

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

ORDER NO. 76-31

WASTE DISCHARGE REQUIREMENTS
FOR
REPUBLIC GEOTHERMAL, INC. - NILAND
Southwest of Niland - Imperial County

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

1. Republic Geothermal, Inc. (hereinafter also referred to as the discharger), 2544 Cleveland Avenue, Suite 5, Santa Rosa, California 95401, submitted a Report of Waste Discharge dated February 13, 1976.
2. The discharger proposes to drill three deep-test wells in the Niland area of Imperial County. The wells will be located as follows:

<u>Well</u>	<u>Location</u>
Goin #1	1218' S, 140' E from NW corner, Section 4, T11S, R14E, SBB&M
Jameson #1	180' N, 180' E, from SW corner, Section 32, T10S, R14E, SBB&M
Jameson #2	160' N, 495' E from SW corner, Section 8, T11S, R14E, SBB&M

3. The discharger proposes that the geothermal brine from the first well will be stored in a steel tank and in a vinyl-lined, leak-proof holding basin. The discharger has not yet firmed the location of the holding basin. All brines will be removed from the storage basin and discharged into an injection well with final cleanup by not later than:
 - a. July 1, 1979; or
 - b. a date one year from the date of initial discharge of geothermal brines.

Discharge of brine from two of the above wells will be reinjected directly into the subsurface through wells drilled specifically for that purpose.

*Revised
8/9/84*

4. The discharger reports that the site of the well and holding basin for Jameson #1 is underlain with a subsurface tile drainage system; the sites for Jameson #2 and Goin #1 are not tiled.
5. The discharger proposes that drilling muds will be stored in a leak-proof reserve pit at each well site and later either neutralized and made arable, or trucked and discharged at a disposal site approved by the Regional Board to receive these wastes. The possible drilling fluid components which may be used are:
 - Bentonite, or colloidal clay
 - Wyoming Bentonite plus .1% acrylic acid
 - Mica
 - Lignite, or Leonardite brown coal
 - Tannic acid
 - Caustic soda
 - Cane fiber
 - Ground nut shells
6. The water Quality Control Plan for the West Colorado River Basin was adopted on April 10, 1975. This Order implements the objectives stated in said Plan.
7. Beneficial uses to be protected by this Order are as follows:
 - a. Groundwater
 - Shallow groundwaters at the discharge location are saline and are not beneficially used.
 - b. Imperial Valley Drains
 1. Limited public fishing activity.
 2. Transport of dissolved solids to the Salton Sea for agricultural soil salinity control.
 3. Freshwater habitat for fish and wildlife.
 4. Freshwater replenishment for the Salton Sea.
 - c. Salton Sea
 1. Water contact and non-contact recreation.
 2. Sport fishing activities.
 3. Habitat for the maintenance of wildlife.
8. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the proposed discharge.
9. The Board in a public meeting heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, Republic Geothermal, Inc., shall comply with the following:

A. Discharge Specifications

1. Neither the treatment nor the discharge shall cause a pollution or a nuisance.
2. Geothermal wastes and other wastes shall not enter the Salton Sea or any canals, drainage channels, or drains (including sub-surface drainage systems or aquifers) which could provide flow or seepage to the Salton Sea.
3. Temporary discharge and/or storage of geothermal materials other than in water-tight basins is prohibited.
4. There shall be no seepage or overflow from temporary storage basins.
5. Adequate protective works and maintenance shall be provided to assure that storage basins will not become eroded or otherwise damaged.
6. A minimum freeboard of at least two (2) feet shall be maintained in all storage basins.
7. Holding basins shall not be located within 50 linear feet of any irrigation drainage ditch.
8. All brine wastes shall be removed from the storage basins and discharged into an injection well with final cleanup by not later than the earlier of the following dates:
 - a. July 1, 1979; or
 - b. a date one (1) year from the date of initial discharge of geothermal brines.
9. Brine wastes discharged by subsurface injection shall be discharged into the zone of extraction, or zones that contain a total dissolved solids content which is equal to or greater than that contained in the zone of extraction, or to other zone(s) approved by the Regional Board.
10. Drilling mud shall be discharged only at a disposal site approved by the Regional Board to receive this waste.

B. Provisions

1. The discharger shall comply with the "Monitoring and Reporting Program No. '76-31", and future revisions thereto, as specified by the Executive Officer. Copies of reports submitted to the Board pursuant to said Monitoring and Reporting Program shall be maintained at the operations site, and shall be made available to members of the Board's staff upon request.
2. Prior to the discharge of any geothermal materials into a holding basin, the discharger shall submit to the Regional Board a certificate signed by a California Registered Civil Engineer stating that the basin and attendant facilities are constructed to meet the requirements of this Order.
3. Prior to destruction of any holding basin, the discharger shall inform the Regional Board of the discharger's intent and request a Regional Board staff inspection and approval of the cleanup procedure.

I, Arthur Swajian, 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 June 10, 1976.

Arthur Swajian

Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM NO. 76-31
FOR
REPUBLIC GEOTHERMAL, INC.
Southwest of Niland - Imperial County

Location: Section 32, T10S, R14E, SBB&M
Sections 4 and 8, T11S, R14E, SBB&M

MONITORING

Republic Geothermal, Inc., shall report monitoring data to the Regional Board in accordance with the following schedule:

<u>Constituents</u>	<u>Units</u>	<u>Reporting Frequency</u>
1. Discharge to each storage basin	Gallons	Monthly
2. Volume stored in each storage basin	Gallons	Monthly
3. Volume injected to subsurface strata from each storage basin	Gallons	Monthly
4. Total Dissolved Solids content of water contained in each storage basin	mg/l	Monthly
5. Analysis of groundwater contained in strata receiving waste brine injection	mg/l	At least 10 days prior to commencement of injection
6. Location and depth of injection wells		At least 10 days prior to commencement of injection
7. Electrical Conductivity of flow from tile drain system underlying the area of Jameson #1 well and holding basin.	micro-mhos/cm	Daily*, Monday through Friday

*Tile drain monitoring shall commence one (1) week prior to the initial discharge of geothermal brines into the holding basin.

8. Within 10 days after the initial discharge of geothermal brines from a well, the discharger shall report said initial discharge to the Board.
9. Immediate reporting of any accidental spillage or release of waste material, and also, plan for immediate measures being taken to correct same and to limit detrimental effects.
10. At least 10 days prior to destruction of any holding basin, the discharger shall request a Regional Board staff inspection and approval of the cleanup procedure.
11. Report of completion of removal of all brine from storage basins and cleanup of premises. Reported within one week following completion of work.

REPORTING

The above monitoring program shall be implemented immediately upon commencement of operations at each site.

Monthly reports shall be submitted to the Regional Board by the 15th day of the following month. Reports for Item 8 (above) shall be forwarded immediately, and if at all possible shall be preceded by phone communication to the Regional Board's office. Phone No. (714)346-7491.

Mail reports to:

California Regional Water Quality Control Board
Colorado River Basin Region
73-271 Highway 111, Suite 21
Palm Desert, CA 92260

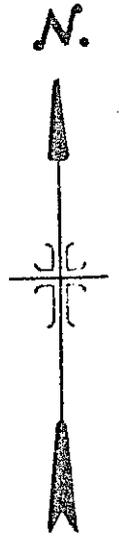
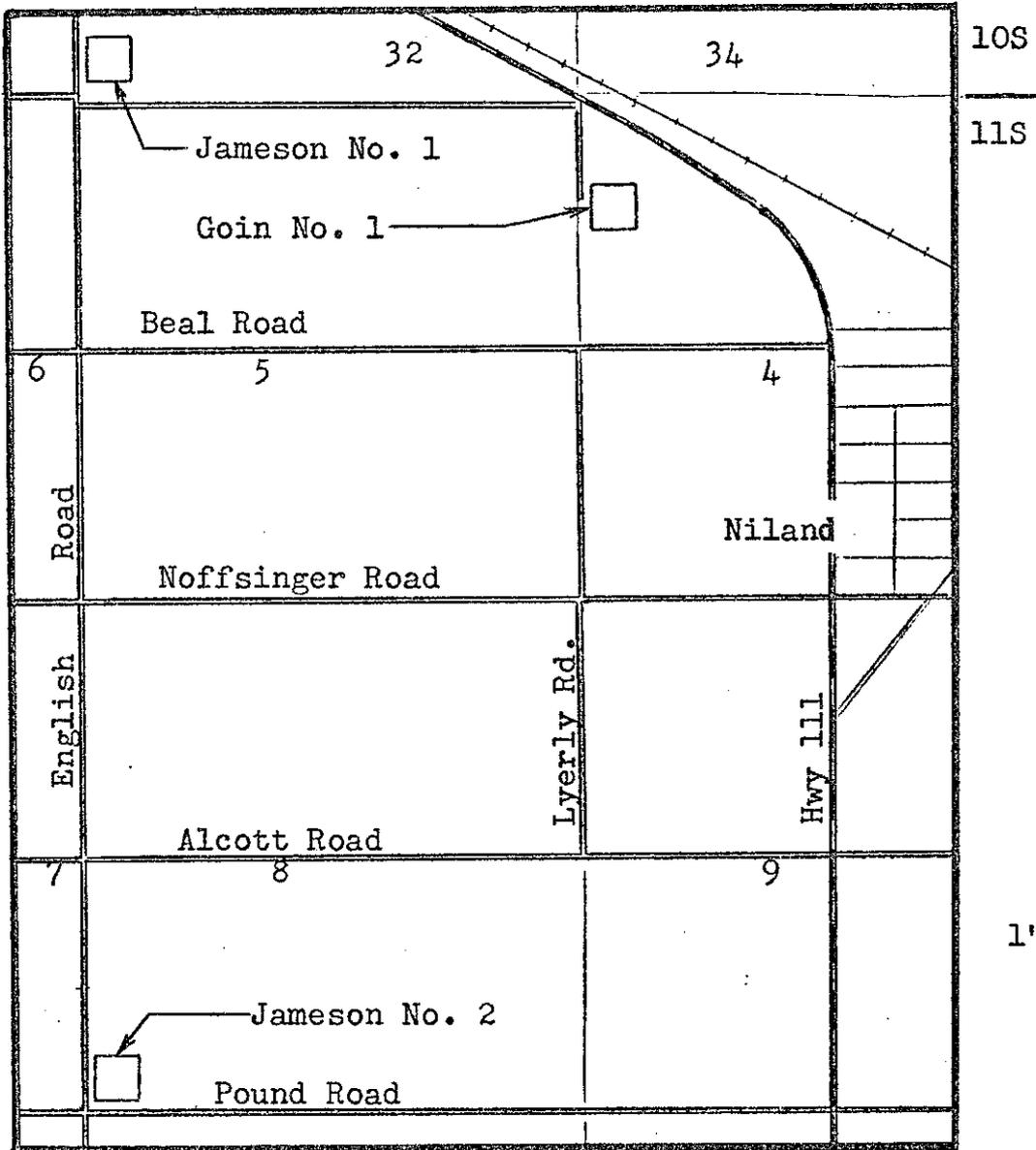
ORDERED BY

Arthur Sevajian
Executive Officer

June 10, 1976

Date

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD - 7



SCALE:
1" = 2000'

SITE MAP
FOR
REPUBLIC GEOTHERMAL, INC. - NILAND
Southwest of Niland - Imperial County

Location: Section 32, T10S R14E, SBB&M
Sections 4 and 8, T11S, R14E, SBB&M

Order No. 76-31

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

GENERAL MONITORING AND REPORTING PROVISIONS

GENERAL PROVISIONS FOR SAMPLING AND ANALYSIS

Unless otherwise noted, all sampling, sample preservation, and analyses shall be conducted in accordance with the current edition of "Standard Methods for the Examination of Water and Waste Water" or approved by the Executive Officer.

All analyses shall be performed in a laboratory certified to perform such analyses by the California State Department of Public Health or a laboratory approved by the Executive Officer.

All samples shall be representative of the waste discharge under the conditions of peak load.

GENERAL PROVISIONS FOR REPORTING

For every item where the requirements are not met, the discharger shall submit a statement of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time and submit a timetable for correction.

By January 30 of each year, the discharger shall submit an annual report to the regional board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the discharger shall discuss the compliance record and the corrective actions taken or planned which may be needed to bring the discharge into full compliance with the waste discharge requirements.

The discharger shall file a written report within 90 days after the average dry-weather flow for any month that equals or exceeds 75% of the design capacity of the waste treatment or disposal facilities. The report shall contain a schedule for studies, design, and other steps needed to provide additional capacity or limit the flow below the design capacity prior to the time when the waste flow rate equals the capacity of the present units.