CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

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ORDER NO. R6T-2009-0007
NPDES NO. CA0103055

WASTE DISCHARGE REQUIREMENTS FOR THE AMEDEE GEOTHERMAL VENTURE I, AMEDEE GEOTHERMAL POWER PLANT

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1. Discharger Information

Discharger	Amedee Geothermal Venture I
Name of Facility	Amedee Geothermal Power Plant
Facility Address	Amedee Hot Springs, Section 8, T28N, R16E, MDB&M
	Amedee, California
	Lassen County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a **minor** discharge.	

The discharge by the Amedee Geothermal Power Plant from the discharge point identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Spent Geothermal Fluids	40 °, 18', 2.05" N	120 °, 11', 43.41" W	Amedee Hot Springs
002	Spray Cooling Pond Overflow	40 °, 17', 57.21" N	120 °, 11', 43.47" W	Amedee Hot Springs

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	**January 14, 2009**
This Order shall become effective on:	**January 14, 2009**
This Order shall expire on:	**January 14, 2014**
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	**180 days prior to the Order expiration date**

I, Harold J. Singer, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Lahontan Region, on **January 14, 2009**.

Harold J. Singer, Executive Officer

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I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 4. Facility Information

Discharger	Carson Development Company, Inc.
Name of Facility	Wineagle Geothermal Power Plant
Facility Address	Wendel Hot Springs, Section 22, T30N, R15E, MDB&M
	Wendel, California 96136
	Lassen County
Facility Contact, Title, and Phone	Johan Otto, President, (916) 443-3797
Mailing Address	1722 Third Street, Suite 202, Sacramento, California 96128
Type of Facility	Geothermal Power Plant
Facility Design Flow	1.152 million gallons per day (MGD)

II. FINDINGS

The California Regional Water Quality Control Board, Lahontan Region (hereinafter Lahontan Water Board), finds:

A. Background. Carson Development Company, Inc. (hereinafter Discharger) is currently discharging pursuant to Order No. R6T-2003-0027 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0103063. The Discharger submitted a Report of Waste Discharge, dated February 1, 2008, and applied for a NPDES permit renewal to discharge up to maximum design flow rate of 1.152 million gallons per day (MGD), the equivalent of 800 gallons per minute (GPM), of untreated wastewater from Wineagle Geothermal Power Plant (hereinafter Facility). The application was deemed complete on November 4, 2008.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. Facility Description. The Discharger owns and operates a geothermal power plant. Wastewater is discharged from Discharge Point No. 001 (see table on cover page) to the Wendel Hot Springs, a water of the United States, within the *Susan River Hydrologic Area* (637.20). Attachment B provides maps of the area around the Facility. Attachment C provides a flow schematic of the production well at the Facility.

C. Legal Authorities. This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste

Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

D. **Background and Rationale for Requirements.** The Lahontan Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through F are also incorporated into this Order.

E. **California Environmental Quality Act (CEQA).** Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.

F. **Technology-based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations (40 C.F.R. section 122.44), require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 C.F.R. Part 133. A discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

G. **Water Quality-Based Effluent Limitations.** Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

H. **Water Quality Control Plans.** The Lahontan Water Board adopted a *Water Quality Control Plan for the Lahontan Region* (hereinafter Basin Plan) which became effective on March 31, 1995 and has been subsequently amended. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. The Basin Plan in Table 2-1 establishes beneficial uses for Wendel Hot Springs in the *Susan River Hydrologic Area* (637.20), which include agricultural supply (AGR),

ground water recharge (GWR), freshwater replenishment (FRSH), hydropower generation (POW), water contact recreation (REC-1), non-contact water recreation (REC-2), wildlife habitat (WILD), and water quality enhancement (WQE). In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). However, the Basin Plan does not designate municipal uses for Wendel Hot Springs based on a Use Attainability Analysis and USEPA-approved Basin Plan amendment that removed this potential surface water use after consideration of Resolution No. 88-63 criteria and federal water quality standards regulations. Thus, as discussed in detail in the Fact Sheet, beneficial uses applicable to the Wendel Hot Springs are as follows:

Table 5. Surface Water Basin Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Wendel Hot Springs	Existing: AGR, GWR, FRSH, POW, REC-1, REC-2, WILD, and WQE.

The Basin Plan also identifies beneficial uses of ground water that are applicable to all subsurface water in the Lahontan Region. Beneficial uses of specific ground water basins in the Lahontan Region are designed in Table 2-2 of the Basin Plan. The Facility is located within the Honey Lake Valley Basin. Unless otherwise designated by the Lahontan Water Board, all ground waters are considered suitable, or potentially suitable, for MUN. The beneficial uses applicable to ground water in the Honey Lake Valley Basin include MUN, AGR, FRSH, WILD, and industrial service supply (IND):

Table 6. Ground Water Basin Plan Beneficial Uses

Basin Name	Beneficial Use(s)
Honey Lake Valley Basin	Existing: MUN, AGR, FRSH, WILD, and IND.

Requirements of this Order implement the Basin Plan.

I. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About 40 criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

J. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant

objectives established by the Lahontan Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

K. Compliance Schedules and Interim Requirements. Section 2.1 of the SIP provides that, based on a Discharger's request and demonstration that it is infeasible for an existing Discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under Section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective. This Order does not include compliance schedules and interim effluent limitations.

L. Alaska Rule. On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. § 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.

M. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on flow. Restrictions on flow are discussed in section IV.B.2 of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards.

N. Antidegradation Policy. 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Lahontan Water Board's Basin Plan implements, and

incorporates by reference, both the state and federal antidegradation policies. As discussed in the Fact Sheet, there is no change proposed from the existing permitted discharge and thus no degradation is anticipated or authorized in this Order. Therefore, the permitted discharge is consistent with the antidegradation provision of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16.

O. **Anti-Backsliding Requirements.** Sections 402(0)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(1) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. As discussed in the Fact Sheet, effluent limitations for arsenic, boron, and molybdenum contained in the previous Order have not been retained in this Order. However, the conditions under which the effluent limitations have been modified are in compliance with federal regulations.

P. **Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2111.5) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

Q. **Monitoring and Reporting.** 40 C.F.R. section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Lahontan Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.

R. **Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 C.F.R. section 122.42. The Lahontan Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.

S. **Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections IV.B, IV.C, V.B and VI.C of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

T. Notification of Interested Parties. The Lahontan Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.

U. Consideration of Public Comment. The Lahontan Water Board, in a public meeting, provided an opportunity for a public hearing, and considered all comments pertaining to the discharge. Details are provided in the Fact Sheet of this Order.

THEREFORE, IT IS HEREBY ORDERED, that Order No. R6T-2003-0027 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the CWC (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

A. In accordance with the applicable Region-wide and Unit/Area Specific Prohibitions in Section 4.1 of the Basin Plan:

1. The discharge of waste[1] that causes violation of any numeric water quality objective contained in the Basin Plan, including the Nondegradation Objective, is prohibited.

2. The discharge of waste that causes violation of any numeric water quality objective contained in the Basin Plan is prohibited.

3. Where any numeric or narrative water quality objective contained in the Basin Plan is already being violated, the discharge of waste that causes further degradation or pollution is prohibited.

4. The discharge of untreated sewage, garbage, or other solid wastes, or industrial wastes into surface waters of the Region is prohibited.

5. For municipal[2] and industrial discharges[3]:

a. The discharge, bypass, or diversion of raw or partially treated sewage, sludge, grease, or oils to surface waters is prohibited.

b. The discharge of wastewater except to the designated disposal site (as designated in waste discharge requirements) is prohibited.

[1] "Waste" is defined to include any waste or deleterious material including, but not limited to, waste earthen materials (such as soil, silt, sand, clay, rock, or other organic or mineral material) and any other waste as defined in Water Code section 13050, subdivision (d).
[2] "Municipal waste" is defined in Section 4.4 of the Basin Plan.
[3] "Industry" is defined in Section 4.7 of the Basin Plan.

c. The discharge of industrial process wastes[4] to surface waters designated for the Municipal and Domestic Supply (MUN) beneficial use is prohibited. The discharge of industrial process wastes to surface waters not designated for the MUN use may be permitted if such discharges comply with the General Discharge Limitations in Section 4.7 and if appropriate findings under state and federal antidegradation regulations can be made.

Prohibitions 5(b) and 5(c) do not apply to industrial stormwater. For control measures applicable to industrial stormwater, see Section 4.3 of the Basin Plan, entitled "Stormwater Runoff, Erosion, and Sedimentation."

Prohibitions 5(b) and 5(c) do not apply to surface water disposal of treated ground water. For control measures applicable to surface water disposal of treated ground water, see Regional Board Order No. 6-93- 104, adopted November 19, 1993 (Basin Plan Appendix B).

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point No. 001

1. Final Effluent Limitations – Discharge Point No. 001

a. The effluent must not contain trace elements, pollutants, contaminants, or combinations thereof, in concentrations which are toxic or harmful to human, aquatic, terrestrial plant or animal life.

b. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001 as described in Attachment E, Table E-2:

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[4] "Industrial process wastes" are wastes produced by industrial activities that result from one or more actions, operations, or treatments which modify raw material(s) and that may (1) add to or create within the effluent, waste, or receiving water a constituent or constituents not present prior to processing, or (2) alter water temperature and/or the concentration(s) of one or more naturally occurring constituents within the effluent, waste or receiving water. *Process wastewater*, as defined by 40 C.F.R section 122.21, means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. Certain non-stormwater discharges may occur at industrial facilities that are not considered to be industrial process wastes for the purposes of Prohibition 5(c). Examples include: fire hydrant flushing, atmospheric condensates from refrigeration and air conditioning systems, and landscape watering. The Regional Board may establish additional monitoring programs and reporting requirements for these and other non-stormwater discharges at industrial facilities.

Table 7. Effluent Limitations

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow	MGD	--	1.152	--	--
Arsenic, Total Recoverable	mg/L	[1]	--	--	--
	lbs/day	[1]	--	--	--
Boron, Total Recoverable	mg/L	[1]	--	--	--
	lbs/day	[1]	--	--	--
Molybdenum, Total Recoverable	µg/L	[1]	--	--	--
	lbs/day	[1]	--	--	--

[1] The concentration and mass in the effluent shall not be greater than the concentration and mass in the intake.

2. Interim Effluent Limitations – Not Applicable

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge shall not cause the following in the Wendel Hot Springs:

A. Surface Water Limitations

1. This Discharger shall not cause a violation of any applicable water quality standard for receiving water adopted by the Lahontan Water Board or the State Water Board as required by the federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the federal Clean Water Act or amendments thereto, the Lahontan Water Board may revise and modify this Order in accordance with such more stringent standards.

2. **Ammonia.** The neutral, unionized ammonia species (NH_3) is highly toxic to freshwater fish. The fraction of toxic NH_3 to total ammonia species (NH4+ + NH3) is a function of temperature and pH. Basin Plan Tables 3-1 to 3-4 were derived from USEPA ammonia criteria for freshwater. Ammonia concentrations shall not exceed the values listed for the corresponding conditions in these tables. For temperature and pH values not explicitly in the tables, the most conservative value neighboring the actual value may be used or criteria can be calculated from numerical formulas developed by the USEPA.

3. **Bacteria, Coliform.** Waters shall not contain concentrations of coliform organisms attributable to anthropogenic sources, including human and livestock wastes. The

fecal coliform concentration during any 30-day period shall not exceed a log mean of 20 MPN/100 mL, nor shall more than 10 percent of all samples collected during any 30-day period exceed 40 MPN/100 mL. The USEPA recommends that the log mean should ideally be based on a minimum of not less than five samples collected as evenly spaced as practicable during any 30-day period. [Reference: Ambient Water Quality Criteria for Bacteria – 1986, EPA 440/5-84-002, page 2.] However, a log mean concentration exceeding 20 MPN/100 mL for any 30-day period shall indicate violation of this objective even if fewer than five samples were collected.

4. **Biostimulatory Substances.** Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect the water for beneficial uses.

5. **Chemical Constituents.** Waters designated as AGR shall not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses (i.e., agricultural purposes). Waters shall not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses.

6. **Chlorine, Total Residual.** For the protection of aquatic life, total chlorine residual shall not exceed either a median value of 0.002 mg/L or a maximum value of 0.003 mg/L. Median values shall be based on daily measurements taken within a 6-month period.

7. **Color.** Waters shall be free of coloration that causes nuisance or adversely affects the water for beneficial uses.

8. **Dissolved Oxygen.** The dissolved oxygen concentration, as percent saturation, shall not be depressed by more than 10 percent, nor shall the minimum dissolved oxygen concentration be less than 80 percent of saturation.

9. **Floating Materials.** Waters shall not contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect the water for beneficial uses. For natural high quality waters, the concentrations of floating material shall not be altered to the extent that such alterations are discernible at the 10 percent significance level.

10. **Oil and Grease.** Waters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect the water for beneficial uses. For natural high quality waters, the concentration of oils, greases, or other film or coat generating substances shall not be altered.

11. **Nondegradation of Aquatic Communities and Populations.** All waters shall be free of substances attributable to wastewater or other discharges that produce adverse physiological responses in humans, animals, or plants; or which lead to the presence of undesirable or nuisance aquatic life. All waters shall be free from

activities that would substantially impair the biological community as it naturally occurs due to physical, chemical and hydrologic processes.

12. **Pesticides.** For the purposes of this Basin Plan, pesticides are defined to include insecticides, herbicides, rodenticides, fungicides, piscicides and all other economic poisons. An economic poison is any substance intended to prevent, repel, destroy, or mitigate the damage from insects, rodents, predatory animals, bacteria, fungi or weeds capable of infesting or harming vegetation, humans, or animals (CA Agriculture Code 12753).

    Pesticide concentrations, individually or collectively, shall not exceed the lowest detectable levels, using the most recent detection procedures available. There shall not be an increase in pesticide concentrations found in bottom sediments. There shall be no detectable increase in bioaccumulation of pesticides in aquatic life.

    Waters designated as MUN shall not contain concentrations of pesticides or herbicides in excess of the limiting concentrations specified in Table 64444-A of Section 64444 (Organic Chemicals) of Title 22 of the California Code of Regulations which is incorporated by reference into the Basin Plan. This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect.

13. **pH.** Changes in normal ambient pH levels shall not exceed 0.5 pH units. The pH shall not be depressed below 6.5 nor raised above 8.5. Compliance with the pH objective for these waters will be determined on a case-by-case basis.

14. **Radioactivity.** Radionuclides shall not be present in concentrations which are deleterious to human, plant, animal, or aquatic life or which result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal, or aquatic life.

    Waters designated as MUN shall not contain concentrations of radionuclides in excess of the limits specified in Table 4 of Section 64443 (Radioactivity) of Title 22 of the California Code of Regulations which is incorporated by reference into the Basin Plan. This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect.

15. **Sediment.** The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect the water for beneficial uses.

16. **Settleable Materials.** Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or that adversely affects the water for beneficial uses. For natural high quality waters, the concentration of settleable materials shall not be raised by more than 0.1 ml/L.

17. **Suspended Materials.** Waters shall not contain suspended materials in concentrations that cause nuisance or that adversely affect the water for beneficial

uses. For natural high quality waters, the concentration of total suspended materials shall not be altered to the extent that such alterations are discernible at the 10 percent significance level.

18. **Taste and Odor.** Waters shall not contain taste or odor-producing substances in concentrations that impart undesirable tastes or odors to fish or other edible products of aquatic origin, that cause nuisance, or that adversely affect the water for beneficial uses. For naturally high quality waters, the taste and odor shall not be altered.

19. **Temperature.** The natural receiving water temperature of all waters shall not be altered unless it can be demonstrated to the satisfaction of the Lahontan Water Board that such an alteration in temperature does not adversely affect the water for beneficial uses. For waters designated WARM, water temperature shall not be altered by more than 5 degrees Fahrenheit (5°F) above or below the natural temperature. For waters designated COLD, the temperature shall not be altered.

20. **Toxicity.** All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration and/or other appropriate methods as specified by the Regional Board.

    The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary, for other control water that is consistent with the requirements for "experimental water" as defined in *Standard Methods for the Examination of Water and Wastewater* (American Public Health Association, et al. 1998).

21. **Turbidity.** Waters shall be free of changes in turbidity that cause nuisance or adversely affect the water for beneficial uses. Increases in turbidity shall not exceed natural levels by more than 10 percent.

B. Groundwater Limitations

1. **Bacteria, Coliform.** In ground waters designated as MUN, the median concentration of coliform organisms over any seven-day period shall be less than 1.1/100 milliliters.

2. **Chemical Constituents.** Ground waters designated as MUN shall not contain concentrations of chemical constituents in excess of the MCL or SMCL based upon drinking water standards specified in the following provisions of Title 22 of the California Code of Regulations which are incorporated by reference into the Basin Plan: Table 64431-A of Section 64431 (Inorganic Chemicals), Table 64431-B of Section 64431 (Fluoride), Table 64444-A of Section 64444 (Organic Chemicals), Table 64449-A of Section 64449 (Secondary Maximum Contaminant Levels-

Consumer Acceptance Limits), and Table 64449-B of Section 64449 (Secondary Maximum Contaminant Levels-Ranges). This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect.

Ground waters designated as AGR shall not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses (i.e., agricultural purposes). Ground waters shall not contain concentrations of chemical constituents that adversely affect the water for beneficial uses.

3. **Radioactivity.** Ground waters designated as MUN shall not contain concentrations of radionuclides in excess of the limits specified in Table 4 of Section 64443 (Radioactivity) of Title 22 of the California Code of Regulations which is incorporated by reference into the Basin Plan. This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect.

4. **Taste and Odor.** Ground waters shall not contain taste or odor-producing substances in concentrations that cause nuisance or that adversely affect beneficial uses. For ground waters designated as MUN, at a minimum, concentrations shall not exceed adopted secondary maximum contaminant levels specified in Table 64449-A of Section 64449 (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits), and Table 64449-B of Section 64449 (Secondary Maximum Contaminant Levels-Ranges) of Title 22 of the California Code of Regulations.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.

2. The Discharger shall comply with the following provisions:

   a. Surface waters as used in this Order include, but are not limited to, wetlands and live streams, either perennial or ephemeral, which flow in natural or artificial watercourses, and natural lakes and artificial impoundments of waters within the State of California.

   b. Ground waters as used in this Order include, but are not limited to, all subsurface waters being above atmospheric pressure and the capillary fringe of these waters.

   c. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, nor protect the Discharger from liabilities under federal, state, or local laws, nor guarantee the Discharger a capacity right in the receiving waters.

   d. All discharges authorized by this Order shall be consistent with the terms and conditions of this Order. The discharge of any pollutant more frequently than, or

at a level in excess of, that identified and authorized by this Order shall constitute a violation of the terms and conditions of this Order.

e. Failure to comply with this permit may constitute a violation of the CWC and/or the CWA, and is grounds for enforcement action or permit termination, revocation and re-issuance, or modification.

f. The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

g. The CWC and the CWA provide for civil liability and criminal penalties for violations of the permit limits including imposition of civil liability or referral to the Attorney General.

h. A copy of the NPDES permit shall be kept and maintained by the Discharger and be available at all times to operating personnel.

i. Provisions of the permit are severable. If any provision of the requirements is found invalid, the remainder of the requirements shall not be affected.

j. Pursuant to Water Code section 13263, subdivision (g), no discharge of waste into the waters of the state, whether or not the discharge is made pursuant to waste discharge requirements, shall create a vested right to continue the discharge. All discharges of waste into waters of the state are privileges, not rights.

k. In the event the Discharger is unable to comply with any of the conditions of this Order due to:

i. breakdown or serious malfunction of water treatment equipment;

ii. accidents caused by human error or negligence;

iii. overflows from the system; and

iv. other causes such as acts of nature.

The Discharger shall notify the Lahontan Water Board Executive Officer as soon as the Discharger or the Discharger's agents have knowledge of any discharge in violation of this permit, or any emergency discharge or other discharge of water to Honey Lake or the surrounding wetland, in accordance with the notification requirements in the Standard Provisions for NPDES Permits, included in this Order as Attachment D.

l. Pursuant to Water Code section 13267, subdivision (b), the Discharger shall notify the Lahontan Water Board of any substantial change in the volume or character of pollutants introduced into the Facility from the conditions existing at the time of adoption of this NPDES permit.

m. Adequate notice shall include information on the quality and quantity of effluent discharged into the receiving waters for the Facility, as well as any anticipated impact of the change on the quantity or quality of the effluent to be discharged from the Facility. A substantial change in volume is considered an increase in excess of ten percent of the mean daily flow rate. The Discharger shall forward a copy of such notice directly to the USEPA Regional Administrator.

n. The Discharger shall file a report of waste discharge with the Lahontan Water Board at least 180 days before making any material change or proposed change in the character, location, or volume of the discharge.

o. Pursuant to CWC section 13260, subdivision (c), any change in the ownership and/or operation of property subject to the NPDES permit shall be reported to the Lahontan Water Board. Notification of applicable NPDES Permit requirements shall be furnished in writing to the new owners and/or operators, and a copy of such notification shall be sent to the Lahontan Water Board.

p. If a Discharger becomes aware that any information submitted to the Lahontan Water Board is incorrect, the Discharger shall immediately notify the Lahontan Water Board, in writing, and correct that information.

q. If the Discharger becomes aware that their NPDES permit is no longer needed (because the discharge will cease) the Discharger shall notify the Lahontan Water Board in writing and request that the permit be rescinded.

B. Monitoring and Reporting Program (MRP) Requirements

Pursuant to Water Code section 13267 and/or section 13383, the Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order, and any additional monitoring requirements as specified by the Lahontan Water Board Executive Officer.

C. Special Provisions

1. Reopener Provisions

a. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the Federal Water Pollution Control Act or amendments thereto, the Lahontan Water Board may revise and modify this Order in accordance with the more stringent standards.

b. The Lahontan Water Board may reopen this Order to establish new conditions or effluent limitations should monitoring data, toxicity-testing data, or other new information indicate that a constituent is discharged at a level that will do any of the following:

i. Cause, have reasonable potential to cause, or contribute to an in-stream excursion above any water quality criteria or objective, or

ii. Cause, have reasonable potential to cause, or contribute to a violation of any narrative water quality objective from the Basin Plan.

c. The Lahontan Water Board may reopen this Order to reflect any site-specific objectives established for the waterbody or changes to beneficial uses for the waterbody resulting from a use attainability analysis.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Intake Water Credit Summary Report.** The Discharger shall conduct a comprehensive intake water credit study during the term of this permit in accordance with Section 1.4.4 of the SIP, and prepare a report that will provide the Lahontan Water Board with the data needed to evaluate the applicability of intake water credits to the Facility. At a minimum, the report shall address the following conditions to the satisfaction of the Lahontan Water Board:

i. That the observed maximum ambient background concentration and the intake water concentration of a pollutant exceeds the most stringent applicable water quality criterion/objective for that pollutant;

ii. That the intake water credits are consistent with any TMDL applicable to the discharge;

iii. That the intake water is from the same water body as the receiving water body;

iv. That the facility does not alter the intake water pollutant chemically or physically in a manner that adversely affects water quality and beneficial uses; and

v. That the timing and location of the discharge does not cause adverse effects on water quality and beneficial uses that would not occur if the intake water pollutant had been left in the receiving water body.

In determining whether to grant intake credits, the Lahontan Water Board will consider all relevant water quality information available. If the Discharger has or knows of additional information that it wishes to be considered, including historical information on water quality characteristics of the Wendel Hot Springs, that information shall also be provided by the Discharger to the Lahontan Water Board. The intake credit summary report shall be submitted to the Lahontan Water Board no later than **January 15, 2011**.

3. **Best Management Practices and Pollution Prevention – Not Applicable**
4. **Construction, Operation and Maintenance Specifications – Not Applicable**
5. **Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable**
6. **Other Special Provisions – Not Applicable**
7. **Compliance Schedules – Not Applicable**

VII. COMPLIANCE DETERMINATION – NOT APPLICABLE

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ)
Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL)
The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL)
The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Bioaccumulative
Those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic Pollutants
Substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV)
CV is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge
Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ)
DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

Dilution Credit
Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effluent Concentration Allowance (ECA)
ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in USEPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays
Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration
The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries
Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters
All surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation
The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation
The lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Maximum Daily Effluent Limitation (MDEL)
The highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median
The middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the $n/2$ and $n/2+1$).

Method Detection Limit (MDL)
MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML)
ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone
Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND)
Sample results which are less than the laboratory's MDL.

Ocean Waters
The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Persistent Pollutants
Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP)
PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Lahontan Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3, subdivision (d), shall be considered to fulfill the PMP requirements.

Pollution Prevention
Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Lahontan Water Board.

Reporting Level (RL)
RL is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Lahontan Water Board either from Appendix 4 of the SIP in accordance with Section 2.4.2 of the SIP or established in accordance with Section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Satellite Collection System
The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water
Any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

Standard Deviation (σ)
Standard Deviation is a measure of variability that is calculated as follows:

$$\sigma = (\Sigma[(x - \mu)^2]/(n - 1))^{0.5}$$

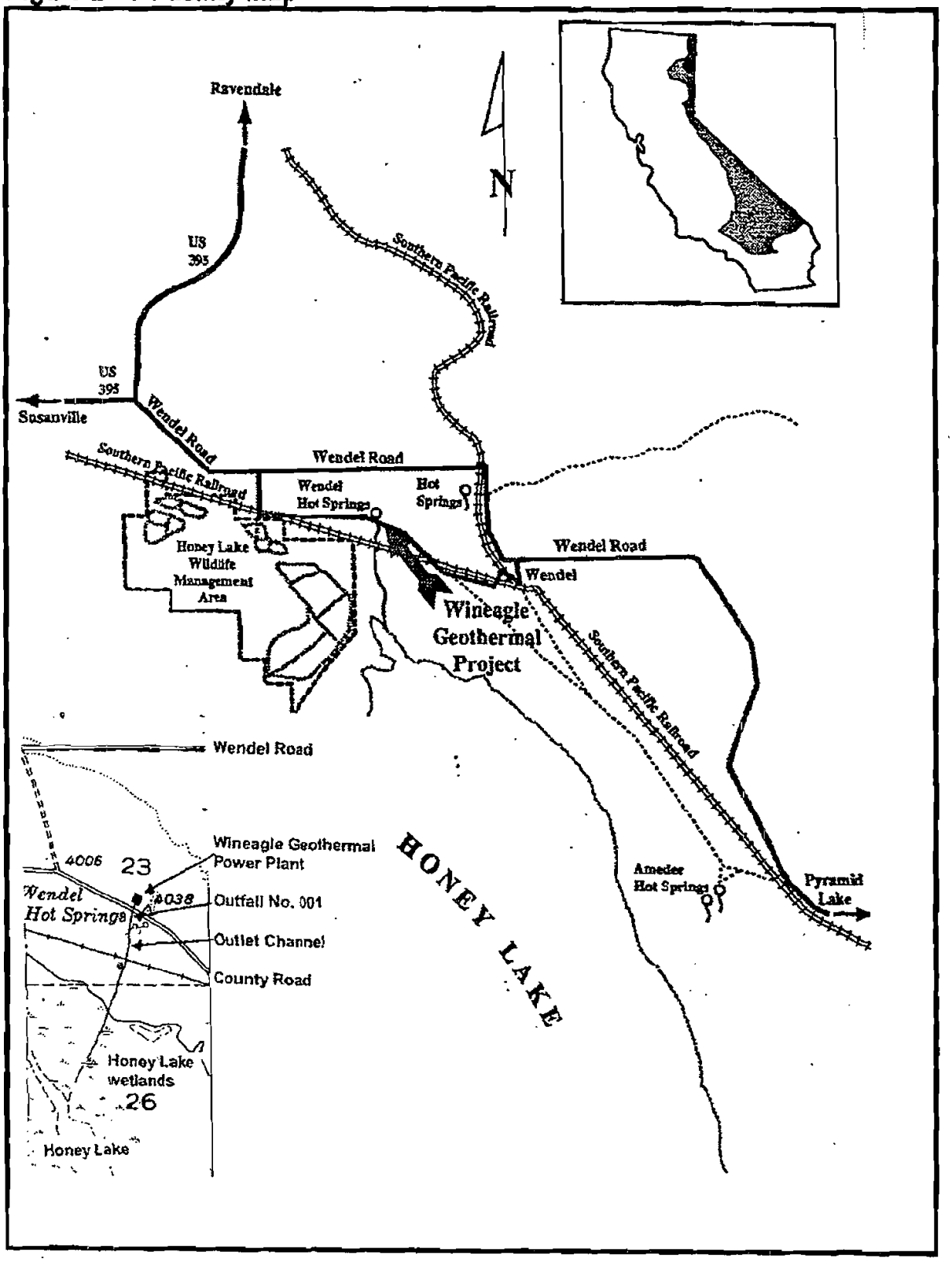
where:
x is the observed value;
μ is the arithmetic mean of the observed values; and
n is the number of samples.

Toxicity Reduction Evaluation (TRE)

TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

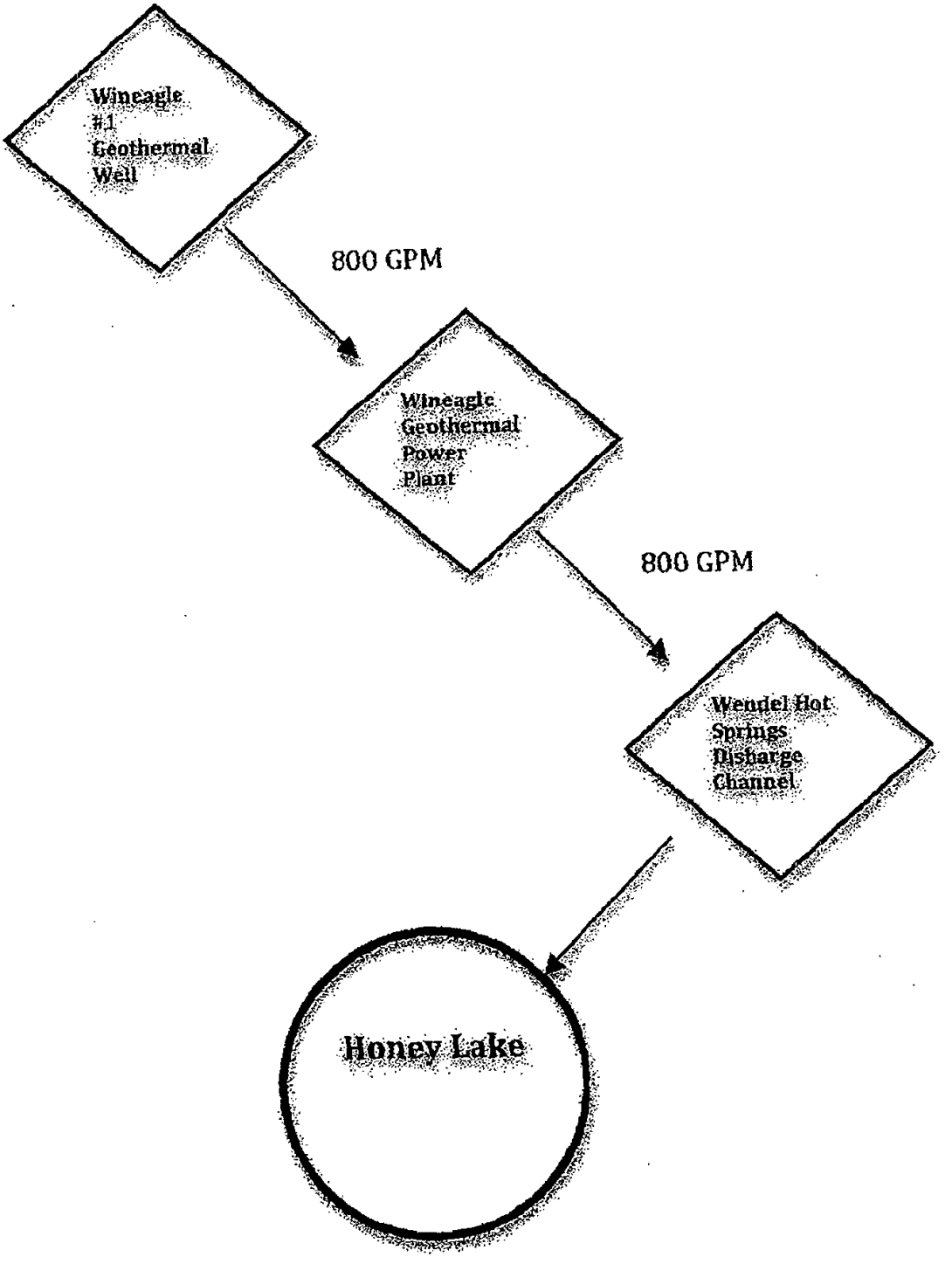
ATTACHMENT B – MAP

Figure B-1. Facility Map



ATTACHMENT C – FLOW SCHEMATIC

Figure C-1. Wineagle Geothermal Power Plant Flow Schematic



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. § 122.41(a).)

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Lahontan Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 C.F.R. section 122.41(i); Water Code section 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 C.F.R. section 122.41(i)(1));

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 C.F.R. section 122.41(i)(2));

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 C.F.R. section 122.41(i)(3)); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 C.F.R. section 122.41(i)(4).)

G. Bypass

1. Definitions

   b. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. section 122.41(m)(1)(i).)

   c. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. section 122.41(m)(1)(ii).)

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. section 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Lahontan Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. section 122.41(m)(4)(i)):

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. section 122.41(m)(4)(i)(A));

   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. section 122.41(m)(4)(i)(B)); and

   c. The Discharger submitted notice to the Lahontan Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. section 122.41(m)(4)(i)(C).)

4. The Lahontan Water Board may approve an anticipated bypass, after considering its adverse effects, if the Lahontan Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. section 122.41(m)(4)(ii).)

5. Notice

   a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. section 122.41(m)(3)(i).)

   b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C..F.R. section 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. section 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was

caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. section 122.41(n)(2).)

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. section 122.41(n)(3)):

   a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. section 122.41(n)(3)(i));

   b. The permitted facility was, at the time, being properly operated (40 C.F.R. section 122.41(n)(3)(ii));

   c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. section 122.41(n)(3)(iii)); and

   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. section 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. section 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. section 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. section 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Lahontan Water Board. The Lahontan Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. §§ 122.41(l)(3) and 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)

B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 C.F.R. §§122.41(j)(4) and 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 C.F.R. Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Lahontan Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. section 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Lahontan Water Board, State Water Board, or USEPA within a reasonable time, any information which the Lahontan Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Lahontan Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Water Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Lahontan Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)

2. All permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).)

3. All reports required by this Order and other information requested by the Lahontan Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. section 122.22(b)(1));

   b. 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 well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative

may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

c. The written authorization is submitted to the Lahontan Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Lahontan Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 C.F.R. § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.22(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Lahontan Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Lahontan Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

D. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):

   a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

   b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

3. The Lahontan Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

E. Planned Changes

The Discharger shall give notice to the Lahontan Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. section 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. section 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing

permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R. § 122.41(l)(1)(iii).)

F. Anticipated Noncompliance

The Discharger shall give advance notice to the Lahontan Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 C.F.R. § 122.41(l)(2).)

G. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

H. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Lahontan Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Lahontan Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Lahontan Water Board as soon as they know or have reason to believe (40 C.F.R. section 122.42(a)):

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. section 122.42(a)(1)):

   a. 100 micrograms per liter (µg/L) (40 C.F.R. section 122.42(a)(1)(i));

   b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 C.F.R. section 122.42(a)(1)(ii));

c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. section 122.42(a)(1)(iii)); or

d. The level established by the Lahontan Water Board in accordance with section 122.44(f). (40 C.F.R. section 122.42(a)(1)(iv).)

2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. section 122.42(a)(2)):

a. 500 micrograms per liter (µg/L) (40 C.F.R. section 122.42(a)(2)(i));

b. 1 milligram per liter (mg/L) for antimony (40 C.F.R. section 122.42(a)(2)(ii));

c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. section 122.42(a)(2)(iii)); or

d. The level established by the Lahontan Water Board in accordance with section 122.44(f). (40 C.F.R. section 122.42(a)(2)(iv).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Title 40 of the Code of Federal Regulations at section 122.48 (40 C.F.R. section 122.48) requires that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Lahontan Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of the Lahontan Water Board.

B. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ±10 percent from true discharge rates throughout the range of expected discharge volumes.

C. Laboratories analyzing monitoring samples shall be certified by the Department of Health Services, in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

D. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

E. Monitoring results, including non-compliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
--	INF-001	At the wellhead prior to the heat exchange process.
001	EFF-001	A location where a representative sample of the effluent from the Facility can be collected; within 50 yards from the point of discharge into the receiving water channel. [Latitude 40°, 21', 24" N and Longitude 120°, 15', 23" W]

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. Influent monitoring samples shall be obtained during the same 24-hour period as effluent monitoring samples.

2. Metals shall be measured twice per year (2/year) in May and November throughout the permit term. Priority pollutants in Table E-2 (other than metals) shall be measured a minimum of once per year (1/year) during the first two years of the permit only and the detection limit used shall be the lowest Minimum Levels specified in Appendix 4 of the SIP.

3. The Discharger shall monitor influent to the facility at Monitoring Location Name INF-001 as follows:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Meter	Continuous	--
Conventional Pollutants				
pH	standard units	Grab	2/Year[1]	[2]
Priority Pollutants				
Arsenic, Total Recoverable	µg/L[6]	Grab	2/Year[1]	[2]
Beryllium, Total Recoverable	µg/L	Grab	2/Year[1]	[2]
Cadmium, Total Recoverable	µg/L	Grab	2/Year[1]	[2]
Chromium (III)	µg/L	Grab	2/Year[1]	[2]
Chromium (VI)	µg/L	Grab	2/Year[1]	[2]
Copper, Total Recoverable	µg/L	Grab	2/Year[1]	[2]
Lead, Total Recoverable	µg/L	Grab	2/Year[1]	[2]
Mercury, Total Recoverable	µg/L	Grab	2/Year[1]	[2]
Nickel, Total Recoverable	µg/L	Grab	2/Year[1]	[2]
Selenium, Total Recoverable	µg/L	Grab	2/Year[1]	[2]
Silver, Total Recoverable	µg/L	Grab	2/Year[1]	[2]
Zinc, Total Recoverable	µg/L	Grab	2/Year[1]	[2]
Remaining Priority Pollutants[3]	µg/L	Grab	[4]	[2]
Non-Conventional Pollutants				
Boron, Total Recoverable	mg/L[6]	Grab	2/Year[1]	[2]
Hardness (as $CaCO_3$)	mg/L	Grab	2/Year[1]	[2]
Molybdenum, Total Recoverable	µg/L[6]	Grab	2/Year[1]	[2]
Temperature[5]	°F (°C)	Grab	2/Year[1]	[2]

[1] Pollutants shall be sampled in May and November, concurrent with effluent samples.
[2] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.
[3] The Discharger shall monitor for all priority pollutants that are not monitored 2/year. A list of all 126 priority pollutants can be found in Appendix 4 of the SIP.
[4] The remaining priority pollutants shall be sampled once a year in May or November, concurrently with effluent samples, and monitoring for hardness (as $CaCO_3$) and pH. See Attachment E, Provision III.A.2., above.
[5] Temperature shall be measured and recorded during sample collection.
[6] In addition to the concentration, the average monthly mass in lbs/day shall also be reported.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. Effluent monitoring samples shall be obtained during the same 24-hour period as influent monitoring samples.

2. Metals shall be measured twice per year (2/year) in May and November throughout the permit term. Priority pollutants in Table E-3 (other than metals) shall be

measured a minimum of once per year (1/year) in 2009 and 2010 only and the detection limit used shall be the lowest Minimum Levels specified in Appendix 4 of the SIP.

3. The Discharger shall monitor the effluent at EFF-001 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Meter	Continuous	--
Conventional Pollutants				
pH	standard units	Grab	2/Year[1]	[2]
Priority Pollutants				
Arsenic, Total Recoverable	µg/L[6]	Grab	2/Year[1]	[2]
Beryllium, Total Recoverable	µg/L	Grab	2/Year[1]	[2]
Cadmium, Total Recoverable	µg/L	Grab	2/Year[1]	[2]
Chromium (III)	µg/L	Grab	2/Year[1]	[2]
Chromium (VI)	µg/L	Grab	2/Year[1]	[2]
Copper, Total Recoverable	µg/L	Grab	2/Year[1]	[2]
Lead, Total Recoverable	µg/L	Grab	2/Year[1]	[2]
Mercury, Total Recoverable	µg/L	Grab	2/Year[1]	[2]
Nickel, Total Recoverable	µg/L	Grab	2/Year[1]	[2]
Selenium, Total Recoverable	µg/L	Grab	2/Year[1]	[2]
Silver, Total Recoverable	µg/L	Grab	2/Year[1]	[2]
Zinc, Total Recoverable	µg/L	Grab	2/Year[1]	[2]
Remaining Priority Pollutants[3]	µg/L	Grab	[4]	[2]
Non-Conventional Pollutants				
Boron, Total Recoverable	mg/L[6]	Grab	2/Year[1]	[2]
Hardness (as $CaCO_3$)	mg/L	Grab	2/Year[1]	[2]
Molybdenum, Total Recoverable	µg/L[6]	Grab	2/Year[1]	[2]
Temperature[5]	°F (°C)	Grab	2/Year[1]	[2]

[1] Pollutants shall be sampled in May and November, concurrent with influent samples.
[2] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.
[3] The Discharger shall monitor for all priority pollutants that are not monitored 2/year. A list of all 126 priority pollutants can be found in Appendix 4 of the SIP.
[4] The remaining priority pollutants shall be sampled once a year in May or November, concurrent with influent samples, and monitoring for hardness (as $CaCO_3$) and pH. See Attachment E, Provision IV.A.2., above.
[5] Temperature shall be measured and recorded during sample collection.
[6] In addition to the concentration, the average monthly mass in lbs/day shall also be reported.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS – NOT APPLICABLE

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER – NOT APPLICABLE

IX. OTHER MONITORING REQUIREMENTS – NOT APPLICABLE

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Lahontan Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit **semi-annual** SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-4. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	Permit effective date	December 1 through May 31	Not later than June 30
		June 1 through November 30	Not later than January 15
1/Year	January 1 following (or on) permit effective date	January 1 through December 31	Not later than January 15
2/Year	Permit effective date	Once in May	Not later than June 30
		Once in November	Not later than January 15

4. **Reporting Protocols.** The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 40 C.F.R. Part 136.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

   For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

   c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

   d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. **Compliance Determination.** Compliance with effluent limitations set in this permit shall be determined using sample reporting protocols defined above. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration and mass in the effluent is greater than the concentration and mass in the influent.

6. The Discharger shall submit SMRs in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

b. The Discharger shall attach a cover letter to each SMR. The information contained in the cover letter shall clearly identify violations of the WDRs, discuss corrective actions taken or planned, and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

c. SMRs must be submitted to the Lahontan Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

California Regional Water Quality Control Board, Lahontan Region
2501 Lake Tahoe Boulevard
South Lake Tahoe, CA 96150

C. Other Reports

1. Operation and Maintenance

A summary of any operational problems and maintenance activities shall be submitted to the Lahontan Water Board with each monitoring report. This summary shall discuss:

a. Any modifications to plant operations or cooling pond system.

b. Any maintenance conducted on the plant or cooling pond system.

c. Any problems occurring with plant operations or cooling pond system.

d. The calibration of any flow measuring devices.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	6A180045901
Discharger	Carson Development Company, Inc.
Name of Facility	Wineagle Geothermal Power Plant
Facility Address	Wendel Hot Springs, Section 22, T30N, R15E, MDB&M Wendel, California 96136 Lassen County
Facility Contact, Title and Phone	Johan Otto, President, (916) 443-3797
Authorized Person to Sign and Submit Reports	Johan Otto, President, (916) 443-3797
Mailing Address	1722 Third Street, Suite 202, Sacramento, California 95814
Billing Address	SAME as mailing address
Type of Facility	Geothermal Power Plant, SIC Code 1781
Major or Minor Facility	Minor
Threat to Water Quality	3
Complexity	C
Pretreatment Program	N/A
Reclamation Requirements	N/A
Facility Permitted Flow	1.152 million gallons per day (MGD)
Facility Design Flow	1.152 MGD
Watershed	Susan River Hydrologic Area
Receiving Water	Wendel Hot Springs
Receiving Water Type	Inland surface water

A. Carson Development Company, Inc. (hereinafter Discharger) is the operator of Wineagle Geothermal Power Plant (hereinafter Facility), a geothermal power plant. Mapes Ranch, Inc. owns the property on which the Facility is located. For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The Facility discharges wastewater to a natural channel that historically drained Wendel Hot Springs, a water of the United States, and is currently regulated by Lahontan Water Board Order No. R6T-2003-0027, which was adopted on June 11, 2003 and expired on June 11, 2008. The terms and conditions of the current Order have been automatically continued and remain in effect until new Waste Discharge Requirements and NPDES permit are adopted pursuant to this Order.

C. The Discharger filed a report of waste discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on February 1, 2008. Supplemental information was requested and received on November 4, 2008.

II. FACILITY DESCRIPTION

The Facility is located in Lassen County, California, approximately 20 miles east of the City of Susanville. It lies within Section 22, T30N, R15E, MDB&M near the Wendel Hot Springs in Honey Lake Valley, as shown in Attachment B. The Facility produces up to 700 kilowatts of electricity for sale to Pacific Gas and Electric.

The Facility pumps thermally heated groundwater from the Wendel geothermal reservoir from a depth of approximately 1,500 feet below the ground surface. A maximum flow of 800 gallons per minute (GPM) of geothermal fluid is pumped from a single geothermal production well, Wineagle 1, to a 700 kilowatt Rankine-cycle power plant. The Facility currently (2008) utilizes up to 508 GPM of geothermal ground water as one of the electrical generators has been offline since the summer of 2007. Heat is extracted through a heat exchange process and no chemicals are added to the flow by the Discharger (e.g., for scale control or to prevent pipe fouling) other than chemicals that may be scavenged from internal Facility piping or machinery. The spent geothermal fluids discharge through Discharge Point No. 001 to a natural channel that historically drained the Wendel Hot Springs. The discharge temperature is approximately 71°C (160°F) or less. Attachment C provides a flow schematic of the production well at the Facility.

A. Description of Wastewater and Biosolids Treatment or Controls

The geothermal fluid discharged from the power plant is not treated prior to discharge.

B. Discharge Points and Receiving Waters

The Facility is located near the northern margin of Honey Lake. The Honey Lake Valley Basin is a portion of the Basin and Range Geomorphic Province, and is situated between the granitic Sierra Nevada mountain range to the southwest and the basaltic (volcanic) Modoc Plateau to the north. Local faults in the vicinity of the Facility reportedly trend in a north-northwest direction. Honey Lake is a relatively shallow terminal remnant of Lake Lahontan, which formerly covered vast portions of the region. In the vicinity of the Facility, the granitic basement rocks are overlain by volcanic rock and sedimentary deposits. The ground waters of Honey Lake Valley are recharged by precipitation, snowmelt, and seepage from streams and irrigation. Geothermal waters

are related to the fault system, and are reportedly associated with a deep aquifer underlying a non-thermal aquifer.

Prior to the Facility operations, the geothermal waters discharged to the land surface in the form of hot springs. Due to the rate of groundwater withdrawal, water no longer flows naturally to the land surface, and wetlands associated with the former hot springs have been affected by a drop in groundwater elevations from the Facility operations. To the extent that other water to sustain the natural wetlands is very limited, the wetland area functionality is dependent on the Facility discharge.

The discharge from Discharge Point No. 001 to the receiving water channel flows to Honey Lake Wetland and Honey Lake approximately one mile from the Facility. The discharge point for the effluent to the receiving water channel is located at latitude 40°, 21', 24" N and longitude 120°, 15', 23" W, within the *Susan River Hydrologic Area* (Department of Water Resources Hydrologic Unit No. 637.20)

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

1. Flow Limitations

The maximum rate of wastewater discharge from the Facility shall not exceed the design flow rate of 1.152 MGD, the equivalent of 800 GPM. The highest reported flow during the previous term was 1.13 MGD.

2. Effluent Limitations

Effluent limitations contained in the existing Order for discharges from Discharge Point No. 001 and representative monitoring data from the term of the previous Order are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation	Monitoring Data (From July 2003 – To May 2008)
		Average Concentration/Mass Loading	Highest Annual Average Concentration
Arsenic, Total Recoverable	µg/L	190[1]	215[3]
	kg/yr	303[1]	NR
	µg/L	150[2]	205[4]
	kg/yr	239[2]	NR
Boron, Total Recoverable	mg/L	5.5	4.85
	kg/yr	8,755	NR
Molybdenum, Total Recoverable	µg/L	70	55
	kg/yr	112	NR

[1] Effective until June 11, 2005.
[2] Effective after June 11, 2005.
[3] July 2003 through June 2005.
[4] July 2005 through May 2008.
NR – Not reported.

D. Compliance Summary

1. **Compliance with Numeric Effluent Limitations.** From July 2003 through May 2008, the Discharger reported the following data with regard to effluent limitations established in Order No. R6T-2003-0027:

Table F-3. Summary of Effluent Violations

Constituent	Date of Sample	Reported Value	Annual Average Concentration	Effluent Limit
Arsenic	May 2004	230 µg/L	215 µg/L	190 µg/L
	November 2004	200 µg/L		
	May 2005	200 µg/L	195 µg/L	190 µg/L
	November 2005	190 µg/L		150 µg/L
	November 2006	180 µg/L	165 µg/L	150 µg/L
	May 2006	150 µg/L		
	May 2007	190 µg/L	205 µg/L	150 µg/L
	November 2007	220 µg/L		

Note: The Discharger stated in a letter dated December 29, 2005 that they reported exceedances of the arsenic limitation in three of the four previously submitted SMRs that should not have been reported as such. Per Order No. R6T-2003-0027, arsenic was limited in terms of, and to be analyzed and reported as, concentration of trivalent inorganic arsenic, not as total arsenic. However, there is currently no approved analytical method for the speciation of arsenic into its various valence states; therefore, total arsenic was reported.

E. Planned Changes – Not Applicable

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21000 through 21177.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Lahontan Water Board adopted a *Water Quality Control Plan for the Lahontan Region* (hereinafter Basin Plan), which became effective on March 31, 1995 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements of this Order implement the Basin Plan.

   The Basin Plan in Table 2-1 establishes beneficial uses for Wendel Hot Springs in the *Susan River Hydrologic Area* (637.20), which include agricultural supply (AGR), ground water recharge (GWR), freshwater replenishment (FRSH), hydropower generation (POW), water contact recreation (REC-1), non-contact water recreation (REC-2), wildlife habitat (WILD), and water quality enhancement (WQE). In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). However, the Basin Plan does not designate municipal uses for Wendel Hot Springs based on a Use Attainability Analysis and USEPA-approved Basin Plan amendment that removed this potential surface water use after consideration of Resolution No. 88-63 criteria and federal water quality standards regulations. Thus, the beneficial uses for the receiving water for the discharge are as follows:

Table F-4a. Surface Water Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Wendel Hot Springs	Existing: AGR, GWR, FRSH, POW, REC-1, REC-2, WILD, and WQE.

The Basin Plan also identifies beneficial uses of ground water that are applicable to all subsurface water in the Lahontan Region. Beneficial uses of specific ground water basins in the Lahontan Region are designed in Table 2-2 of the Basin Plan. The Facility is located within the Honey Lake Valley Basin. Unless otherwise designated by the Lahontan Water Board, all ground waters are considered suitable, or potentially suitable, for MUN. The beneficial uses applicable to ground water in the Honey Lake Valley Basin include MUN, AGR, FRSH, WILD, and industrial service supply (IND).

Table F-4b. Ground Water Basin Plan Beneficial Uses

Basin Name	Beneficial Use(s)
Honey Lake Valley Basin	Existing: MUN, AGR, FRSH, WILD and IND.

b. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About 40 criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

c. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Lahontan Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

d. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 C.F.R. section 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also

provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

e. **Antidegradation Policy.** 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Lahontan Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16. No change is proposed from the existing permitted discharge and thus no degradation is anticipated or authorized.

f. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. As discussed in section IV.C.4, Order No. R6T-2003-0027 established a final average concentration effluent limitation for arsenic based on its trivalent inorganic form. However, at this time, no approved analytical methods are available for measuring trivalent inorganic arsenic. The CTR specifies a criterion for arsenic based on total recoverable arsenic. Therefore, the Lahontan Water Board will apply the effluent limitation for arsenic as total recoverable in accordance with the CTR.

D. Impaired Water Bodies on CWA 303(d) List

Section 303(d) of the CWA requires states to identify specific water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources. For all 303(d)-listed water bodies and pollutants, the Lahontan Water Board plans to develop and adopt total maximum daily loads (TMDLs) that will specify Waste Load Allocations (WLAs) for point sources, and load allocations (LAs) for non-point sources, as appropriate. On June 28, 2007 USEPA gave final approval to California's 2006 section 303(d) List of Water Quality Limited Segments. Wendel Hot Springs is not listed as an impaired water body on the 303(d) List of Water Quality Limited Segments. However, Honey Lake, which receives the discharge from the Facility, is listed for arsenic. The proposed TMDL for arsenic is not scheduled for completion until 2019.

E. Other Plans, Polices and Regulations – Not Applicable

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations (C.F.R.): 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

A. Discharge Prohibitions

The discharge prohibitions are based on the requirements of the Basin Plan, State Water Board plans and policies, the California Water Code, and provisions previously established in Order No. R6T-2003-0027, which are consistent with the requirements set for other discharges in the Lahontan Region.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at 40 C.F.R. section 122.44 requires that industrial non-municipal discharges that contain non-conventional and/or toxic pollutants regulated under the NPDES permit program comply with technology-based effluent limits. Both technology-based and water quality-based effluent limits must be considered, and more stringent water quality-based effluent limits must be developed, if the technology-based effluent limits are not sufficient to meet water quality objectives. Water quality-based effluent limits for the Facility were developed in this permit to ensure protection of the beneficial uses of the receiving water (see section IV.C below).

The CWA requires that technology-based effluent limitations must be established based on several levels of controls:

- Best practicable treatment control technology (BPT) represents the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

- Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.

- Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering the "cost reasonableness" of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.

- New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires USEPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and section 125.3 of Title 40 of the Code of Federal Regulations authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the permit writer must consider specific factors outlined in section 125.3.

2. Applicable Technology-Based Effluent Limitations

There are no ELGs applicable to geothermal power plants.

a. **Flow.** Order No. R6T-2003-0027 established a maximum design flow rate up to 1.152 MGD, the equivalent of 800 GPM. As stated above, technology-based effluent limitations are established on a case-by-case basis using BPJ. Therefore, a technology-based effluent limitation for flow is established in this Order based on the maximum design flow rate of 1.152 MGD.

Summary of Technology-based Effluent Limitations
Discharge Point No. 001

Table F-5. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow	MGD	--	--	1.152	--	--

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

40 C.F.R. section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 C.F.R. section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

As noted in section III.C of this Fact Sheet, the beneficial uses of Wendel Hot Springs are AGR, GWR, FRSH, POW, REC-1, REC-2, WILD, and WQE.

The Basin Plan includes both narrative and numeric water quality objectives applicable to Wendel Hot Springs. In addition, priority pollutant water quality criteria in the CTR are applicable to Wendel Hot Springs.

3. Determining the Need for WQBELs

California Toxics Rule (CTR) Parameters (Priority Pollutants)

In accordance with Section 1.3 of the SIP, the Lahontan Water Board conducts a reasonable potential analysis (RPA) for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the permit. The Lahontan Water Board analyzes effluent and receiving water data and identifies the maximum observed effluent concentration (MEC) and maximum ambient background concentration (B) in the receiving water for each constituent. To determine reasonable potential, the MEC and the B are then compared with the applicable water quality objectives (C) outlined in the CTR, NTR, as well as the Basin Plan. For all pollutants that have a reasonable potential to cause or contribute to an excursion above a state water quality standard, numeric WQBELs are required. The RPA considers water quality criteria from the CTR and NTR, and when applicable, water quality objectives specified in the Basin Plan. To conduct the RPA, the Lahontan Water Board identifies the MEC and maximum background concentration in the receiving water for each constituent, based on data provided by the Discharger.

The ambient receiving waters for the discharge are remnants of the former Wendel Hot Springs, and associated wetlands and channels on the margins of, or terminating at, Honey Lake. As discussed in section II.B of this Fact Sheet, the historic natural discharge from the Wendel Hot Springs has ceased since pumping from the geothermal aquifer commenced. For purposes of CTR compliance, the water now pumped from the geothermal aquifer may be of a quality very similar to that which formerly discharged to the ground surface naturally. Insofar as the chemical qualities of the water may be unchanged by passing through the Facility, except for the extraction of heat, the effluent discharge may be deemed equivalent to (B).

Section 1.3 of the SIP provides the procedures for determining reasonable potential to exceed applicable water quality criteria and objectives. The SIP specifies three triggers to complete a RPA:

Trigger 1 -If the MEC ≥ C, a limit is needed.

Trigger 2 -If the background concentration (B) > C and the pollutant is detected in the effluent, a limit is needed.

Trigger 3 -If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, etc. indicates that a WQBEL is required.

Sufficient effluent and ambient data are needed to conduct a complete RPA. If data are not sufficient, the Discharger will be required to gather the appropriate data for the Lahontan Water Board to conduct the RPA. Upon review of the data, and if the Lahontan Water Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

Under Lahontan Water Board Order No. R6T-2003-0027, the Discharger was required to monitor the effluent for specified metal constituents twice per year, during May and November. In addition, the Discharger provided in July 2003 the results of CTR effluent monitoring, as well as intake water monitoring for metal constituents, from a single sampling event in May 2003. As described above, there is no upstream flow of the discharge from the Facility; therefore, no upstream receiving water data is available.

Based on self monitoring data for the period of July 2003 through May 2008, as well as the May 2003 CTR sampling, the following table summarizes the pollutants that were detected in the Discharger's effluent, and indicates whether the MEC exceeds applicable water quality objectives and criterion.

Table F-6. Summary of Reasonable Potential Analysis

Pollutant[1]	Most Stringent Applicable Criteria (µg/L)[2]	MEC (µg/L)	Number of Effluent Data Points	Background (µg/L)	Reasonable Potential?
Antimony, Total Recoverable	6	1.4	2	2.8	N
Arsenic, Total Recoverable	150	230	11	180	Y
Benzene, Total Recoverable	1	1.5	1	NR[3]	Y
Cadmium, Total Recoverable	1.52	0.25[4]	11	ND	N
Chromium III	50	1.1	10	NR	N
Copper, Total Recoverable	5.51	12	11	31	Y
Mercury, Total Recoverable	0.05	0.52	11	0.55	Y
Nickel, Total Recoverable	30.97	7.3	11	ND	N
Selenium, Total Recoverable	5	ND	11	1.1	N
Toluene, Total Recoverable	42	0.54	1	NR	N
Zinc, Total Recoverable	71.08	62	10	560	Y

1 This table only displays the results for those pollutants that were reported as detected in the effluent. All other pollutants were reported as Non-Detectable (ND).
2 Hardness dependent criteria were based on a hardness of 54 mg/L as $CaCO_3$ representing the lowest reported effluent hardness.
3 Not reported.
4 J-Flag value.

As shown above, the reported concentrations were higher than applicable water quality objectives and criterion for arsenic, copper, mercury, and zinc. As is described further below, the exceedances of applicable arsenic objectives and criterion is due to the comparably high levels in the intake water used at the Facility.

For copper, the MEC of 12 µg/L was reported in May 2004. Since that time, seven of eight samples were reported as non-detect at a reporting level of 1.0 µg/L. Therefore, based on recent data from the Facility, it appears that copper may not present a reasonable potential to exceed applicable water quality objectives and criterion. In addition, the Discharger indicated that samples for the May 2003 CTR sampling were taken at the wellhead (intake water) through a standard galvanized faucet, which may contain copper fittings (the reported intake or background concentration of copper for the CTR sampling event was 31 µg/L).

For zinc, none of the effluent samples exceeded the applicable water quality criterion. Similar to copper, the Discharger indicated that the elevated concentrations of zinc in the intake (background) that exceed applicable water quality objectives may be the result of contaminated samples due to the composition of the intake faucet (the reported intake concentration for zinc of 62 µg/L was

reported as part of the CTR sampling in May 2003). Although the MEC does not exceed the applicable water quality criterion for zinc, it is uncertain whether the reported background concentration exceeds the applicable criterion. Therefore, the Lahontan Water Board will not establish effluent limitations for zinc at this time.

The reported concentrations for mercury consistently exceed the applicable water quality criterion. The reason for elevated levels of mercury is also unknown at this time. However, as with arsenic, mercury levels may be the result of naturally-occurring concentrations in the Wendel Hot Springs. Based on the one intake sample taken in May 2003, the intake concentration (0.55 µg/L) is consistent with the reported effluent concentration (0.52 µg/L).

Two organic constituents, benzene and toluene, were also detected in the May 2003 effluent sample. The reported benzene concentration exceeded the applicable water quality objective. The Discharger indicated that there has been historic exploratory drilling for natural gas in the Wendel Hot Springs area and that the elevated level of benzene may be a result of benzene associated with the condensate found in natural gas. Additional monitoring is required by the Discharger in order to better characterize the source of these constituents and their effect on the receiving water.

As described in section II of this Fact Sheet, except for removal of heat, the Discharger does not add chemical pollutants or intentionally alter the ground water that is eventually discharged to the receiving water. If the ground water was not withdrawn by the Facility, the ground water would naturally surface via a spring and flow naturally into the receiving water. The Lahontan Water Board believes that intake water credits, in accordance with Section 1.4.4 of the SIP, may be applicable and appropriate for the discharge from the Facility. Without intake credits, the Discharger may potentially be in frequent non-compliance with applicable WQBELs without the installation and operation of an extensive treatment system to treat the extracted ground water.

The data and information for other priority pollutants, especially those with reasonable potential, necessary to determine whether intake credits are insufficient at this time. Order No. R6T-2003-0027 required monitoring of the effluent twice per year, but did not require analysis of the extracted ground water to evaluate whether the Facility operations change the characteristics of the ground water prior to discharge by the Facility. Therefore, the Lahontan Water Board will not apply new WQBELs as part of this Order, but will require the Discharger to complete a comprehensive monitoring program designed to provide the Lahontan Water Board with the data needed to evaluate the applicability of intake credits to the Facility for other pollutants and to perform a meaningful reasonable potential analysis and establish WQBELs as necessary. This comprehensive monitoring program will entail sampling of both the Facility influent (ground water as it is extracted) and effluent. In addition, the monitoring program requires sampling and analysis for all CTR pollutants.

Non-CTR Pollutants

The procedures in the SIP for determining reasonable potential and calculating WQBELs specifically apply only to priority pollutant criteria promulgated through the NTR and CTR and to priority pollutant objectives established by Water Boards in their Basin Plans. For other constituents, the Lahontan Water Board must determine what procedures it will use to evaluate reasonable potential and calculate effluent limitations. In order to maintain consistency in methodology for permitting discharges of various constituents, the Lahontan Water Board proposes to use the same procedures required by the SIP for CTR constituents to evaluate reasonable potential and, where necessary, develop WQBELs for non-CTR constituents. For constituents with no promulgated numeric water quality criteria or objectives, the Lahontan Water Board also must interpret narrative objectives from the Basin Plan to establish the basis for reasonable potential and effluent limitation calculations.

The Water Quality for Agriculture, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985), recommends that the boron concentration in waters used for agricultural irrigation not exceed 750 µg/L. This protection level could be used to comply with the Basin Plan narrative objective provision. Under Order No. R6T-2003-0027, the effluent limitation for boron is 5.5 mg/L and was based on historical data representing naturally-occurring boron levels in the receiving water and the fact that the Discharger does not add boron to the discharge. Self monitoring data for the period July 2003 through May 2008 indicate boron concentrations are in compliance with this limit; however, the Discharger exceeds the 750 µg/L water quality objective to protect agricultural uses.

For molybdenum, the Water Quality for Agriculture, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985), recommends that the molybdenum concentration in waters used for agricultural irrigation not exceed 10 µg/L. This protection level could be used to comply with the Basin Plan narrative objective provision. Order No. R6T-2003-0027 contains an effluent limitation of 70 µg/L for molybdenum. Analyses of monitoring data collected for the period May 2003 through May 2008 indicate the Discharger can consistently meet this limitation; however, the Discharger exceeds the 10 µg/L water quality objective to protect agricultural uses.

As described in section II of this Fact Sheet, except for removal of the thermal component of the extracted ground water, the Discharger does not alter the ground water that is eventually discharged to the receiving water. The Lahontan Water Board believes that intake water credits may also be applicable and appropriate for the discharge from the Facility for boron and molybdenum.

4. WQBEL Calculations

As discussed above in section IV.C.3 of this Fact Sheet, the Lahontan Water Board has determined the monitoring data submitted by the Discharger are insufficient to

conduct a meaningful RPA at this time for a number of pollutants, and to determine whether intake credits are applicable. Therefore, this Order does not include any new WQBELs for CTR and non-CTR constituents.

Except for removal of the thermal component of the extracted ground water, the Discharger does not alter the ground water that is eventually discharged to the receiving water. If the ground water was not withdrawn by the Facility, the ground water would naturally surface via a spring and flow naturally into the receiving water. The Lahontan Water Board believes that intake water credits, in accordance with Section 1.4.4 of the SIP, may be applicable and appropriate for the discharge from the Facility. Without intake credits, the Discharger would frequently be in non-compliance with applicable WQBELs without the installation and operation of an extensive treatment system to treat the extracted ground water.

Arsenic. Order No. R6T-2003-0027 established a final average concentration effluent limitation of 150 µg/L for arsenic based on its trivalent inorganic form. However, at this time, no approved analytical methods are available for measuring trivalent inorganic arsenic. The CTR specifies a criterion for arsenic based on total recoverable. Therefore, the Lahontan Water Board cannot appropriately determine compliance with the previously established limitation, and will apply effluent limitations in the total recoverable form in accordance with the CTR.

In accordance with Section 1.4.4 of the SIP, the Lahontan Water Board may consider priority pollutants in intake water on a pollutant-by-pollutant and discharge-by-discharge basis when establishing WQBELs provided that the discharger has demonstrated to the satisfaction of the Lahontan Water Board that five specified conditions are met. In order to address these conditions for an arsenic intake water credit, the Discharger conducted a study and prepared a report entitled *A Review of Arsenic Levels in Intake and Discharge Water at the Wineagle Power Plant, Lassen County, California (May 2005)*, which was submitted to the Lahontan Water Board on June 1, 2005. After review of this report and available data for arsenic, the Lahontan Water Board concurs that the Discharger has met the conditions, as outlined in the SIP, for arsenic intake credits; specifically:

Condition 1. The observed maximum ambient background concentration, as determined in section 1.4.3.1 of the SIP, and the intake water concentration of the pollutant exceeds the most stringent applicable criterion/objective for that pollutant.

Based on historical arsenic data prior to geothermal production at the Facility and monitoring data over the life of the Facility, this condition is met because the observed maximum ambient background and intake water concentrations for arsenic have exceeded a level of 150 µg/L, which is the most stringent criterion/objective for arsenic.

Condition 2. The intake water credits provided are consistent with any TMDL applicable to the discharge that has been approved by the RWQCB, SWRCB, and U.S. EPA.

Wendel Hot Springs is not currently considered a water quality-limited segment requiring a TMDL. Honey Lake, to which Wendel Hot Springs is tributary to, is listed on the CWA Section 303(d) List of Water Quality Limited Segments requiring TMDLs, however the proposed TMDL for arsenic is not scheduled for completion until 2019. Arsenic in Honey Lake is known to originate from natural sources. Based on a past study contracted by the Lahontan Water Board, arsenic concentrations fluctuate based on flux from the sediments depending primarily on the ambient water levels, evaporation and dilution by runoff (*Analysis of the Effect of Arsenic, Boron, and Molybdenum in Water Discharges on Water Quality in Honey Lake*, Ruschemeyer and Tchobanoglous, UC Davis 1989).

Condition 3. The intake water is from the same water body as the receiving water body. The discharger may demonstrate this condition by showing that:

a) the ambient background concentration of the pollutant in the receiving water, excluding any amount of the pollutant in the facility's discharge, is similar to that of the intake water;

b) there is a direct hydrological connection between the intake and discharge points;

c) the water quality characteristics are similar in the intake and receiving waters; and

d) the intake water pollutant would have reached the vicinity of the discharge point in the receiving water within a reasonable period of time and with the same effect had it not been diverted by the discharger.

As discussed under Condition 1, the ambient background concentration of arsenic in the receiving water (that is, the local hot springs) is similar to that of the intake water (that is, produced water). Honey Lake, as the eventual receiving water body, has a higher arsenic level than the intake water under normal hydrologic conditions.

There is a direct and long-recognized hydrological connection between the intake and discharge point via a fault zone. Geothermal water rises from a deep reservoir (depth greater than 3,000 feet), flows up the Wendel fault, and then discharges as hot springs at the land surface. Production from the Facility well diverts the upflowing geothermal water from its natural exit at the hot springs, which explains why the hot springs have ceased to flow since production from the well started. If the well was to stop producing geothermal water now, the hot springs at Wendel would reappear, for the natural flow up the fault cannot be stopped because the buoyancy force that causes this upflow cannot be naturally eliminated.

So far as arsenic level is concerned, the water quality characteristics are similar in the intake water (produced from the well) and receiving water (hot springs).

Given the very small estimated volume of the fault zone, the arsenic would have reached the vicinity of the discharge point in the receiving water (hot springs or Honey Lake) within a matter of months, and in a similar concentration, had it not been diverted by production of geothermal water by the Facility. The natural flow of geothermal water up the fault has been diverted from the hot springs, which consequently, have ceased to flow.

Condition 4. The facility does not alter the intake water pollutant chemically or physically in a manner that adversely affects water quality and beneficial uses.

As previously discussed in this Fact Sheet, section II., except for removal of heat, the Facility does not alter the ground water that is eventually discharged to the receiving water by the addition of chemicals or other pollutants.

Condition 5. The timing and location of the discharge does not cause adverse effects on water quality and beneficial uses that would not occur if the intake water pollutant had been left in the receiving water body.

The timing and location of the discharge from the Facility does not cause adverse effects on water quality and beneficial uses that would not occur if the arsenic in the intake water had been left in the intake water body, because (a) the hot springs will discharge arsenic-laden water at a similar rate and with a similar level of arsenic, and (b) there are no municipal or aquatic life uses of the water for either the local hot springs or Honey Lake. In addition, monitoring data indicate arsenic concentrations in Honey Lake were frequently higher than arsenic levels in the Discharger's effluent wastewater, as shown in the table below.

Table F-7. Comparison of Effluent Arsenic Concentrations to Downstream Receiving Water

Date of Sample	Effluent	Honey Lake (100 yards from discharge) (µg/L)	Honey Lake (300 yards from discharge) (µg/L)
Nov-02	190	210	230
May-02	130	650	NR*
Nov-01	150	350	240
May-01	180	210	135
Nov-00	150	210	135
May-00	145	115	98
Nov-99	103	180	73
May-99	71	58	43
Nov-98	121	34	52

*NR - Not reported.

Therefore, the Lahontan Water Board will allow intake water credits for arsenic. This credit is to offset elevated levels of arsenic found in the intake water. As stated in Section 1.4.4 of the SIP, the Lahontan Water Board "*may establish effluent limitations allowing the facility to discharge a mass and concentration of the intake*

water pollutant that is no greater than the mass and concentration in the facility's intake water...so there is no net addition of the pollutant in the discharge compared to the intake water." Compliance with intake credits for arsenic will be based on no net addition in the effluent above intake levels (both mass and concentration). The Discharger will be required to obtain monitoring samples in the intake, at Monitoring Location INF-001, and in the effluent, at Monitoring Location EFF-001, during the same 24-hour period as required in the MRP (Attachment E).

Boron and Molybdenum. As discussed previously, the Discharger does not alter the extracted ground water prior to discharge. Therefore, as with arsenic, it is reasonable to assume that the concentrations of boron and molybdenum in the effluent are similar to those concentrations that are naturally occurring. In addition, the Lahontan Water Board finds that the same rationale as discussed for arsenic regarding the application of intake water credits also applies to boron and molybdenum. Due to the long-recognized hydrological connection, the water quality characteristics are similar in the intake water produced from the well and the receiving water (hot springs). Therefore, the Lahontan Water Board will also allow intake water credits for boron and molybdenum.

5. Whole Effluent Toxicity (WET)

No WET data exists for the discharge from the Facility. In light of the fact that no aquatic life designated uses apply to Wendel Springs or Honey Lake, WET testing will not be required under this Order.

D. Final Effluent Limitations

1. Satisfaction of Anti-Backsliding Requirements

Sections 402(0)(2) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(1) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with the exception of effluent limitations for arsenic, boron, and molybdenum. The effluent limitations for arsenic, boron, and molybdenum are less stringent that those in the previous Order. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations. The existing effluent limitations for arsenic, boron, and molybdenum are being replaced with effluent limitations based on application of intake credits (as allowed for in the SIP). The granting of intake credits, including the data submitted by the Discharger during the previous permit term, is new information that was not available to the Lahontan Water Board prior to issuance of Order No. R6T-2003-0027. In addition, and as shown in Table F-3, the Discharger has not consistently achieved or maintained compliance with the existing permit limitation for arsenic.

2. Satisfaction of Antidegradation Policy

Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where, the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Lahontan Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies.

The permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16 and the final limitations in this Order are in compliance with antidegradation requirements and meet the requirements of the SIP because these limits hold the Discharger to performance levels that will not cause or contribute to water quality impairment or further water quality degradation that could result from an increase in permitted design flow. This Order does not provide for an increase in the permitted design flow. No change is proposed from the existing permitted discharge and thus no degradation is anticipated or authorized.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on flow. Restrictions on flow are discussed in section IV.B.2 of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards.

Summary of Final Effluent Limitations
Discharge Point No. 001

Table F-8. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow	MGD	--	1.152	--	--
Arsenic, Total Recoverable	mg/L	[1]	--	--	--
	lbs/day	[1]	--	--	--
Boron, Total Recoverable	mg/L	[1]	--	--	--
	lbs/day	[1]	--	--	--
Molybdenum, Total Recoverable	µg/L	[1]	--	--	--
	lbs/day	[1]	--	--	--

[1] The concentration and mass in the effluent shall not be greater than the concentration and mass in the intake.

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications – Not Applicable

G. Reclamation Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

The Basin Plan contains numeric and narrative water quality objectives applicable to all surface waters within the Lahontan Region. Water quality objectives include an objective to maintain the high quality waters pursuant to federal regulations (40 C.F.R. section 131.12) and State Water Board Resolution No. 68-16. Surface water limitations in this Order are included to ensure protection of background water quality and beneficial uses of the receiving water.

B. Groundwater

The Basin Plan contains numeric and narrative water quality objectives applicable to all ground waters within the Lahontan Region: Groundwater quality objectives include an objective to maintain the high quality waters pursuant to federal regulations (40 C.F.R. section 131.12) and State Water Board Resolution No. 68-16. However, ground waters in the Honey Lake groundwater basin may not meet definitions of "high quality waters" meeting all applicable objectives due to natural factors, including natural geothermal activity; site-specific monitoring and analyses are, in general, needed to establish the local conditions. Ground water limitations in this Order are included to ensure protection of background water quality and beneficial uses of ground water that may be affected by discharges to the Wendel Hot Springs.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Lahontan Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

1. Influent samples shall be representative of the influent into the system for the period sampled. The influent samples shall be collected at the same monitoring frequency (May and November) and with the same sample type (grab) as effluent samples.

2. As discussed in sections IV.C.3 and VII.B.2 of this Fact Sheet, in order to provide the data necessary to consider application of intake water credits by the Lahontan Water Board, the Discharger shall be required to monitor at Monitoring Location INF-001, in accordance with the requirements specified in section III.A of the MRP.

3. Influent flow monitoring is also established in order to determine compliance with the intake water credit provisions for arsenic, boron, and molybdenum.

B. Effluent Monitoring

1. Pursuant to the requirements of 40 C.F.R. section 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations and to assess the impacts of the discharge on the receiving water.

2. Discharge flow monitoring requirements established in MRP No. R6T-2003-0027 (average daily flow rate and total volume) are retained in this Order.

3. Semi-annual (May and November) effluent monitoring requirements established in Order No. R6T-2003-0027 for temperature, pH, hardness (as $CaCO_3$), arsenic, beryllium, boron, cadmium, chromium (III), chromium (VI), copper, lead, mercury, molybdenum, nickel, selenium, silver, and zinc are retained in this Order.

4. Annual monitoring for the remaining priority pollutants has been established in this Order in accordance with Section 1.3 of the SIP requiring industrial dischargers to conduct periodic monitoring for priority pollutants. This data will also provide the data necessary to consider application of intake water credits by the Lahontan Water Board.

C. Whole Effluent Toxicity Testing Requirements – Not Applicable

D. Receiving Water Monitoring

1. Surface Water – Not Applicable

2. Groundwater – Not Applicable

E. Other Monitoring Requirements – Not Applicable

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 C.F.R. section 122.42.

40 C.F.R. section 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 C.F.R. section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387, subdivision (e).

B. Special Provisions

1. Reopener Provisions

Conditions that necessitate a major modification of a permit are described in 40 C.F.R. sections 122.62 and 123.25. Causes for modifications include the promulgation of new standards or regulations, Facility alterations or changes in operations, or adoption of new regulations by the State Water Board or Lahontan Water Board, including revisions to the Basin Plan.

2. Special Studies and Additional Monitoring Requirements

b. **Intake Water Credit Summary Report.** The Discharger is required to conduct a comprehensive intake water credit study during the term of this permit in accordance with Section 1.4.4 of the SIP, and prepare a report that will summarize both the Facility influent and effluent pollutant concentrations. The study must be sufficient to characterize the quality of the intake water and wastewater discharge, and must comprise all CTR

pollutants (excluding arsenic). The results of the analysis will provide the Lahontan Water Board with the data needed to evaluate the applicability of intake water credits to the Facility in the reissuance of the NPDES permit for the following term. The intake credit summary report shall be submitted to the Lahontan Water Board by **January 15, 2011**.

3. **Best Management Practices and Pollution Prevention – Not Applicable**

4. **Construction, Operation, and Maintenance Specifications – Not Applicable**

5. **Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable**

6. **Other Special Provisions – Not Applicable**

7. **Compliance Schedules – Not Applicable**

VIII. PUBLIC PARTICIPATION

The Lahontan Water Board is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for Wineagle Geothermal Power Plant. As a step in the WDR adoption process, the Lahontan Water Board staff has developed tentative WDRs. The Lahontan Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Lahontan Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the Lassen County Times newspaper on November 11, 2008.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Officer at the Lahontan Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Lahontan Water Board, written comments must be received at the Lahontan Water Board office by 5:00 p.m. on **December 12, 2008**.

C. Public Hearing

The Lahontan Water Board will provide opportunity for a public hearing on the draft WDRs, if so requested by the Discharger or an interested person, during its regular Board meeting on the following date and time and at the following location:

Date: **January 14-15, 2009**
Time: **7:00pm**
Location: Tahoe-Truckee Sanitation Agency Board Room
13720 Joerger Drive
Truckee CA 96161

Interested persons are invited to attend. At the public meeting, the Lahontan Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is http://www.waterboards.ca.gov/lahontan/ where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any person aggrieved by this action of the Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

E. Information and Copying

The Report of Waste Discharge, related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Lahontan Water Board by calling (530) 542-5400.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Lahontan Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Tobi Tyler, Water Resource Control Engineer, at (530) 542-5435.