

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

ORDER NO. R7-2005-0063

WASTE DISCHARGE REQUIREMENTS
FOR
HEBER FIELD COMPANY, OWNER
ORMAT NEVADA INC., OPERATOR
ORCAL GEOTHERMAL INC., LANDOWNER
WELLFIELD BASINS AND MUD SUMPS
Heber Known Geothermal Resource Area (KGRA) - Imperial County

The California Regional Water Quality Control Board, Colorado River Basin Region, finds that:

1. Heber Field Company, 947 Dogwood Road, Heber, CA 92249, submitted an updated Report of Waste Discharge dated September 27, 2004.
2. The operator of the facility is Ormat Nevada Inc., 980 Greg St., Sparks, NV, 89431.
3. The landowner of the wellfield is Orcal Geothermal Inc., 980 Greg St., Sparks, NV 89431
4. The wellfield is comprised of geothermal production wells and injection wells. The production wells and injection wells are located as follows:
 - a. NE1/4, Section 34, T16S, R14E, SBB&M
 - b. SW1/4, Section 33, T16S, R14E, SBB&M
 - c. SE1/4, Section 30, T16S, R14E, SBB&M
 - d. SE1/4, Section 31, T16S, R14E, SBB&M
5. The wellfield is currently regulated under three (3) Waste Discharge Requirements (WDRs). Board Order No. 93-025 adopted on March 31, 1993, and Board Orders No. 92-029 and 92-030 both adopted on May 13, 1992. These WDRs are being combined and updated to comply with Division 7 of the California Water Code and to incorporate the applicable provisions of Title 27 of the California Code of Regulations.
6. Definition of terms used in this Board Order:
 - a. Facility – The entire parcel of property where Heber Field Company or related geothermal industrial activities are conducted.
 - b. Waste Management Unit (WMUs) – The area of land, or the portions of the facility where geothermal or related wastes are discharged. Basins and mud sumps are WMUs.
 - c. Discharger – The term “discharger” means any person who discharges waste that could affect the quality of the waters of the State, and includes any person who owns the land, waste management unit, or who is responsible for the operation of a waste management unit. Specifically, the terms “discharger” or “dischargers” in this Order means Heber Field Company, Ormat Nevada Inc., and Orcal Geothermal Inc.
7. This Board Order is to regulate the discharge of wastes associated with geothermal wells. The following wastes could be produced during construction, operation, and reworking of the production and injection wells: geothermal brine, drilling muds, and drill cuttings.

8. Containment of drilling wastes may include any one (1) or a combination of the following:
 - a. Lined basins – Permanent basins built with liners in accordance with Title 27 of the California Code of Regulations.
 - b. Mud sumps – Temporary containment of drilling wastes built with synthetic liners or minimum 12 inches of compacted clay with permeability of approximately 1×10^{-6} cm/sec or less.
 - c. Portable tanks
9. The Water Quality Control Plan for the Colorado River Basin Region of California (Basin Plan) as amended to date, designates the beneficial uses of the ground and surface waters in this region.
10. The beneficial uses of ground water in the Imperial Hydrological Unit are:
 - a. Municipal Supply (MUN)
 - b. Industrial Supply (IND)

However, with respect to the MUN designation, the Basin Plan states: “At such time as the need arises to know whether a particular aquifer which has no known existing MUN use should be considered as a source of drinking water, the Regional Board will make such a determination based on the criteria listed in the ‘Sources of Drinking Water Policy’ in Chapter 2 of the Basin Plan. An indication of MUN for a particular hydrologic unit indicates only that at least one of the aquifers in that unit currently supports a MUN beneficial use. For example, the actual MUN usage of the Imperial Hydrologic Unit is limited only to a small portion of that ground water unit.”

11. The beneficial uses of nearby surface waters are as follows:

Imperial Valley Drains

- a. Freshwater Replenishment (FRSH)
- b. Water Contact Recreation (RECI)
- c. Noncontact Water Recreation (RECII)
- d. Warm Freshwater Habitat (WARM)
- e. Wildlife Habitat (WILD)
- f. Preservation of Rare, Threatened, or Endangered Species (RARE)

All American Canal System

- a. Municipal (MUN)
 - b. Agricultural (AGR)
 - c. Aquaculture Supply (AQUA)
 - d. Freshwater Replenishment (FRSH)
 - e. Industrial (IND)
 - f. Ground Water Recharge (GWR)
 - g. Water Contact Recreation (RECI)
 - h. Non-Contact Water Recreation (RECII)
 - i. Warm Freshwater Habitat (WARM)
 - j. Wildlife Habitat (WILD)
 - k. Hydropower Generation (POW)
 - l. Preservation of Rare, Threatened, or Endangered Species (RARE)
12. The facility is located in a desert environment, in the southern portion of Imperial Valley. The desert climate is characterized by hot summers and mild winters. Normal annual precipitation in the area is 2.5 to 3.0 inches and normal annual surface evaporation is approximately 100 inches.

13. Any hazardous waste generated or stored at the facility will be contained and disposed in a manner that complies with federal and state regulations.
14. In accordance with Section 15301, Chapter 3, Title 14 of the California Code of Regulations, the issuance of these WDRs, which govern the operation of an existing facility involving negligible or no expansion of use beyond that previously existing, is exempt from the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000 et. seq.)
15. Federal regulations for storm water discharges were promulgated by the United States Environmental Protection Agency (USEPA) (40 CFR Parts 122, 123, and 124). The regulations require specific categories of facilities which discharge storm water associated with industrial activity to obtain NPDES permits and to implement Best Conventional Pollutant Technology (BCPT) to reduce or eliminate industrial storm water pollution.
16. The State Water Resources Control Board (SWRCB) adopted Order No. 97-03-DWQ (General Permit No. CAS000001) specifying WDRs for discharges of storm water associated with industrial activities, excluding construction activities, and requiring submittal of a Notice of Intent (NOI) by industries to be covered under the Permit.
17. The Board has notified the discharger and all known interested agencies and persons of its intent to update WDRs for said discharge and has provided them with an opportunity for a public meeting and an opportunity to submit comments.
18. The Board, in a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED, that Board Orders No. 93-025, 92-029, and 92-030 be rescinded, and in order to meet the provision contained in Division 7 of the California Water Code and regulations adopted thereunder, the dischargers shall comply with the following:

A. Specifications

1. The treatment or disposal of wastes at this facility shall not cause pollution or nuisance as defined in Section 13050 of Division 7 of the California Water Code.
2. Waste material at this facility must be contained at all times.
3. Containment of waste shall be limited to the areas designated for such activities. Any revision or modification of the designated waste containment area, or any proposed change in operation at the facility that changes the nature and constituents of the waste produced must be submitted in writing to the Regional Board's Executive Officer for review and approval before the proposed change in operations or modification of the designated area is implemented.
4. Prior to drilling a new well at the facility, the discharger shall notify, in writing, the Regional Board's Executive Officer of the proposed change.
5. Any substantial increase or change in the annual average volume of material to be discharged under this Order at the site must be submitted in writing to the Regional Board's Executive Officer for review and approval.
6. Fluids and/or materials discharged to and contained in ponds, tanks, or mud sumps shall not overflow the respective containment.

7. Prior to the use of new chemicals for the purposes of adjustment or control of microbes, pH, scale, and corrosion, the discharger shall notify the Regional Board's Executive Officer in writing. The Regional Board's Executive Officer may determine whether the use of new chemicals constitutes a material change in the discharge, as set forth in CWC section 13263 (see Provision C.4, below).
8. For the liquids in the basins, a minimum freeboard of two (2) feet shall be maintained at all times.
9. Fluids discharged by subsurface injection shall be injected below the fracture pressure of the receiving aquifer and of the confining layer immediately above the receiving aquifer.
10. Final disposal of residual waste from basins, mud sumps and/or tanks shall be accomplished to the satisfaction of the Regional Board's Executive Officer upon abandonment or closure of operations.
11. Basins shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods having a predicted frequency of once in 100 years.
12. Geothermal well clean out fluid, test and production fluid, production and injection well startups and cleanouts shall be discharged in mud sumps, constructed basins, or tanks approved by the Regional Board's Executive Officer.
13. Following well completion, the respective mud sumps, basins, or tanks shall have all drilling mud and cuttings tested and disposed of in accordance with applicable laws and regulations.
14. Prior to removal of solid material that has accumulated in the mud sumps, tanks, or basins, an analysis of the material must be conducted and the material must be disposed of in a manner consistent with that analysis and applicable laws and regulations.
15. Pipe maintenance and de-scaling activities that include hydroblasting and/or sandblasting shall be performed within a designated area that minimizes the potential for release to the environment. Waste generated as a result of these activities shall be disposed of in accordance with the applicable laws and regulations. Water from the hydroblasting process shall be contained and analyzed to determine proper disposal.
16. Public contact with wastes containing geothermal fluids shall be precluded through such means as fences, signs, or other acceptable alternatives.
17. The basins and mud sumps shall be constructed, managed, and maintained to ensure their effectiveness, in particular,
 - a. Implementation of erosion control measures.
 - b. The liners in the basins and mud sumps shall be appropriately maintained to ensure its proper function.
 - c. Solid material shall be removed from the basins, mud sumps, and tanks in a manner that minimizes the likelihood of damage to the liner.
18. Upon ceasing operation at the facility, all waste, all natural geologic material contaminated by waste, and all surplus or unprocessed material shall be removed from the site and disposed of in accordance with applicable laws and regulations.
19. Surface drainage from tributary areas or subsurface sources, shall not contact or percolate through the waste discharged at this site.

20. The discharger shall use the constituents listed in Monitoring and Reporting Program No. R7-2005-0063 and revisions thereto, as "Monitoring Parameters".
21. The discharger shall implement the attached Monitoring and Reporting Programs No. R7-2005-0063 and revisions thereto, in order to detect, at the earliest opportunity, any unauthorized discharge of waste constituents from the facility, or any impairment of beneficial uses associated with (caused by) discharges of waste to the basins or mud sumps.
22. Water used for the process and site maintenance shall be limited to the amount necessary in the process, for dust control, and for cleanup and maintenance.
23. The discharger shall not cause or permit the release of pollutants, or waste constituents in a manner which could cause or contribute to a condition of contamination, nuisance, or pollution to occur.

B. Prohibitions

1. The discharge or deposit of solid geothermal waste to basins or mud sumps as a final form of disposal is prohibited, unless authorized by the Regional Board's Executive Officer.
2. The discharger shall not cause degradation of any groundwater aquifer or water supply.
3. The discharge of waste to land not owned or controlled by the discharger is prohibited.
4. Use of geothermal fluids or drilling fluids for dust control on access roads, well pads, or within the plant area is prohibited.
5. The discharge of hazardous or designated wastes to other than a waste management unit authorized to receive such waste is prohibited.
6. Permanent (longer than one (1) year) disposal or storage of geothermal waste in on-site basins or mud sumps is prohibited, unless authorized by the Regional Board's Executive Officer.
7. Any permanent or temporary basins or mud sumps must be lined, and the geothermal brine or any geothermal fluid shall not penetrate through the lining during the containment period.
8. Geothermal fluids or any fluids in the basins, mud sumps, or tanks shall not enter any canal, drainage, or drains (including subsurface drainage systems), except as allowed under an appropriate National Pollutant Discharge Elimination System (NPDES) permit.
9. The discharger shall appropriately dispose of any materials, including fluids and sediment removed from the basins, tanks, and mud sumps.
10. The discharger shall neither cause nor contribute to the contamination or pollution of ground water via the release of waste constituents in either liquid or gaseous phase.
11. Direct or indirect discharge of any waste to any surface water or surface drainage courses is prohibited.

C. Provisions

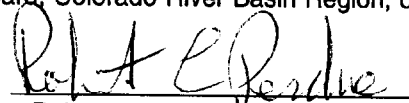
1. The discharger shall comply with Monitoring and Reporting Program No. R7-2005-0063 and future revisions thereto, as specified by the Regional Board's Executive Officer.

2. Unless otherwise approved by the Regional Board's Executive Officer, all analyses shall be conducted at a laboratory certified for such analyses by the California Department of Health Services. All analyses shall be conducted in accordance with the latest edition of "Guideline Establishing Test Procedures for Analysis of Pollutants", promulgated by the USEPA.
3. Prior to any change in ownership of this operation, the discharger shall transmit a copy of the Board Order to the succeeding owner/operator, and forward a copy of the transmittal letter to the Regional Board.
4. Prior to any modification in this facility that would result in material change in the quality or quantity of discharge, or any material change in the location of the discharge, the discharger shall report all pertinent information in writing to the Regional Board's Executive Officer and obtain revised requirements before any modification is implemented.
5. All permanent basins or clay lined mud sumps shall be certified by a California Registered Civil Engineer or Certified Engineering Geologist.
6. The discharger shall ensure that all site-operating personnel are familiar with the content of this Board Order, and shall maintain a copy of this Board Order at the site.
7. This Board Order does not authorize violation of any federal, state, or local laws or regulations.
8. The discharger shall allow the Regional Board, or an authorized representative, upon presentation of credential and other documents as may be required by law, to:
 - a. Enter upon the premises regulated by this Board Order, or the place where records must be kept under the conditions of the Board Order;
 - b. Have access to and copy, at reasonable times, any records that shall be kept under the condition of this Board Order;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Board Order; and
 - d. Sample or monitor at reasonable times, for the purpose of assuring compliance with this Board Order or as otherwise authorized by the California Water Code of Regulation, any substances or parameters at this location.
9. The discharger shall comply with all of the conditions of this Board Order. Any noncompliance with this Board Order constitutes a violation of the Porter-Cologne Water Quality Act and is grounds for enforcement action.
10. The discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the discharger to achieve compliance with this Board Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures.
11. The discharger shall comply with the following:
 - a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

- b. The discharger shall retain records of all monitoring information, copies of all reports required by the Board Order, and records of all data used to complete the application of the Board Order, for a period of at least five (5) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Board's Executive Officer at any time.
 - c. Records of monitoring information shall include:
 - 1. The date, exact places, and time of sampling or measurements.
 - 2. The individual(s) who performed the sampling or measurements.
 - 3. The date(s) analyses were performed.
 - 4. The individual(s) responsible for reviewing the analyses.
 - 5. The results of such analyses.
 - d. Monitoring must be conducted according to test procedures described in the Monitoring and Reporting Program, unless other test procedures have been specified in this Board Order or approved by the Regional Board's Executive Officer.
12. The discharger is the responsible party of the WDRs, and the monitoring and reporting program for the facility. The discharger shall comply with all conditions of these WDRs. Violations may result in enforcement actions, including Regional Board Orders or court orders, requiring corrective action or imposing civil monetary liability or in modification or revocation of these WDRs by the Regional Board.
13. The discharger shall furnish, under penalty of perjury, technical monitoring program reports, and such reports shall be submitted in accordance with the specifications prepared by the Regional Board's Executive Officer. Such specifications are subject to periodic revisions as may be warranted.
14. The discharger may be required to submit technical reports as directed by the Regional Board's Executive Officer.
15. The monitoring reports shall be certified to be true and correct, and signed, under penalty of perjury, by an authorized official of the company.

I, Robert Perdue, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Colorado River Basin Region, on May 4, 2005.

Ordered by:


Robert Perdue, Executive Officer

Date

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION**

MONITORING AND REPORTING PROGRAM NO. R7-2005-0063

FOR
HEBER FIELD COMPANY, OWNER
ORMAT NEVADA INC., OPERATOR
ORCAL GEOTHERMAL INC., LANDOWNER
WELLFIELD BASINS AND MUD SUMPS
Heber Known Geothermal Resource Area (KGRA) - Imperial County

Location of Discharge: Wellfield associated with Heber KGRA

A. MONITORING GENERAL

1. The reporting responsibilities of the discharger are specified in the California Water Code. This self-monitoring program is issued in accordance with Provision No. 1 of Regional Board Order R7-2005-0063. The principal purpose of this Monitoring Program is:
 - a. To document compliance with the Waste Discharge Requirements adopted by the California Regional Water Quality Control Board.
 - b. To facilitate self-policing by the discharger in the prevention and abatement of pollution arising from the discharge.
 - c. To conduct water quality analysis.
2. All sampling methods not specified below or in the Monitoring and Reporting Program shall be conducted in accordance with United States Environmental Protection Agency approved procedures. Analyses shall be conducted by a laboratory certified by the California Department of Health Services to perform the required analyses, unless a field analysis is specified.
3. The Regional Board's Executive Officer may alter the monitoring parameters and/or the monitoring frequency during the course of this monitoring program.

B. MONITORING REPORTS AND OBSERVATION SCHEDULE

"Reporting Period" means the duration separating the submittal of a given type of monitoring report from the time the next iteration of that report is scheduled for submittal. An annual report, which is a summary of all the monitoring during the previous year, shall also be submitted to the Region Board. The submittal dates for each reporting period shall be as follows:

1. Quarterly Monitoring Reports
 - a. 1st Quarterly Report (January 1 through March 31) – report due by April 15
 - b. 2nd Quarterly Report (April 1 through June 30) – report due by July 15
 - c. 3rd Quarterly Report (July 1 through September 30) – report due by October 15
 - d. 4th Quarterly Report (October 1 through December 31) – report due by January 15
2. Annual Summary Report
January 1 through December 31 – report due March 15 of the following year.

C. REPORTS TO BE FILED WITH THE BOARD

Written Quarterly Reports shall be submitted four (4) times per year, in addition to an Annual Summary Report. The reports shall be submitted by the above-specified dates. The following information/data shall be included in each report:

1. Quarterly Report Requirements

a. General Information

1. Letter of Transmittal – A letter transmitting the essential points shall accompany each report. Such a letter shall include a discussion of any requirement violations found since the last such report was submitted, and shall describe actions taken or planned for correcting those violations. If the discharger has previously submitted a detailed time schedule for correcting the violations, a reference to the correspondence transmitting the schedule will be satisfactory. If no violations have occurred since the last submittal, this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer, at the level of vice-president or above, or by his/her duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct.
2. For all occurrences of spills/leaks during the reporting period, a summary of each incident detailing the essential points of the cause of the spill/leak shall be transmitted in the quarterly report. The summary shall include estimated volumes of liquid or solids that have spilled outside containment, and a description of the management practices addressing each spill or leak occurring during the reporting period.

b. Monitoring of Containment Basins/Mud Sump

1. Estimate total volume of solids and/or fluids discharged during the quarterly reporting period, if any, in each containment basin/mud sump.
2. Estimate total volume of solids and/or fluids contained in each containment basin/mud pit during the quarterly reporting period.
3. Provide volume of containment basin/mud sumps waste shipped to a waste management facility. Provide name and location of waste management facility.
4. Water samples (if any liquid is present during reporting period), shall be collected once per quarter from each containment basin/mud sump and analyzed for the following constituents:

| <u>Constituents</u> | <u>Unit</u> | <u>Sample Type</u> |
|------------------------|-------------|--------------------|
| Suspended Solids (TSS) | mg/L | Grab |
| Total Dissolved (TDS) | mg/L | Grab |
| pH | units | Grab |
| Specific Conductance | μohms/cm | Grab |
| Oil and Grease | mg/L | Grab |

5. If the materials in the containment basins/mud sumps are dry at sample time, and if liquid or solids have been discharged during the reporting period, soil samples shall be collected from the containment basins/mud sumps and analyzed for the following constituents:

| <u>Constituents</u> | <u>Unit</u> | <u>Sample Type</u> |
|------------------------------------|-------------|--------------------|
| Heavy Metals (Title 22) | mg/kg | Grab |
| Total petroleum hydrocarbons (TPH) | mg/kg | Grab |

6. Describe general conditions of the containment basins/mud sump including any observation of erosion or plant growth.
7. Description of any maintenance done to the containment basins/mud sumps.
8. At least 10 days prior to the destruction of each containment basin/mud sump, the discharger shall request a Regional Board staff inspection and approval of the cleanup procedures.

c. Monitoring of Injection Wells

1. For the injection wells, provide quarterly the following:
 - A. Volume of fluid injected into each injection well.
 - B. Quarterly, collect one (1) grab sample from the main injection header leaving the facility and analyze for the following:

| <u>Constituents</u> | <u>Unit</u> | <u>Sample Type</u> |
|------------------------------|-------------|--------------------|
| Total Dissolved Solids (TDS) | mg/L | Grab |
| Total Suspended solids (TSS) | mg/L | Grab |
| Specific conductance | μohms/cm | Grab |
| pH | units | Grab |

- C. Provide a summary of major repairs if any.

2. Annual Summary Report

The discharger shall submit an annual report by March 15 of the following year to the Regional Board covering the previous monitoring year. The reporting period ends December 31st of each year. This report shall contain:

- a. All monitoring analytical data presented in tabular form obtained during the previous 4 quarters Reporting Periods.
- b. A comprehensive discussion of compliance, and the result of any corrective actions taken or planned which may be needed to bring the discharge into full compliance with the waste discharge requirements.
- c. A written summary of water or solid waste analyses, indicating any changes, if any, made since the previous annual report.

3. Contingency Reporting

- a. The discharger shall report by telephone any spill of reportable quantity within 48 hours after it is discovered. The reportable quantity for geothermal brine and cooling tower condensate at this facility is 50 gallons. Any other type of spill, regardless of type or size, is to be reported within 48 hours.

After reporting a spill, a written report shall be filed with the Regional Board within seven (7) days containing at least the following information:

1. A map showing the location (s) of the discharge;
 2. A description of the nature of the discharge (all pertinent observations and analyses including quantity, duration, etc.); and
 3. Corrective measures underway or proposed.
- b. Should a subsurface release be tentatively identified, the discharger shall verbally notify the Regional Board within 48 hours as to the monitoring point(s) and constituents or parameter(s) involved. The discharger shall provide written notification within seven (7) days of such determination and shall carry out a retest. If the retest confirms the existence of a release, the discharger shall carry out the requirements of 3.d. below. In any case, the discharger shall inform the Regional Board of the outcome of the retest as soon as the results are available, following up with written results submitted by certified mail within seven (7) days of completing the retest.
- c. If either the discharger or the Regional Board determines that there is significant physical evidence of a release, the discharger shall immediately notify the Regional Board of this fact (or acknowledge the Regional Board's determination and shall carry out the requirements of 3.d. below.
- d. If the discharger concludes that a release has been discovered:
1. If this conclusion is not based upon "direct monitoring" of the Constituents of Concern, then the discharger shall, within thirty (30) days, sample for all CoCs at all Monitoring Points and submit them for laboratory analysis. Within seven (7) days of receiving the laboratory analytical results, the discharger shall notify the Regional Board of the concentration of all CoCs at each Monitoring Point.
 2. The discharger shall, within 90 days of discovering the release, submit a Revised Report of Waste Discharge proposing an Evaluation Monitoring Program.
 3. The discharger shall, within 180 days of discovering the release, submit a preliminary engineering feasibility study of remediation.
- e. Any time the discharger concludes (or the Regional Board's Executive Officer concludes) that a liquid/gaseous/phase release has proceeded beyond the facility boundary, the discharger shall so notify all affected persons who either own or reside upon the land that directly overlies any part of the plume.
1. Initial notification to affected persons shall be accomplished within seven (7) days of making this conclusion and shall include a description of the discharger's current knowledge of the lateral and vertical extent of the release; and
 2. Subsequent to initial notification, the discharger shall provide updates to all affected persons within seven (7) days of concluding there has been any material change in the lateral or vertical extent of the release.

D. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the discharger or laboratory, and shall be retained for a minimum of five (5) years. The period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board. Such records shall show the following for each sample:

1. Identity of sample and of the monitoring point from which it was taken, along with the identity of the individual who obtained the sample;
2. Date and time of sampling;
3. Date and time that analyses were started and completed, and the name of the personnel performing each analysis;
4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagent used;
5. Calculation of the results; and
6. Result of analysis, and the Maximum Detection Limit (MDL) for each analysis.

SUMMARY OF MONITORING AND REPORTING REQUIREMENTS

1. The Discharger shall arrange the data in tabular form so that the specified information is readily discernible. The data shall be summarized in such a manner as to clearly illustrate whether the facility is operating in compliance with Waste Discharge Requirements.
2. Each report shall contain the following statement:

“I declare under the penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.”
3. A duly authorized representative of the Discharger may sign the documents if:
 - a. The authorization is made in writing by the person described above;
 - b. The authorization specified an individual or person having responsibility for the overall operation of the regulated disposal system; and
 - c. The written authorization is submitted to the Regional Board's Executive Officer.

4. Quarterly Monitoring Reports

| | <u>Unit</u> | <u>Sampling Frequency</u> | <u>Reporting Frequency</u> |
|--|-------------|---------------------------|----------------------------|
| General Information (C.1.a) | | | |
| 1. Letter of Transmittal | ---- | ----- | Quarterly |
| 2. Summary of spills | ---- | ----- | Quarterly |
| Monitoring of Containment Basins/Mud Sump (C.1.b) | | | |
| 1. Estimate total volume of solids/liquids in each basin or mud sump | ---- | Monthly | Quarterly |
| 2. Volume of material removed and shipped to waste facility | tons | Monthly | Quarterly |
| Liquid samples (if any) analyzed for the following: | | | |
| a. Total Dissolved Solids (TDS) | mg/L | Quarterly | Quarterly |
| b. Total Petroleum Hydrocarbons (TPH) | mg/L | Quarterly | Quarterly |
| c. Heavy Metals (Title 22 metals) | mg/L | Quarterly | Quarterly |
| Solid samples (if any) analyzed for the following: | | | |
| a. Heavy Metals (Title 22 metals) | mg/kg | Quarterly | Quarterly |
| b. Total Petroleum Hydrocarbons (TPH) | mg/kg | Quarterly | Quarterly |
| Monitoring of Injection Wells (C.1.c) | | | |
| 1. Volume of fluid injected in each injection well per month. | --- | Quarterly | Quarterly |
| 2. Grab sample to be analyzed for the following: | | | |
| a. Total Dissolved Solids (TDS) | mg/L | Quarterly | Quarterly |
| b. pH | units | Quarterly | Quarterly |

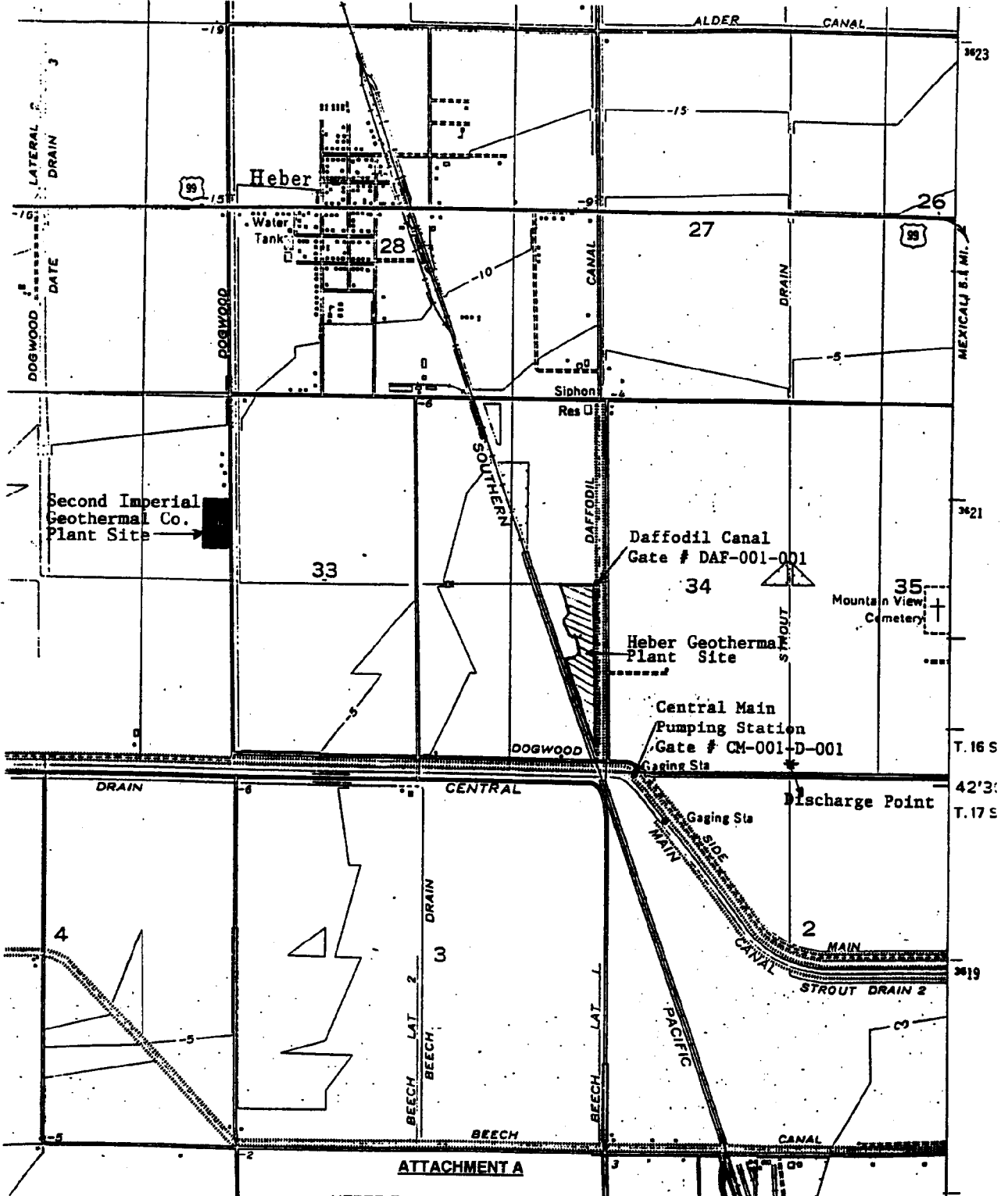
5. Annual Summary Reports (C.2) shall be submitted to the Regional Board by March 15th of the each year, covering the Reporting Period from January 1st through December 31st of the previous year.
6. Contingency Reports Notify immediately by telephone, and submit a written report pursuant to Part C.3.a of this Monitoring and Reporting Program.
7. Submit Monitoring Reports to:

California Regional Water Quality Control Board
 Colorado River Basin Region
 73-720 Fred Waring Drive, Suite 100
 Palm Desert, CA 92260

Ordered by: Robert Perdue
 Robert Perdue
 Executive Officer

 Date

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
 COLORADO RIVER BASIN REGION



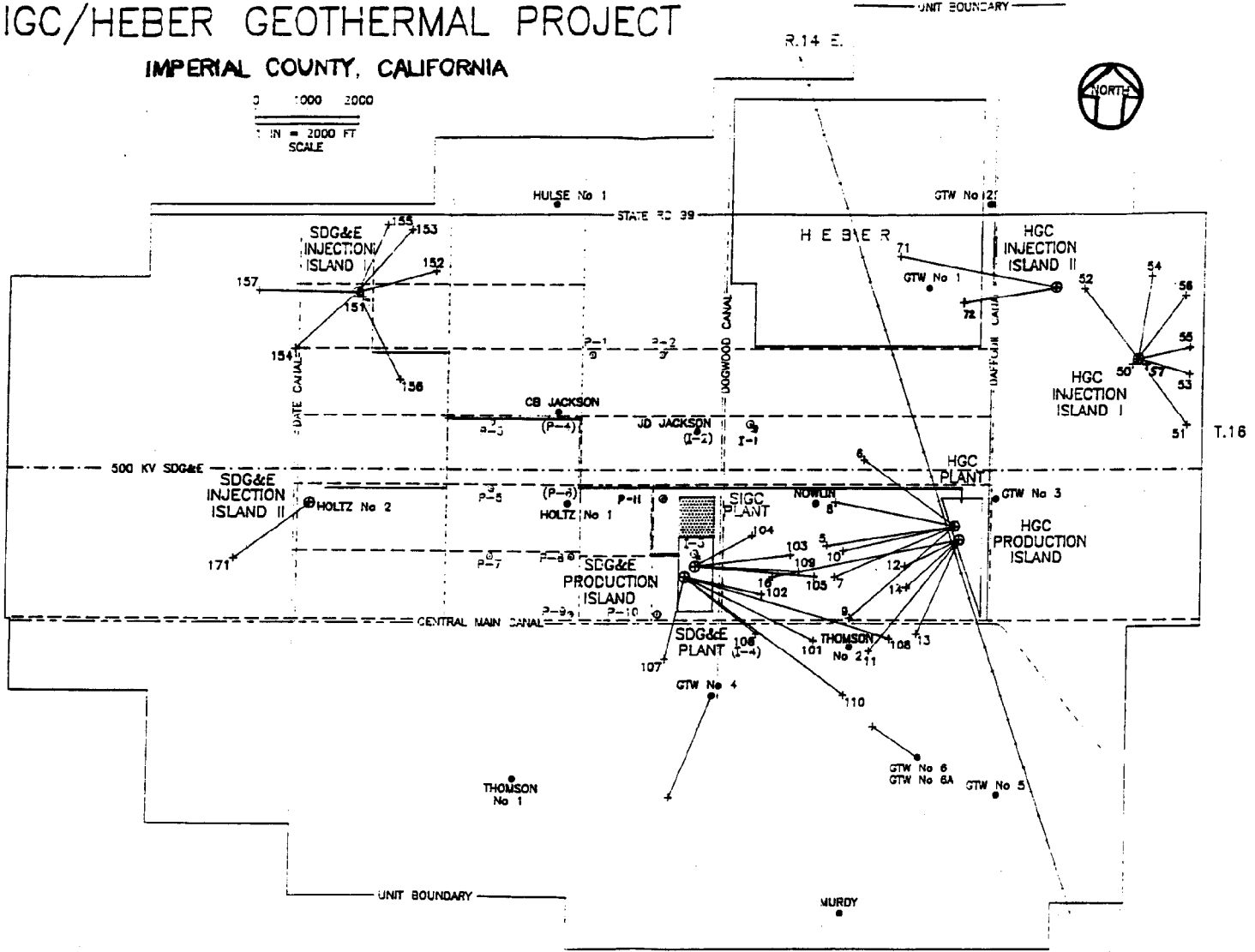
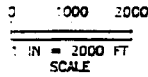
ATTACHMENT A

HEBER FIELD COMPANY, OWNER
 ORMAT NEVADA INC., OPERATOR
 ORCAL GEOTHERMAL INC., LANDOWNER
 WELLFIELD BASINS AND MUD SUMPS
 Heber Known Geothermal Resource Area (KGRA) - Imperial County

BOARD ORDER NO. R7-2005-0063

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION**

**SIGC/HEBER GEOTHERMAL PROJECT
IMPERIAL COUNTY, CALIFORNIA**



- LEGEND**
- ⊕ DIRECTIONAL DRILL PAD
 - + BOTTOM WELL LOCATION
 - EXISTING WELL
 - PROPOSED WELL
 - ↔ INJECTORS
 - - - EXISTING PIPE
 - - - PROPOSED PIPE

ATTACHMENT B

HEBER FIELD COMPANY, OWNER
ORMAT NEVADA INC., OPERATOR
ORCAL GEOTHERMAL INC., LANDOWNER
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