosodimethylamine (Dimethylnitrosamine)
N-Nitrosodiphenylamine (Diphenylnitrosamine)
N-Nitrosodipropylamine (N-Nitroso-N-dipropylamine; Di-n-propylnitrosamine)
N-Nitrosomethylethylamine (Methylethylnitrosamine)
N-Nitrosopiperidine
N-Nitrosopyrrolidine
5-Nitro-o-toluidine
Pentachlorobenzene
Pentachloronitrobenzene (PCNB)
Pentachlorophenol
Phenacetin
Phenanthrene
Phenol
p-Phenylenediamine
Polychlorinated biphenyls (PCBs; Aroclors)
Pronamide
Pyrene
Safrole
1,2,4,5-Tetrachlorobenzene
2,3,4,6-Tetrachlorophenol
o-Toluidine
Toxaphene
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol

TABLE IV

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Continued

0,0,0-Triethyl phosphorothioate
sym-Trinitrobenzene

Chlorophenoxy Herbicides:

USEPA Method 8151A

2,4-D (2,4-Dichlorophenoxyacetic acid)
Dinoseb (DNBP; 2-sec-Butyl-4,6-dinitrophenol)
Silvex (2,4,5-Trichlorophenoxypropionic acid; 2,4,5-TP)
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)

Organophosphorus Compounds:

USEPA Method 8141A

Atrazine
Chlorpyrifos
0,0-Diethyl 0-2-pyrazinyl phosphorothioate (Thionazin)
Diazinon
Dimethoate
Disulfoton
Ethion
Methyl parathion (Parathion methyl)
Parathion
Phorate
Simazine

TABLE V
**MONITORING PARAMETERS FOR CORRECTIVE ACTION
AND EVALUATION MONITORING**

Constituents included in VOC (short list):

USEPA Method 8260B

Acetone
Acrylonitrile
Benzene
Bromochloromethane
Bromodichloromethane
Bromoform (Tribromomethane)
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane (Ethyl chloride)
Chloroform (Trichloromethane)
Dibromochloromethane (Chlorodibromomethane)
1,2-Dibromo-3-chloropropane (DBCP)
1,2-Dibromoethane (Ethylene dibromide; EDB)
o-Dichlorobenzene (1,2-Dichlorobenzene)
m-Dichlorobenzene (1,3-Dichlorobenzene)
p-Dichlorobenzene (1,4-Dichlorobenzene)
trans-1,4-Dichloro-2-butene
Dichlorodifluoromethane (CFC-12)
1,1-Dichloroethane (Ethylidene chloride)
1,2-Dichloroethane (Ethylene dichloride)
1,1 -Dichloroethylene (1,1 -Dichloroethene; Vinylidene chloride)
cis- 1,2-Dichloroethylene (cis- 1,2-Dichloroethene)
trans-1,2-Dichloroethylene (trans-1,2-Dichloroethene)
1,2-Dichloropropane (Propylene dichloride)
cis- 1,3-Dichloropropene
trans- 1,3-Dichloropropene
Di-isopropylether (DIPE)
Ethanol
Ethyltertiary butyl ether
Ethylbenzene
2-Hexanone (Methyl butyl ketone)
Hexachlorobutadiene
Hexachloroethane
Methyl bromide (Bromomethene)
Methyl chloride (Chloromethane)
Methylene bromide (Dibromomethane)
Methylene chloride (Dichloromethane)
Methyl ethyl ketone (MEK: 2-Butanone)
Methyl iodide (Iodomethane)
Methyl t-butyl ether

TABLE V
MONITORING PARAMETERS FOR CORRECTIVE ACTION
AND EVALUATION MONITORING

Continued

4-Methyl-2-pentanone (Methyl isobutylketone)
Naphthalene
Styrene
Tertiary amyl methyl ether
Tertiary butyl alcohol
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene)
Toluene
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane (Methylchloroform)
1,1,2-Trichloroethane
Trichloroethylene (Trichloroethene)
Trichlorofluoromethane (CFC- 11)
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride
Xylenes

INFORMATION SHEET

ORDER NO. R5-2005-0048
CITY OF PORTOLA
FOR CORRECTIVE ACTION AND CLOSURE OF
PORTOLA CLASS III MUNICIPAL SOLID WASTE LANDFILL
PLUMAS COUNTY

The Portola Class III Municipal Solid Waste Landfill is located approximately 1.5 miles northeast of the City of Portola. The 31-acre landfill is comprised of two parcels owned by the City of Portola (hereafter Discharger). Solid waste operations have been conducted wholly within the larger 22.46-acre parcel. The site consists of one unlined waste management unit, a scrap metal storage area, a public household hazardous waste collection facility, and a green waste storage area. The facility opened in 1968 as an open burn dump operated by Plumas County. In 1974, Plumas County, in agreement with the City of Portola, began operating the site as a sanitary landfill. On 27 May 1978, the City of Portola took over landfill operations.

The landfill is located within the Basin and Range physiographic province, an area characterized by uplifted and tilted mountain ranges separated by broad elongated basins. Quartz diorite is the predominant geologic unit beneath the site. The quartz diorite is generally very deeply weathered at the surface and grades to a silty sand. Shallow groundwater flow beneath and surrounding the landfill occurs in the highly weathered quartz diorite. Groundwater flow direction in this shallow zone is largely controlled by topography, and generally parallels the slope of the landscape with a flow direction of northeast to southwest.

Nine monitoring wells make up the facility's groundwater monitoring system. First encountered groundwater is about 13 to 38 feet below ground surface. Groundwater monitoring at the site has identified elevated levels of alkalinity, chloride, sulfate, and total dissolved solids in downgradient monitoring wells. Additionally, volatile organic compounds, including Benzene, Chlorobenzene, Chloroethane, 4-Chlorotoluene, Chloromethane, 1,4-Dichlorobenzene, 1,1-Dichloroethane, cis-1,2-Dichloroethene, Dichlorofluoromethane, Methyl-tert-Butyl Ether (MtBE), and Methylene Chloride have been detected in downgradient monitoring wells. In response to the groundwater impacts, the Discharger evaluated corrective action measures and proposed landfill closure as the preferred remedial alternative.

A rural residential neighborhood exists within 1,500 feet southwest of the landfill. Many of the residences receive water through individual domestic supply wells. Three of the properties have been routinely sampled by the Discharger as part of the groundwater detection monitoring program. In early 2004, samples from two of the three domestic water supply wells that are sampled by the Discharger had detectable levels of volatile organic compounds. MtBE was detected at 1.4 µg/L in the well owned by Mack and 0.62 µg/L of Chloroform at was detected in the well owned by Prinvale. Subsequent

INFORMATION SHEET
ORDER NO. R5-2005-0048
CITY OF PORTOLA
FOR CORRECTIVE ACTION AND CLOSURE OF
PORTOLA CLASS III MUNICIPAL SOLID WASTE LANDFILL
PLUMAS COUNTY

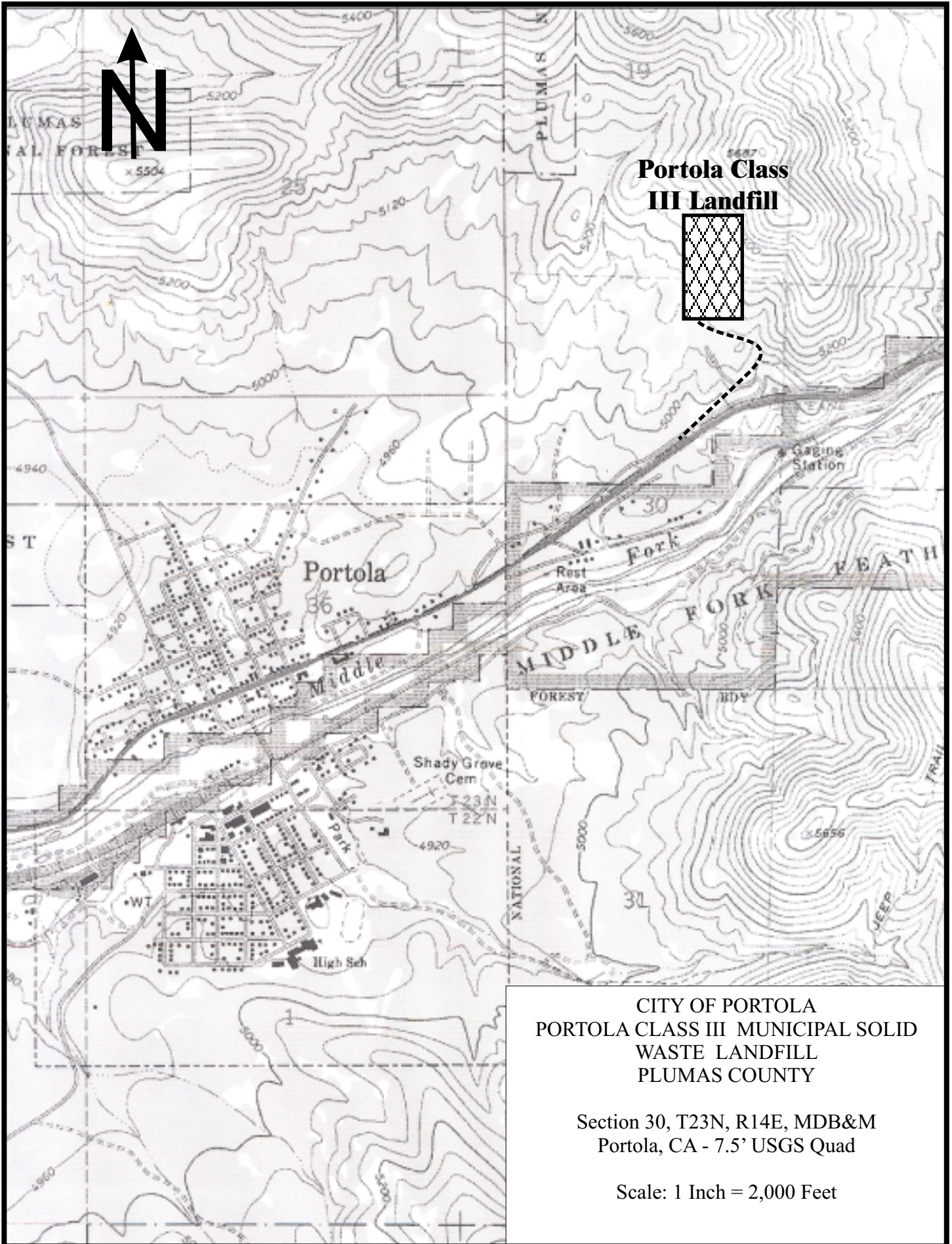
-2-

resampling by the Discharger and Regional Board staff confirmed the groundwater impacts in these two wells. The Discharger notified both property owners of the VOC detections in letters dated 1 July 2004. It should be noted that Chloroform has never been detected in the landfill monitoring wells.

On 28 October 2004, the Executive Officer issued Cleanup and Abatement Order No. R5-2004-0719, which required the Discharger to submit Final Closure and Postclosure Maintenance Plans, provide information (including the type of water supply) for properties located within 2,000 feet of the site, submit a work plan for investigating and delineating off-site groundwater impacts (including assessment of additional private domestic water supplies), and to complete landfill closure activities by 15 October 2005.

These proposed Waste Discharge Requirements (WDR) prescribe a closure schedule for the landfill, require implementation of a corrective action and evaluation monitoring program, and update existing WDR Order No. 90-307 to be consistent with applicable provisions of Title 27 California Code of Regulations.

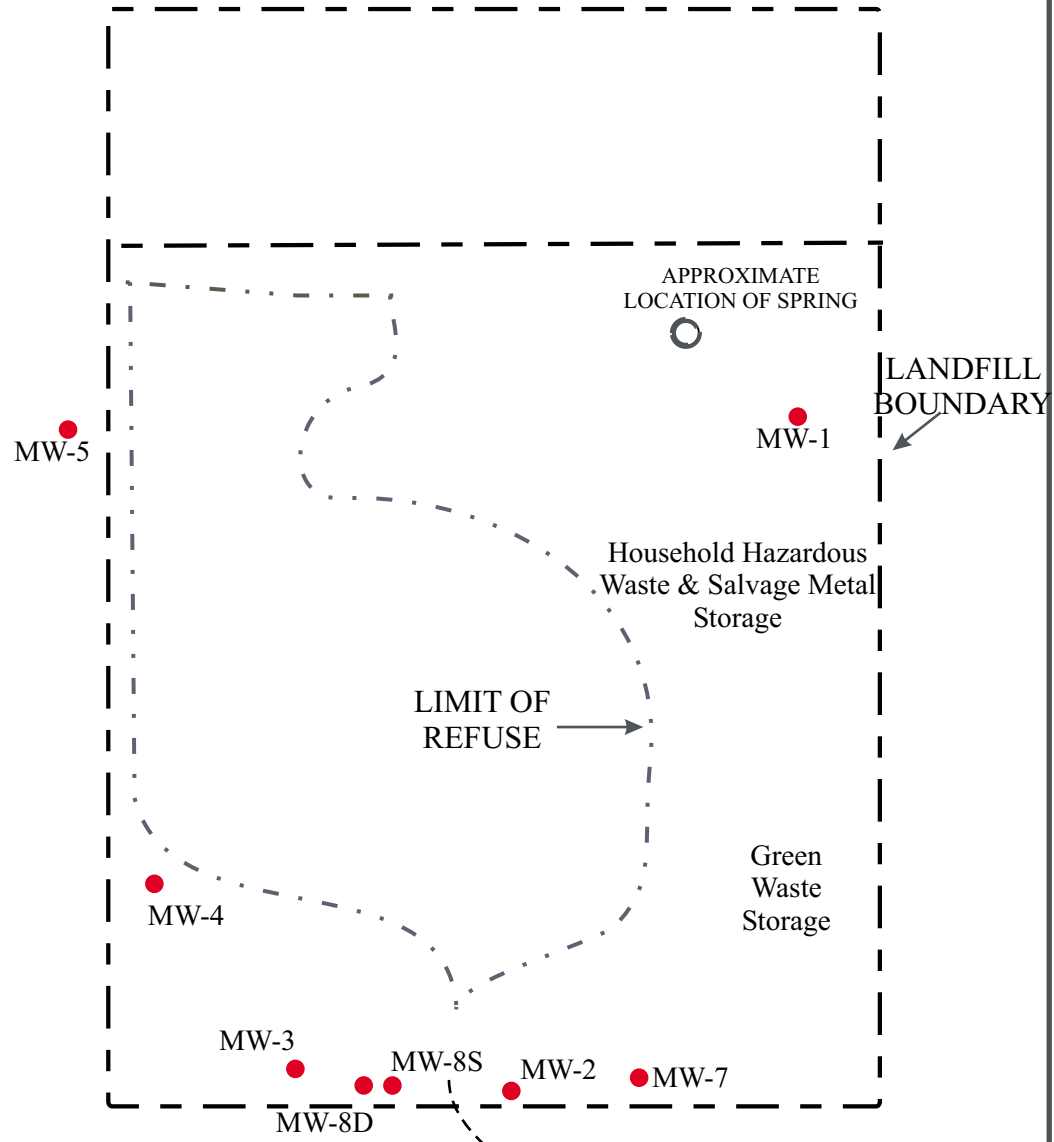
DPS/KLC: sae
22 March 2005





LEGEND

- - - Property Boundary
- · - · - Limit of Refuse
- Existing Monitoring Well
- ⊙ Location of Domestic Well



Prinvale Well
APN 125-080-024

Oestreich Well
APN 125-080-025

Mack Well
APN 125-080-018

CITY OF PORTOLA
CLASS III MUNICIPAL SOLID WASTE
LANDFILL

PLUMAS COUNTY
Section 30, T23, R14E, MDB&M

NOT TO SCALE