

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

ORDER NO. 76-35

WASTE DISCHARGE REQUIREMENTS
FOR
REPUBLIC GEOTHERMAL, INC.
East Mesa Area - 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 April 8, 1976, with subsequent revisions.
2. The discharger proposes to discharge a maximum of 100 acre-feet of geothermal fluids at a maximum discharge rate of 0.28 acre-feet (12,200 gallons) per day from two existing deep-test geothermal wells, #16-29 and #38-30, into existing lined storage basins and onto well pads and roads in the vicinity of the wells. Some geothermal fluid will be reinjected into the existing well #18-28. The surface discharge of wastewater will be restricted to the access road lying on the common boundary of Sections 31 and 32, T15S, R17E, SBB&M and to well pads and access road within two of the dischargers leases in the East Mesa Area of Imperial County. The leases are described as follows:

Lease CA 966 (2549.09 acres) E $\frac{1}{2}$ SE $\frac{1}{4}$ Sec. 23, S $\frac{1}{2}$ Sec. 24, Sec. 25,
E $\frac{1}{2}$ NE $\frac{1}{4}$ Sec. 26, T15S, R16E, SBB&M

S $\frac{1}{2}$ Sec. 19, SW $\frac{1}{4}$ Sec. 20, W $\frac{1}{2}$ Sec. 29,
Sec. 30, T15S, R17E, SBB&M

Lease CA 1903 (2560.00 acres) E $\frac{1}{2}$ Sec. 20, Sec. 21, W $\frac{1}{2}$ Sec. 22,
W $\frac{1}{2}$ Sec. 27, Sec. 28, E $\frac{1}{2}$ Sec. 29, T15S,
R17E, SBB&M

The existing deep-test geothermal wells are located as follows:

<u>WELL</u>	<u>LOCATION</u>
18-28	175' N, 100' E of SW corner, Sec. 28, T15S, R17E, SBB&M.
16-29	1495' N, 100' E of SW corner, Sec. 29, T15S, R17E, SBB&M.
38-30	100' N, 1420' E of SW corner, Sec. 30, T15S, R17E, SBB&M.

*Superseded by
76-19
3/19/86*

3. Fluids withdrawn from the wells will be stored in existing lined storage basins. The Total Dissolved Solids concentration of the stored fluid will be measured, and the fluids will be discharged by the spreading of the geothermal fluids on the discharger's access roads and well pads to aid in dust control and the compaction of soils, or the fluids will be discharged into a disposal well.

The discharger has submitted the following analyses of water samples drawn from the two aforementioned wells from which geothermal fluids will be discharged:

<u>Well</u>	<u>Date Sampled</u>	<u>Total Dissolved Solids</u>
16-29	4/23/76	2069 mg/l
	6/15/76	1978 mg/l
38-30	4/23/76	1907 mg/l
	6/15/76	1737 mg/l

4. The Water Quality Control Plan for the West Colorado River Basin was adopted by the Regional Board on April 10, 1975. This Order implements the objectives stated in said Plan.
5. Shallow groundwaters in the vicinity of the discharge are saline and are not beneficially used.
6. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the proposed discharge.
7. 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. The discharge of geothermal fluids to any canals, drainage channels or drains which could provide flow to Salton Sea is prohibited.

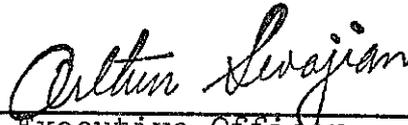
3. The total volume of geothermal fluids discharged to the ground shall not exceed a monthly average of 13,000 gallons-per-operating-day.
4. The total cumulative volume of geothermal fluids discharged to the ground shall not exceed 100 acre-feet for the life of the project.
5. The discharge of geothermal fluids other than into lined storage basins or onto the access roads and well pads described in Finding No. 2 (above), is prohibited.
6. The discharge to the ground of geothermal fluids having a Total Dissolved Solids concentration in excess of 3,000 mg/l is prohibited.
7. Surface runoff of geothermal fluids is prohibited.
8. Geothermal fluids shall not be allowed to pond, except in the storage basins.
9. All geothermal wastes shall be removed from the storage basins with cleanup of all contents upon abandonment of the basins. Lack of activity on the site for a period of six (6) months shall constitute abandonment for the purpose of this Order.
10. There shall be no seepage or overflow from temporary storage basins.
11. Adequate protective works and maintenance shall be provided to assure that storage basins will not become eroded or otherwise damaged during the project period, and/or until all geothermal materials are removed.
12. A minimum freeboard of at least two (2) feet shall be maintained in all storage basins.
13. Geothermal 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 Executive Officer.

B. Provisions

1. The discharger shall comply with "Monitoring and Reporting Program No. 76-35" and "General Provisions for Monitoring and Reporting", and future revisions, thereto, as specified by the Executive Officer.

2. Prior to the initial discharge of geothermal fluids to the ground, the discharger shall report to the Regional Board the Total Dissolved Solids content of the fluid to be discharged.

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 September 30, 1976.



Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM NO. 76-35
FOR

REPUBLIC GEOTHERMAL, INC.
East Mesa Area - Imperial County

Location: Sections 28, 29, and 30, T15S, R17E, 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. Volume discharged to storage basin	Gallons	Monthly
2. Volume discharged to ground	Gallons	Monthly
3. Volume injected to sub-surface strata from each storage basin	Gallons	Monthly
4. Volume contained in each storage basin	Gallons	Monthly
5. Total dissolved solids content of water in storage basin	mg/l	Weekly when discharging to ground, otherwise monthly
6. Total dissolved solids concentration of Groundwater contained in strata receiving waste fluid injection	mg/l	At least 10 days prior to commencement of injection
7. Location and depth of disposal wells		At least 10 days prior to commencement of injection
8. Immediate reporting of any accidental spillage or release of waste material, and also, plan for immediate measures being taken to correct same and limit detrimental effects.		

9. At least ten (10) days prior to destruction of any holding basins the discharger shall request a Regional Board staff inspection and approval of the cleanup procedure.
10. Report of completion of removal of all geothermal waste from storage basins and cleanup of premises - Reported within one week following completion of work.
11. Prior to the initial discharge of geothermal fluids to the ground, the discharger shall inform the Regional Board of the Total Dissolved Solids content of the fluid to be discharged.
12. Within 10 days after the initial discharge of geothermal fluid from a well, the discharger shall report said initial discharge to the Board.

REPORTING

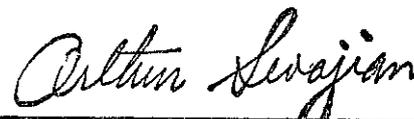
The above monitoring program shall be implemented immediately upon commencement of well discharge at each site.

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. Copies of the reports submitted to the Board pursuant to this Monitoring and Reporting Program shall be maintained at the operations site, and shall also be made available to staff of the Regional Board upon request.

Mail reports to:

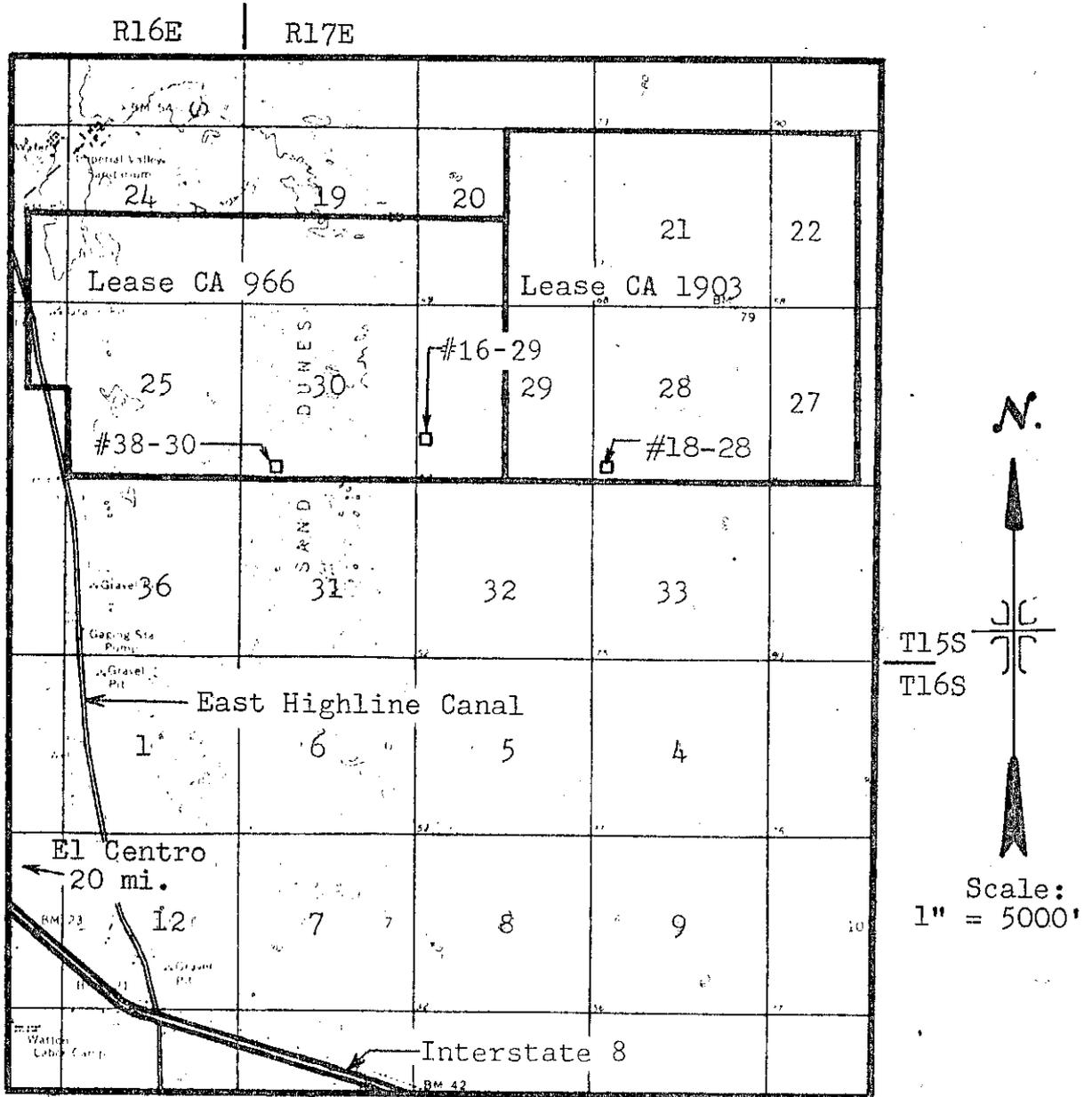
California Regional Water Quality Control Board
Colorado River Basin Region
73-271 Highway 111, Suite 21
Palm Desert, CA 92260

ORDERED BY


Executive Officer

September 30, 1976
Date

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD - 7



SITE MAP
FOR
REPUBLIC GEOTHERMAL, INC.
East Mesa Area - Imperial County

Location: Sections 28, 29, & 30, T15S, R17E, SBB&M
Glamis and Holtville 15' Topographic Maps

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