CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2004-0062

WASTE DISCHARGE REQUIREMENTS FOR PLUMAS COUNTY AND U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE FOR CORRECTIVE ACTION AND CLOSURE OF GOPHER HILL CLASS III MUNICIPAL SOLID WASTE LANDFILL AND CLASS II SURFACE IMPOUNDMENT PLUMAS COUNTY

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

1. Plumas County operates a Class III municipal solid waste landfill and Class II surface impoundment (hereafter facility) about 5 miles west of Quincy in Section 12, T24N, R9E, MDB&M, as shown on Attachment A which is incorporated herein and made part of this Order. The land on which the facility is situated is administered by the U.S. Department of Agriculture, Forest Service (Forest Service). Plumas County and the Forest Service are hereafter jointly referred to as the Discharger.

2. The Forest Service, administers the property at which the discharge will occur. The Forest Service is ultimately responsible for ensuring compliance with these requirements. Plumas County is responsible for compliance with these requirements, including day-to-day operations and monitoring. Enforcement actions will be taken against the Forest Service only in the event that enforcement actions against Plumas County are ineffective or would be futile, or that enforcement is necessary to protect public health or the environment.

3. The landfill consists of an unlined waste management unit (Unit), covering approximately 13 acres, and a Class II surface impoundment, as shown in Attachment B, which is incorporated herein and made part of this Order. The Class II surface impoundment has a volumetric capacity of 1.055 million gallons. The facility is comprised of Assessor's Parcel Number (APN) 113-010-002.

4. The Forest Service submitted an Environmental Assessment (EA) for the facility in July 2001, and issued a Decision Notice and Finding of No Significant Impact in August 2001. The Forest Service issued a new Special Use Permit to Plumas County, in April 2002, to allow final closure of the facility. Also included in the EA was a proposal to install a buried pipe from the Class II surface impoundment to Spanish Creek for the discharge of spring underflow and leachate collected from the interception trench beneath

the landfill. On 6 September 2002, the Regional Board issued Waste Discharge Requirements Order No. R5-2002-0159, NPDES No. CA0084875, for the leachate discharge. The Discharger began discharging leachate to Spanish Creek in December 2002.

5. On 22 December 1987, the Discharger submitted a Report of Waste Discharge requesting revised waste discharge requirements to reclassify the existing Class II-2 landfill to a Class III landfill and for construction of a Class II surface impoundment for containment of leachate. The Class II-2 landfill was operating under Order No. 75-175 which was rescinded with Order No. 90-311. This Order reclassifies the Unit as a Class III landfill that accepts municipal solid waste in accordance with Title 27, California Code of Regulations, §20005, et seq. (Title 27).

SITE DESCRIPTION

6. The Discharger has operated the facility since 1976. In 1994, the County began shipping municipal solid waste to Lockwood, Nevada. The landfill has received only construction and demolition debris, scrap metals, and wood waste since 1994.

7. The existing Units, as shown on Attachment B, are designated as follows:

Class III Landfill	WMU No. 1
Class II Surface Impoundment	WMU No. 2
Five Unlined Surface Impoundments	Storm Water Collection Ponds

8. The disposal facility is in an area of historic hydraulic mining between Spanish and Wapaunsie Creeks. Two abandoned, water-filled mine shafts are located north of WMU No. 1 and another unsealed mine shaft is believed to be under the landfill. A steep bluff rises immediately east of WMU No. 1, and over a small ridge to the south the land breaks away to Spanish Creek. Surface drainage from above the facility is routed around the landfill through sediment ponds and discharges to Wapaunsie Creek.

9. Vegetation in the area around the facility consists generally of conifers with sparse coverage in the areas of hydraulic mining and tailings outwash.

10. The hydraulic conductivity of the native soils (phyllite), as measured in three monitoring wells, averages 0.3 feet per day (1×10^{-4} cm/sec). In contrast, the average hydraulic conductivity of the alluvium has been estimated to be 3 feet per day.

11. The facility is in the western metamorphic subprovince of the Sierra Nevada Geomorphic Province and consists of highly weathered Paleozoic-age metasedimentary rocks of the Shoo Fly Complex. The metasedimentary rocks underlying the landfill consist of highly fractured phyllites and slates. Fractures trend north-northwest and dip steeply to the northeast and southwest. At least one fault passes under the site, running north-northeast.

Additional faults may exist in the area. Other rocks associated with the landfill include greenstone, slate, talc-chlorite accumulations along the sheared zones, minor amounts of limestone, and lacustrine deposits overlying bedrock.

12. The closest Holocene faults are in the Almanor Fault Zone approximately 20 miles northwest, the Mohawk Valley Fault Zone, approximately 25 miles southeast, and the Honey Lake Fault Zone approximately 40 miles to the northeast. The maximum credible earthquake calculated for the Honey Lake Fault Zone is M_w=7.25, and respective peak ground acceleration is 0.6g. The maximum credible earthquake calculated for the Mohawk Valley Fault is M_w=6.5 and respective peak ground acceleration is 0.5g. Earthquake data is not available for the Almanor Fault zone. Two pleistocene faults are also located within 5 miles of the facility, the Meadow Valley Fault (1.5 miles west) and the Rich Bar Fault (5 miles southwest).

13. The facility receives an average of 40 inches of rainfall precipitation and 40 inches of snowfall per year as provided by the Quincy Station (#047195). The mean evaporation for this facility is 40 inches per year as obtained from the California Department of Water Resources.

14. The 100-year, 24-hour precipitation event for the facility is 8 inches as estimated from data published by the California Department of Water Resources, Rainfall Analyses for Drainage Design, Bulletin No. 195.

15. The 1,000-year, 24-hour precipitation event for the facility is estimated to be 10 inches based on data published by the California Department of Water Resources, Rainfall Analyses for Drainage Design, Bulletin No. 195.

16. The facility is not within a 100-year floodplain based on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map, Community-Panel Number 060244B.

17. There are no known municipal, domestic, industrial, or agricultural groundwater supply wells within one mile of the site.

WASTE AND SITE CLASSIFICATION

18. The Discharger has discharged municipal solid wastes and wood ash from a local cogeneration facility to the landfill. Wood ash, if commingled with putrescible organic matter may produce acidic leachate, which could release pollutants in concentrations that may cause degradation of waters of the state. Due to the absence of a liner and the lack of protection for groundwater, the disposal of wood ash ceased in the early 1980's. Municipal wastes which are defined in §20260(a) and (b)(1) of Title 27, CCR were accepted until 1994. Nonhazardous solid wastes include municipal solid wastes, as referred to in the Code

of Federal Regulations, Title 40, Part 258.2. The Discharger no longer accepts waste at the facility, however scrap metal, and green waste are stored on-site prior to recycling or burning.

19. The Discharger has constructed a Class II surface impoundment for the collection and containment of leachate from the landfill. These wastes are classified as "designated wastes" using criteria set forth in Title 27, CCR, § 20210.

SURFACE WATER AND GROUNDWATER CONDITIONS

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

21. Surface drainage is toward the west to Wapaunsie Creek, which flows into Spanish Creek approximately one-quarter mile downstream in Hydrologic Area No. 518.52 of the Quincy Hydrologic Basin.

22. Spanish Creek is tributary to the North Fork Feather River. The beneficial uses of the North Fork Feather River as identified in Table II-1 of the Basin Plan are municipal and domestic supply (MUN); hydropower generation (PWR); water contact and non-contact recreation (REC-1) and (REC-2); fresh water habitat (COLD); cold water spawning (SPWN); wildlife habitat (WILD); aesthetic enjoyment; preservation and enhancement of fish, wildlife, and other aquatic resources. The beneficial uses of Wapaunsie Creek and Spanish Creek are not identified in the Basin Plan. However the Basin Plan states, "The beneficial uses of any specifically identified water body generally apply to its tributary streams." Upon review of the flow conditions, habitat values, and beneficial uses of Wapaunsie Creek and Spanish Creek, the Regional Board finds that the beneficial uses identified in the Basin Plan for the North Fork of the Feather River are applicable to Wapaunsie Creek and Spanish Creek.

23. Groundwater is present immediately under the landfill and may rise into the waste pile. Groundwater flow is generally west-southwest. The hydrogeology is complicated by the presence of a fault bisecting the site, a possible buried mine-shaft under the landfill, two water-filled mine shafts north of the site, uneven bedrock, and overlying lacustrine deposits.

24. A spring surfaces along the western toe of the landfill adjacent to monitoring well GHL-1, which was destroyed in 1992. Both the spring and well show elevated levels of waste constituents indicating a release from the landfill. The source of the spring may be the buried mine-shaft under the landfill. The water from the spring is intercepted by the leachate collection trench and routed to the Class II surface impoundment.

25. The beneficial uses of groundwater, as designated in the Basin Plan, are domestic, municipal, agricultural, and industrial supply.

26. Monitoring data indicates background groundwater quality has an electrical conductivity (EC) ranging between 18 to 190 micromhos/cm, with an average total dissolved solids (TDS) concentration of 62.25 mg/l.

27. The direction of groundwater flow is toward the west with an average gradient is 0.1 feet per foot. Groundwater flow under the site is rapid. Assuming a hydraulic conductivity of 3 feet per day and an effective porosity of 0.2, the average groundwater velocity is 550 feet per year.

GROUNDWATER MONITORING

28. The existing groundwater monitoring system consists of nine monitoring wells. Wells GHL-3 and GHL-12 are background monitoring points. Wells GHL-5, GHL-6, GHL-7, GHL-8, and GHL-9 are downgradient (compliance) monitoring points. Additional compliance points include a lysimeter, L-1, beneath the Class II surface impoundment, the discharge from the spring, SP-1, and the groundwater interception trench,TR-1. The location of the wells, lysimeter, and sampling points are shown in Attachment B.

29. Volatile organic compounds (VOCs) are often detected in a release from a landfill. VOCs are not known to occur naturally in the vicinity of the site and off-site sources have not been identified. VOCs are not amenable to the statistical analysis procedures contained in Title 27, CCR for the determination of a release of wastes from a Unit.

30. Sections 20415(e)(8) and (9) of Title 27, CCR 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 Section 20415(b)(1)(B)2.-4. of Title 27, CCR. However, Title 27, CCR does not specify a specific method for non-statistical evaluation of monitoring data.

31. The Regional Board may specify a non-statistical data analysis method pursuant to Section 20080(a)(1) of Title 27, CCR. 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.

32. 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.

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 criteria, if met, trigger an

evaluation monitoring program in accordance with Section 20425 of Title 27, CCR and Section **X. Response to a Release** contained in *Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Title 27, CCR and/or Subtitle D*, April 2000, which is attached and made part of this Order. 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 investigations at the site indicate leachate has migrated from the unlined landfill into groundwater in the vicinity of GHL-5.

34. Based on recent statistical analyses, the following constituents were determined to be released from the landfill and were detected at concentrations greater than background levels: manganese, chloride, dissolved organic carbon, and mercury. Volatile organic compounds including; 1,1-Dichloroethane, chloroethane, methylene chloride, dichloromethane, benzene, and cis-1,2 dichloroethylene are also consistently detected in groundwater.

35. Because the landfill has impacted groundwater quality, the Discharger was required to submit a Corrective Action Plan. Landfill closure was recommended as the preferred corrective action alternative.

CLOSURE CONSTRUCTION AND ENGINEERED ALTERNATIVE

36. Section 20080 (b) of Title 27 allows the Regional Board to consider the approval of an engineered alternative to the prescriptive construction standards of Title 27. In order to approve an engineered alternative in accordance with Section 20080(c)(1) and (2), the Discharger must demonstrate that the prescriptive design is unreasonably and unnecessarily burdensome and will cost substantially more than an alternative which will meet the criteria contained in Section 20080(b), or would be impractical and would not promote attainment of applicable performance standards. The Discharger must also

demonstrate that the proposed engineered alternative is consistent with the performance goal addressed by the particular prescriptive standard, and provides protection against water quality impairment equivalent to the prescriptive standard in accordance with Section 20080(b)(2) of Title 27.

37. Section 13360(a)(1) of the California Water Code allows the Regional Board to specify the design, type of construction, and/or particular manner in which compliance must be met in waste discharge requirements or orders for discharges of waste at solid waste facilities.

38. The Discharger submitted a November 2003 Final Closure and Post-Closure Maintenance Plan that proposes an engineered alternative final cover system consisting of (from top to bottom): two feet of vegetative soil, geocomposite drainage layer, 60-mil HDPE barrier layer, and a two feet thick foundation layer. A passive gas venting system, consisting of two-500 foot lengths of PVC pipe that cross at the top of the landfill with three vent riser pipes installed through the cap, will be installed in a sand layer just above the foundation layer. Construction of the cover system is expected to commence in Spring 2004.

39. The Discharger has adequately demonstrated that construction of a Title 27 prescriptive final cover system would be unreasonable and unnecessarily burdensome when compared to the proposed engineered alternative design. There is no soil borrow area at or near the site that would meet the minimum hydraulic conductivity requirement. Importing soil would cost substantially more than the proposed engineered alternative. The Discharger has demonstrated that the proposed engineered alternative is consistent with the performance goals of the prescriptive standard and affords equivalent or better protection against water quality impairment.

40. Construction will proceed only after all applicable construction quality assurance plans have been approved by the Executive Officer.

CEQA AND OTHER CONSIDERATIONS

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

42. This Order implements:

a. The *Water Quality Control Plan for the Sacramento River Basin and San Joaquin River Basin*, Fourth Edition;

b. The prescriptive standards and performance goals of Chapters 1 through 7, Subdivision 1, Division 2, Title 27, CCR of the California Code of Regulations, effective 18 July 1997, and subsequent revisions;

c. The prescriptive standards and performance criteria of Part 258, Title 40 of the Code of Federal Regulations (Subtitle D); and

d. State Water Resources Control Board Resolution No. 93-62, *Policy for Regulation of Discharges of Municipal Solid Waste*, adopted 17 June 1993.

PROCEDURAL REQUIREMENTS

43. All local agencies with jurisdiction to regulate land use, solid waste disposal, air quality, and to protect public health have approved the use of this site for the discharges of waste to land stated herein and for site closure.

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

45. The Regional Board, in a public meeting, heard and considered all comments pertaining to the site closure.

46. Any person adversely affected by this action of the Regional Board may petition the State Water Resources Control Board to review the action. The petition must be received by the State Board within 30 days of the date of issuance of this Order. Copies of the law and regulations applicable to filing the petition will be provided upon request.

IT IS HEREBY ORDERED, pursuant to Section 13263 and 13267 of the California Water Code, that Order No. 90-311 is rescinded, and Attachment 1 of Order No. 93-200 is amended to delete the Gopher Hill Landfill, which is on line No. 45, and that Plumas County and the U.S. Department of Agriculture, Forest Service, 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 waste to a closed Unit is prohibited.

2. The discharge of wastes outside of a Unit or portions of a Unit specifically designed for their containment is prohibited.

3. The release of pollutants, or waste constituents in a manner which could cause a condition of nuisance, degradation, contamination, or pollution of groundwater to occur, as indicated by the most appropriate statistical or nonstatistical data analysis method and retest method listed in this Order, the Monitoring and Reporting Program, or the Standard Provisions and Reporting Requirements is prohibited.

4. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, or groundwater, except as permitted in Waste Discharge Requirements Order No. R5-2002-0159, NPDES No. CA0084875, is prohibited.

5. The discharge shall not cause an increase in the concentration of waste constituents in soil-pore gas, soil-pore liquid, soil, or other geologic materials outside of a 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 this facility in violation of this Order.

2. The Discharger shall immediately notify the Regional Board of any flooding, unpermitted discharge of waste off-site, equipment failure, slope failure, or other change in site conditions that 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. 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 until such time that the landfill cap is stabilized ensuring that sediment is adequately contained at the Unit.

C. CLOSURE CONSTRUCTION SPECIFICATIONS

1. The Discharger shall comply with Section 20950 of Title 27 – General Closure and Post-Closure Maintenance Standards Applicable to Waste Management Units for Solid Waste.

2. The Discharger shall comply with Section 21090 of Title 27 – Closure and Post-Closure Maintenance Requirements for Solid Waste Landfills.

3. The Discharger shall close the landfill and construct an engineered alternative final cover system in accordance with the design described in this Order, and the *November 2003 Final Closure and Post-Closure Maintenance Plans.*

4. The approved engineered alternative final cover system shall be constructed in accordance with the following design (from top to bottom): two feet of vegetative soil, geocomposite drainage layer, 60-mil HDPE barrier layer, and a two foot thick foundation layer. A passive gas venting system will be installed across the landfill cap, in a sand layer just above the foundation layer.

5. 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 closure 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, with approval by the Regional Board.

6. The closed Unit shall be graded to at least a three percent grade and maintained to prevent ponding.

7. The closed Unit shall be provided with two permanent monuments, installed by a licensed land surveyor, from which the location and elevation of all wastes, containment structures, and monitoring facilities can be determined throughout the post-closure maintenance period.

8. The Discharger shall complete all construction activities associated with closure of the entire landfill facility **by 15 October 2004.**

9. Following completion of construction of the final cover system, the final documentation required in Section 20324 (d)(1)(c) of Title 27 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 specification, and with the performance goals of Title 27. Final documentation of site closure shall be submitted **by 15 December 2004**.

10. Closure shall not proceed in the absence of closure Waste Discharge Requirements.

D. EVALUATION MONITORING SPECIFICATIONS

1. The Discharger shall submit for Executive Officer review and approval an updated Water Quality Protection Standards Report.

2. The Discharger shall provide Regional Board staff a minimum of **one week** notification prior to commencing any field activities related to the installation, repair, or abandonment of monitoring devices.

3. The Discharger shall comply with the Water Quality Protection Standard as specified in this Order, Monitoring and Reporting Program No. R5-2004-0062, and the Standard Provisions and Reporting Requirements, dated April 2000.

4. The concentration limit 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 (e.g., US-EPA Methods 8260 and 8270).

5. For each monitoring event, the Discharger shall determine whether the landfill is in compliance with the Water Quality Protection Standard using procedures specified in this Order, Monitoring and Reporting Program No. R5-2004-0062, and Section 20415(e) of Title 27, CCR.

6. 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 *Standard Methods for the Examination of Water and Wastewater* (Standard Methods) and 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.

7. If methods other than Standard Methods or USEPA-approved methods are used, the exact methodology shall be submitted for review and approval by the Executive Officer prior to use.

8. 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.

9. **"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.

10. **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 laboratory, 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.

11. 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.

12. 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.

13. 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.

14. 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 Section 20415(e)(7) of Title 27, CCR 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 Section 20415(e)(7) of Title 27, CCR, shall consider the PQLs listed in Appendix IX to Chapter 14 of Division 4.5 of Title 22, California Code of Regulations, for guidance when specifying limits of precision and accuracy. For any given constituent monitored at a background or downgradient monitoring point, 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."

15. Background for water samples or soil-pore gas samples shall be represented by the data from all samples taken for applicable background monitoring points during that reporting period (at least one sample from each background monitoring point). The Discharger may propose an alternate statistical method {to the methods listed under Title 27 CCR Section 20415 (e)(8)(A-D)} in accordance with Title 27 CCR Section 20415 (e)(8)(E), for review and approval by the Executive Officer.

16. The Discharger may propose an alternate statistical method [to the methods listed under 27 CCR Section 20415(e)(8)(A-D)] in accordance with Section 20415(e)(8)(E) of Title 27, CCR, 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.

17. 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 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 ¶18, 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.

18. 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 for a minimum of five years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Executive Officer.

   Such legible records shall show the following for each sample:

   a. Sample identification and the monitoring point or background monitoring point from which it was taken, along with the identity of the individual who obtained the sample;

   b. Date, time, and manner of sampling;

   c. Date and time that analyses were started and completed, and the name of the personnel and laboratory performing each analysis;

   d. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;

   e. Calculation of results; and

   f. Results of analyses, and the MDL and PQL for each analysis.

3. A transmittal letter explaining the essential points shall accompany each monitoring report. At a minimum, the transmittal letter shall identify any violations found since the last report was submitted, and if the violations were corrected. If no violations

have occurred since the last submittal, this shall be stated in the transmittal letter. The transmittal letter shall also state that a discussion of any violations found since the last report was submitted, and a description of the actions taken or planned for correcting those violations, including any references to previously submitted time schedules, is contained in the accompanying report.

4. Each monitoring report shall include a compliance evaluation summary. The summary shall contain at least:

   a. For each monitoring point and background monitoring point addressed by the report, a description of:

      1) the time of water level measurement;

      2) the type of pump - or other device - used for purging and the elevation of the pump intake relative to the elevation of the screened interval;

      3) the method of purging (the pumping rate; the 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 Sampling and Analysis Plan.

   b. A map or aerial photograph showing the locations of observation stations, monitoring points, and background monitoring points.

   c. For each groundwater body, a description and graphical presentation of the gradient and direction of groundwater flow under/around the Unit, and the groundwater flow rate, based upon water level elevations taken prior to the collection of the water quality data submitted in the report.

   d. Laboratory statements of results of all analyses evaluating compliance with requirements.

   e. An evaluation of the effectiveness of the leachate monitoring and control facilities, and of the run-off/run-on control facilities.

f. A summary and certification of completion of all **Standard Observations** for the Unit(s), for the perimeter of the Unit, and for the receiving waters. The Standard Observations shall include:

1) For the Unit:

a) Evidence of ponded water at any point on the facility (show affected area on map);

b) Evidence of odors - presence or absence, characterization, source, and distance of travel from source; and

c) Evidence of erosion and/or of day-lighted refuse.

2) Along the perimeter of the Unit:

a) Evidence of liquid leaving or entering the Unit, estimated size of affected area, and flow rate (show affected area on map);

b) Evidence of odors - presence or absence, characterization, source, and distance of travel from source; and

c) Evidence of erosion and/or of day-lighted refuse.

3) For receiving waters:

a) Floating and suspended materials of waste origin – presence or absence, source, and size of affected area;

b) Discoloration and turbidity – description of color, source, and size of affected area;

c) Evidence of odors – presence or absence, characterization, source, and distance of travel from source;

d) Weather conditions – wind direction and estimated velocity, total precipitation during recent days and on the day of observation.

g. The quantity and types of wastes discharged and the locations in the Unit where waste has been placed since submittal of the last such report.

5. The Discharger shall report by telephone any seepage from the disposal area **immediately** after it is discovered. A written report shall be filed with the Regional Board **within seven days**, containing at least the following information:

a. A map showing the location(s) of seepage;

b. An estimate of the flow rate;

c. A description of the nature of the discharge (e.g., all pertinent observations and analyses);

d. Verification that samples have been submitted for analyses of the Constituents of Concern and Monitoring Parameters, and an estimated date that the results will be submitted to the Regional Board; and

e. Corrective measures underway or proposed, and corresponding time schedule.

6. The Discharger shall submit an **Annual Monitoring Summary Report** to the Regional Board covering the reporting period of the previous monitoring year. This report shall contain:

a. All monitoring parameters and constituents of concern shall be graphed so as to show historical trends at each monitoring point and background monitoring point, for all samples taken within at least the previous five calendar years. Each such graph shall plot the concentration of one or more constituents for the period of record for a given monitoring point or background monitoring point, at a scale appropriate to show trends or variations in water quality. The graphs shall plot each datum, rather than plotting mean values. For any given constituent or parameter, the scale for background plots shall be the same as that used to plot downgradient data. Graphical analysis of monitoring data may be used to provide significant evidence of a release.

b. Unless otherwise exempted by the Executive Officer, all monitoring analytical data obtained during the previous two six-month reporting periods, shall be presented in tabular form as well as on 3.5" computer diskettes or CD-Rom, either in MS-Access, ASCII, or in another file format acceptable to the Executive Officer. Data sets too large to fit on a single diskette may be submitted on disk in a commonly available compressed format (e.g. PKZIP). The Regional Board regards the submittal of data in hard copy and in digital format as "...the form necessary for..." statistical analysis [Section 20420(h)], in that this facilitates periodic review by the Regional Board.

c. A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements.

d. A map showing the area and elevations in which filling has been completed during the previous calendar year and a comparison to final closure design contours.

e. A written summary of the monitoring results, indicating any changes made or observed since the previous annual report.

f. An evaluation of the effectiveness of the leachate monitoring/control facilities.

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, CCR and Title 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. R5-2004-0062, 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, CCR and/or Subtitle D (27 CCR Section 20005 et seq. and 40 CFR 258 et seq.)*, dated April 2000, which are hereby incorporated into this Order.

5. The Discharger shall submit for Executive Officer review a report evaluating the performance of the corrective action methods .

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 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 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.

8. The Discharger 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(s) 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 Discharger's violations of the Order.

10. 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 G.8. 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.

11. 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, closure construction, and post-closure maintenance in amounts approved by the Executive Officer. The Discharger shall submit the financial assurance mechanism to the Financial Assurances Section of the California Integrated Waste Management Board for review. Proof of adequate financial assurances shall be submitted to the Regional Board in accordance with Provision F.12 below.

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

Task	Compliance Date
A. Closure Construction	
Complete site closure activities in accordance with the November 2003 *Final Closure and Post-Closure Maintenance Plans* (see Closure Construction Specification C.3,C.4, and C.8)	**15 October 2004**
B. Closure Construction Final Report	
Submit a final closure construction report upon completion, demonstrating construction was in accordance with the approved November 2003 *Final Closure and Post-Closure Maintenance Plans*, for Executive Officer review and approval. (See Closure Construction Specification C.9)	**15 December 2004**
C. Water Quality Protection Standard Report	**15 April 2005**
Submit an updated Water Quality Protection Standard Report for Executive Officer review	
D. Corrective Action Evaluation	**15 April 2005**
Submit a report evaluating the performance of corrective action methods	

E. Proof of Financial Assurances

Provide proof of adequate financial assurances for initiating and completing corrective action for all known or reasonably foreseeable releases from the landfill and for post-closure maintenance. (See Provision F.11.)	**30 April each year**

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 23 April 2004.

FOR
THOMAS R. PINKOS, Executive Officer

KB: klc 04/23/2004

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2004-0062
PLUMAS COUNTY
AND
U.S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE
FOR CORRECTIVE ACTION AND CLOSURE OF
GOPHER HILL CLASS III MUNICIPAL SOLID WASTE LANDFILL
AND CLASS II SURFACE IMPOUNDMENT
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. R5-2004-0062.

A. REQUIRED MONITORING REPORTS

Report		Due
1.	Groundwater Monitoring (Section D.1)	**See Table I**
2.	Annual Monitoring Summary Report (Order No. R5-2004-0062, E.6.)	**31 January**
3.	Vadose Zone Monitoring (Section D.2)	**See Table I**
4.	Leachate Monitoring (Section D.3)	**See Table II**
5.	Facility Monitoring (Section D.5)	**15 November**
6.	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. R5-2004-0062 and the Standard Provisions and Reporting Requirements. Reports which 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 the compliance with waste discharge requirements or the 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 E. Reporting Requirements, of Order No. R5-2004-0062.

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

Sampling Frequency	Reporting Frequency	Reporting Periods End	Report Date Due
Semiannually	Semiannually	30 June	**31 July**
		31 December	**31 January**
Annually	Annually	31 December	**31 January**

The Discharger shall submit an **Annual Monitoring Summary Report** to the Board covering the previous monitoring year. The annual report shall contain the information specified in E. Reporting Requirements, of Order No. R5-2004-0062, 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 reported to the 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

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, and 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, groundwater monitoring program, and the unsaturated zone 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 every five years, or more frequently as required in accordance with a Corrective Action Program.

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 all Units are those listed in Tables I through III for the specified monitored medium.

3. **Concentration Limits**

For naturally occurring constituents 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 evaluation monitoring program provisions of Title 27 for groundwater, surface water, and the unsaturated zone, in accordance with Evaluation Monitoring Specifications of Waste Discharge Requirements, Order No. R5-2004-0062. 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 evaluation monitoring program groundwater monitoring wells, unsaturated zone monitoring devices, leachate, and surface water monitoring points shall be sampled and analyzed for monitoring parameters and constituents of concern as indicated and listed in Tables I through IV.

Method detection limits and practical quantitation limits shall be reported. All peaks shall be flagged, and tracked for potential comparison to subsequent unknown peaks that may be observed in future sampling events. 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

The Discharger shall collect, preserve, and transport groundwater samples in accordance with the approved Sample Collection and Analysis Plan.

The Discharger shall 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, and report the results semiannually, including the times of highest and lowest elevations of the water levels in the wells.

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 quarterly and submitted annually.

Groundwater samples shall be collected from the point-of-compliance wells, background wells, and any additional wells added as part of the approved groundwater monitoring system. Samples shall be collected and analyzed for the monitoring parameters in accordance with the methods and frequencies specified in Table I and III. The monitoring network shall consist of background monitoring wells, GHL–3 and GHL-12. Downgradient wells include GHL-5, GHL-6, GHL-7, GHL-8, and GHL-9. Downgradient monitoring wells shall

constitute points of compliance in addition to the spring below the landfill designated SP-1, and the interception trench designated TR-1.

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 Schueller plot. Samples for the constituents of concern specified in Table I shall be collected and analyzed in accordance with the methods listed in Table IV every five years.

2. Vadose Zone Monitoring

A vadose zone monitoring device, lysimter L-1, is located under the Class II surface impoundment. If sufficient sample is obtained from the monitoring device, the sample shall be analyzed for the constituents of concern (COC) and monitoring parameters at frequencies listed in Table 1. The sample shall be analyzed for volatile organic compounds, semi-volatile organic compounds, and then the remaining monitoring parameters and COC in the order in which they are listed until the entire sample is used.

3. Leachate Monitoring

Leachate collection and removal system sumps shall be inspected Semiannually for leachate generation. Upon detection of leachate in a previously dry leachate collection and removal system, leachate shall be sampled **immediately** and analyzed for the constituents listed in Table II in accordance with the methods and frequencies specified. The constituents of concern list shall include all constituents listed in Table IV. The quantity of leachate pumped from each sump shall be measured and reported Semiannually as Leachate Flow (in gallons).

Leachate that seeps to the surface from the Unit shall be sampled and analyzed for the constituents listed in Table II upon detection. The quantity of leachate shall be *estimated* and reported as Leachate Flow Rate (in gallons/day).

4. Surface Water Monitoring

The Discharger shall install and operate a surface water detection monitoring system where appropriate that complies with the applicable provisions of §20415, §20420 and §20430 of Title 27 and has been approved by the Executive Officer.

5. 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.4.f. of Order No. R5-2004-0062. 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. All visible portions of synthetic liners shall be inspected on a monthly basis and their condition reported to the board on a semiannual basis.

b. Storm Events

The Discharger shall inspect all precipitation, diversion, and drainage facilities for damage **within 7 days** following *major storm events*. A major storm event is defined as 1.5 inches of precipitation over 24 hours. 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: _____ FOR
THOMAS R. PINKOS, Executive Officer

23 April 2004
(Date)

KB: klc 04/23/2004

TABLE I

GROUNDWATER EVALUATION MONITORING PROGRAM

Parameter	Units	Frequency
Field Parameters		
Groundwater Elevation	Ft. & hundredths, M.S.L.	Semiannual
Temperature	^{o}C	Semiannual
Electrical Conductivity	µmhos/cm	Semiannual
pH	pH units	Semiannual
Turbidity	Turbidity units	Semiannual
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Semiannual
Total Alkalinity	mg/L	Annual
Dissolved Iron[1]	mg/L	Semiannual
Chloride	mg/L	Semiannual
Carbonate	mg/L	Annual
Bicarbonate	mg/L	Annual
Nitrate - Nitrogen	mg/L	Semiannual
Sulfate	mg/L	Semiannual
Calcium	mg/L	Annual
Magnesium	mg/L	Annual
Potassium	mg/L	Annual
Sodium	mg/L	Annual
Volatile Organic Compounds (USEPA Method 8260, see Table III)	µg/L	Semiannual (GHL-5, GHL-6) Annual (all other wells)
Constituents of Concern (see Table IV)		
Total Organic Carbon	mg/L	5 years
Inorganics (dissolved)	mg/L	5 years
Volatile Organic Compounds (USEPA Method 8260B, extended list)	µg/L	5 years
Semi-Volatile Organic Compounds (USEPA Method 8270C)	µg/L	5 years
Chlorophenoxy Herbicides (USEPA Method 8151A)	µg/L	5 years
Organophosphorus Compounds (USEPA Method 8141A)	µg/L	5 years

[1] Inductively Coupled Argon Plasma Atomic Emission Spectroscopy (ICAP) may be used for analysis of these constituents only.

TABLE II

LEACHATE MONITORING PROGRAM

Parameter	Units	Frequency
Field Parameters		
Total Flow	Gallons	Semiannual
Flow Rate	Gallons/Day	Semiannual
Electrical Conductivity	µmhos/cm	Semiannual
pH	pH units	Semiannual
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Semiannual
Chloride	mg/L	Semiannual
Carbonate	mg/L	Semiannual
Bicarbonate	mg/L	Semiannual
Nitrate - Nitrogen	mg/L	Semiannual
Sulfate	mg/L	Semiannual
Calcium	mg/L	Semiannual
Magnesium	mg/L	Semiannual
Potassium	mg/L	Semiannual
Sodium	mg/L	Semiannual
Volatile Organic Compounds (USEPA Method 8260B, see Table III)	µg/L	Semiannual
Constituents of Concern (see Table IV)		
Total Organic Carbon	mg/L	5 years
Inorganics (dissolved)	mg/L	5 years
Volatile Organic Compounds (USEPA Method 8260B, extended list)	µg/L	5 years
Semi-Volatile Organic Compounds (USEPA Method 8270C)	µg/L	5 years
Chlorophenoxy Herbicides (USEPA Method 8151A)	µg/L	5 years
Organophosphorus Compounds (USEPA Method 8141A)	µg/L	5 years

TABLE III

MONITORING PARAMETERS FOR EVALUATION MONITORING

Surrogates for Metallic Constituents:

pH
Total Dissolved Solids
Electrical Conductivity
Chloride
Sulfate
Nitrate nitrogen

Constituents included in VOC:

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

TABLE III

MONITORING PARAMETERS FOR EVALUATION MONITORING

Continued

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
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-Trichloethane (Methylchloroform)
1,1,2-Trichloroethane
Trichloroethylene (Trichloroethene)
Trichlorofluoromethane (CFC- 11)
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride
Xylenes

TABLE IV

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Inorganics (dissolved):	USEPA Method
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:

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

TABLE IV

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Continued

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, l-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

TABLE IV

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Continued

Tertiary butyl alcohol
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
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-methyethyl) ether (Bis(2-chloroisopropyl) ether; DCIP)
4-Bromophenyl phenyl ether
Butyl benzyl phthalate (Benzyl butyl phthalate)
Chlordane
p-Chloroaniline

TABLE IV

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Continued

Chlorobenzilate
p-Chloro-m-cresol (4-Chloro-3-methylphenol)
2-Chloronaphthalene
2-Chlorophenol
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-Dimehtylphenol (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

TABLE IV

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Continued

Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexachlorocyclopentadiene
Hexachloropropene
Indeno(1,2,3-c,d)pyrene
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-Nitrosospyrrolidine
5-Nitro-o-toluidine
Pentachlorobenzene
Pentachloronitrobenzene (PCNB)
Pentachlorophenol
Phenacetin
Phenanthrene
Phenol
p-Phenylenediamine
Polychlorinated biphenyls (PCBs; Aroclors)
Pronamide
Pyrene

TABLE IV

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Continued

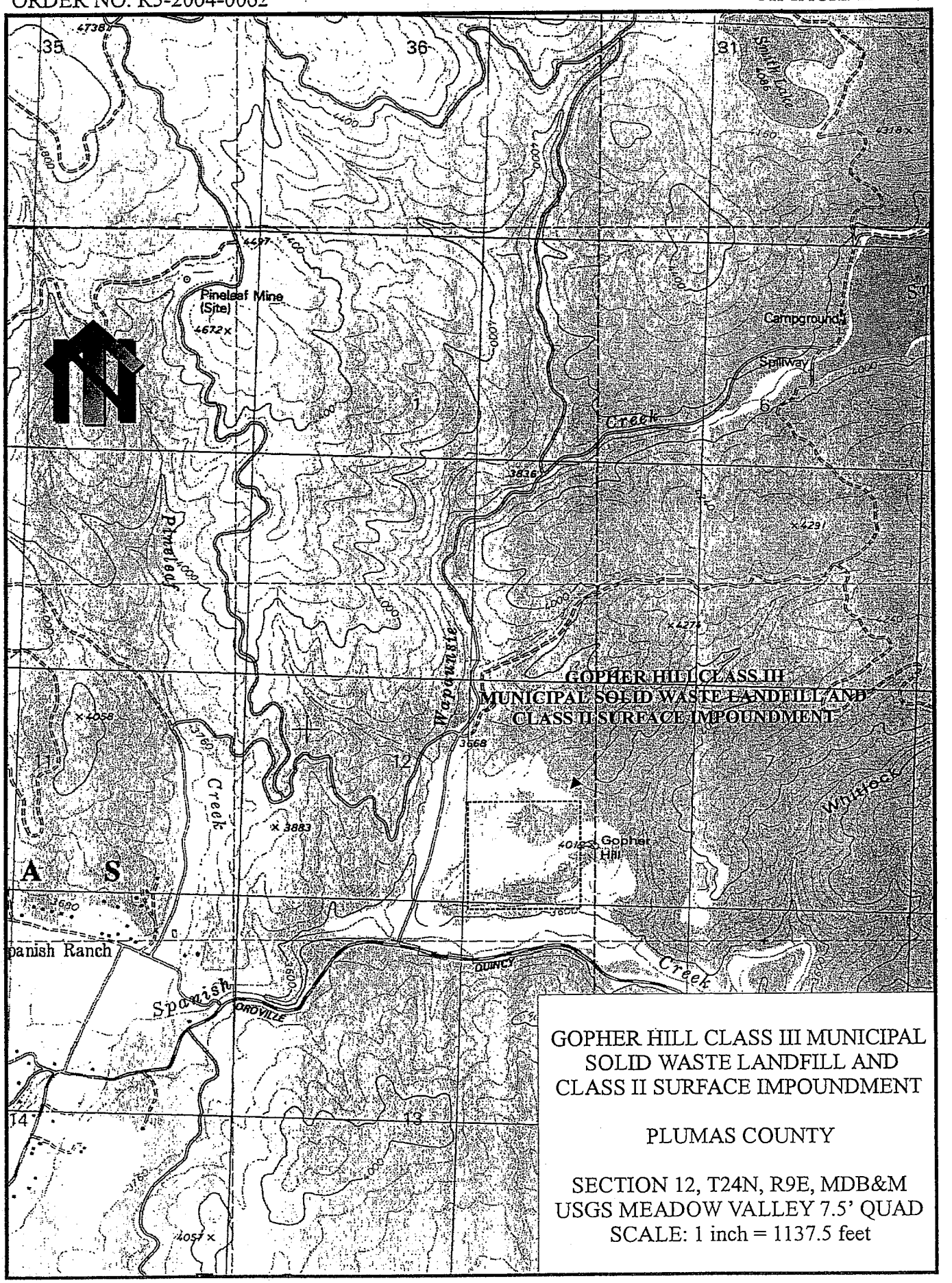
Safrole
1,2,4,5-Tetrachlorobenzene
2,3,4,6-Tetrachlorophenol
o-Toluidine
Toxaphene
2,4,5-Trichlorophenol
0,0,0-Triethyl phosphorothioate
sym-Trinitrobenzene

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:

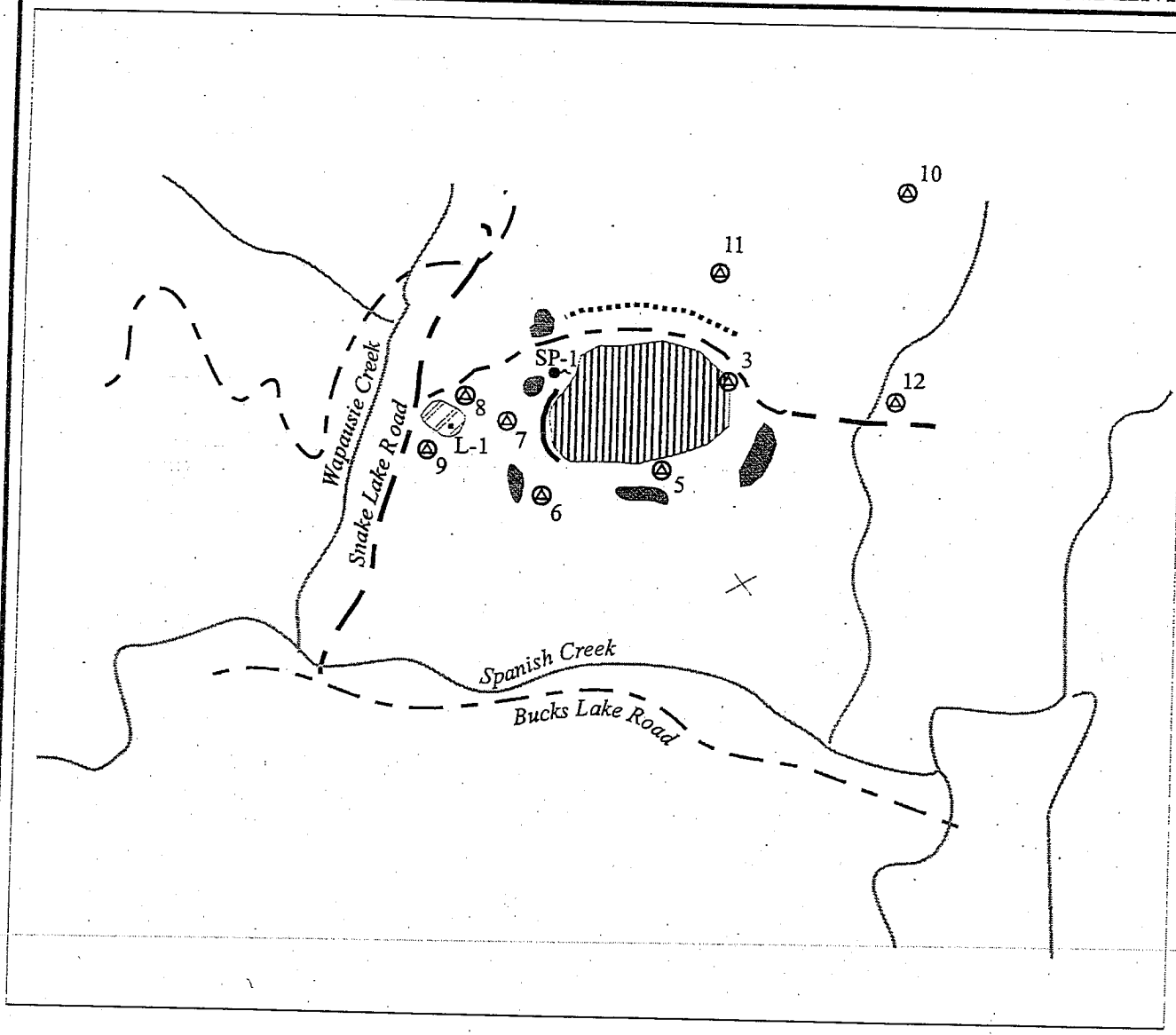
USEPA Method 8141A
Atrazine
Chlorpyrifos
0,0-Diethyl 0-2-pyrazinyl phosphorothioate (Thionazin)
Diazinon
Dimethoate
Disulfoton
Ethion
Methyl parathion (Parathion methyl)
Parathion
Phorate
Simazine



GOPHER HILL CLASS III MUNICIPAL SOLID WASTE LANDFILL AND CLASS II SURFACE IMPOUNDMENT

PLUMAS COUNTY

SECTION 12, T24N, R9E, MDB&M
USGS MEADOW VALLEY 7.5' QUAD
SCALE: 1 inch = 1137.5 feet



Lysimeter (L-1)

Monitoring Well (GHL)

Spring (SP-1)

Stream

Roads

Storm Water Collection Pond

Class III Landfill (WMU No. 1)

Class II Surface Impoundment

Interception Trench (TR-1)

Toe Drain

N
W E

GOPHER HILL CLASS III MUNICIPAL SOLID WASTE LANDFILL AND CLASS II SURFACE IMPOUNDMENT

PLUMAS COUNTY

NOT TO SCALE

INFORMATION SHEET

ORDER NO. R5-2004-0062
PLUMAS COUNTY AND
U.S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE
FOR CORRECTIVE ACTION AND CLOSURE OF
GOPHER HILL CLASS III MUNICIPAL SOLID WASTE LANDFILL
AND CLASS II SURFACE IMPOUNDMENT
PLUMAS COUNTY

The Gopher Hill Landfill is located approximately 5 miles west of Quincy in Plumas County. The Class III municipal solid waste landfill and Class II surface impoundment are on public land administered by the U.S. Department of Agriculture, Forest Service, each operated under a special use permit. The site encompasses approximately 36 acres of National Forest land near the confluence of Spanish and Wapaunsie Creek. This site was the location of a hydraulic mine during the 1800's called the Gopher Hill Diggings. The area is severely disturbed, and devoid of vegetation and ground cover as a result of the mining activities.

Waste management unit, (WMU) No. 1 is the municipal solid waste disposal unit and the class II surface impoundment is WMU No. 2. Two abandoned, water-filled mineshafts are located north WMU No. 1 and another unsealed mineshaft is believed to be under the landfill itself. A steep bluff rises immediately east of WMU No. 1, and over a small ridge to the south the land breaks steeply away toward Spanish Creek. Surface drainage from above the facility is channeled around the landfill through sediment ponds that discharge to Wapaunsie Creek.

Plumas County submitted a Report of Waste Discharge, dated 22 December 1987. Although the special use permit for the 13-acre waste management unit expired in1988, the landfill continued accepting municipal solid waste from the town of Quincy and surrounding unincorporated area until 1994 when a transfer facility was constructed at the site. Wood ash from the nearby Sierra Pacific lumber mill was also previously disposed of at the landfill until the early 1980's. Wood ash ceased to be accepted at the facility due to the potential for pollutants to be released from the ash when mixed with acidic leachate that may be generated by the decomposition of putrecible wastes.

The Mount Hough Ranger District of the Plumas National Forest issued a new Special Use Permit to Plumas County in April 2002 to enable final closure and management of Gopher Hill Landfill. The Forest Service issued a Decision Notice and Finding of No Significant Impact in August 2001 based on a July 2001 *Gopher Hill Environmental Assessment*. The Environmental Assessment also recommended discharge of leachate from the Class II surface impoundment to Spanish Creek. On 6 September 2002, the Regional Board issued Waste Discharge Requirements Order No. R5-2002-0159, NPDES No. CA0084875, for the leachate discharge. Plumas County began discharging leachate to Spanish Creek, via a buried pipeline, in December 2002.

The landfill is located in the western metamorphic subprovince of the Sierra Nevadas and consists of highly weathered Paleozoic-age metasedimentary rocks of the Shoo Fly Complex. The metasedimentary rocks underlying the landfill consist of highly fractured phyllites and slates. The fractures trend north-northwest and dip steeply to the northeast or southwest. The rocks are intensely deformed and folded with local areas that are highly sheared and faulted. At least one fault passes under the waste pile trending north-northeast. Additional faults may exist in the area. Other rocks associated with the landfill include greenstone, slate, talc-chlorite accumulations along the sheared zones, minor amounts of limestone, and lacustrine deposits overlying the bedrock.

Groundwater is present immediately under the landfill and may rise into the waste pile itself. The groundwater flows generally west-southwest. The hydrogeology is complicated by the fault bisecting the site, a possible buried mineshaft under the landfill, two water-filled mine shafts north of the site, uneven bedrock, and overlying lacustrine deposits.

The velocity of groundwater flow under the site is rapid. Dye injected into updradient well GHL-2 traveled approximately 400 feet to downgradient well GHL-1 and the adjacent spring within one day.

A spring surfaces along the western toe of the landfill adjacent to monitoring well GHL-1. The spring shows elevated levels of waste constituents indicating a release of waste from the landfill. The source of the spring may be the buried mineshaft under the landfill. The water from the spring currently discharges into a drainage leading to Wapaunsie Creek.

Groundwater investigations at the site indicate leachate has migrated from the unlined landfill to groundwater, particularly in the vicinity of GHL-5. The Discharger has submitted a Corrective Action Plan. Landfill closure was recommended as the preferred corrective action alternative.

Surface drainage is to Wapaunsie Creek, which flows into Spanish Creek approximately one-quarter mile downstream. Spanish Creek is a tributary to the North Fork Feather River.

This Order revises Waste Discharge Requirements Order No. 90-311 to reflect site closure and corrective action and to incorporate provisions of Title 27, California Code of Regulations.

KB: klc 4/23/04