

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

ORDER NO. 87-10

WASTE DISCHARGE REQUIREMENTS
FOR
GEYSERS GEOTHERMAL COMPANY
TRUCKHAVEN WELLS
South of Salton City - Imperial County

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

1. Geysers Geothermal Company (hereinafter also referred to as the discharger), P.O. Box 11279, Santa Rosa, CA 95406, submitted an updated Report of Waste Discharge, dated November 11, 1986.
2. The discharger proposes to drill six (6) exploratory geothermal wells south of Salton City. The following are seven (7) possible drilling sites for the six (6) wells:

- No. 1 NE 1/4, NE 1/4, NE 1/4 of Section 7, T11S, R10E, SBB&M
- No. 2 NE 1/4, NE 1/4, NW 1/4 of Section 7, T11S, R10E, SBB&M
- No. 3 SE 1/4, SE 1/4, NE 1/4 of Section 7, T11S, R10E, SBB&M
- No. 4 SE 1/4, SE 1/4, NW 1/4 of Section 7, T11S, R10E, SBB&M
- No. 5 NW 1/4, NW 1/4, SW 1/4 of Section 7, T11S, R10E, SBB&M
- No. 6 SE 1/4, SE 1/4, SE 1/4 of Section 7, T11S, R10E, SBB&M
- No. 7 SW 1/4, SW 1/4, NW 1/4 of Section 5, T11S, R10E, SBB&M

3. A temporary containment basin, capable of containing the maximum expected discharge of drilling mud, cuttings, cleanout fluid, and geothermal test fluid, including a two (2) foot freeboard would be constructed at each well site.
4. The discharger proposes to discharge into each temporary containment basin, except for the basins at Wells No. 1 and No. 7, a maximum of 1,047,000 gallons of geothermal wastes. Final disposal would be by subsurface injection or after some evaporation, the residual fluid and solids would be discharged at a Class I or Class II waste management facility approved by the Regional Board to receive said wastes.
5. Discharge into the temporary containment basins at Well Sites No. 1 and No. 7 would be a maximum of 3,000,000 gallons of geothermal wastes into each basin. Final disposal of the basin contents would be by subsurface injection or after some evaporation, the residual fluid and solids would be discharged at

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a Class I or Class II waste disposal facility approved by the Regional Board to receive said wastes.

6. Geothermal brines in portions of Imperial County are known to contain certain constituents which are classified as hazardous by the Department of Health Services, Hazardous Materials Management Section.
7. The Water Quality Control Plan for the Colorado River Basin Region of California was adopted by the Regional Board on November 14, 1984.
8. The ground water of this area is not beneficially used and is brackish in quality with a total dissolved solids content of about 5,000 mg/l.
9. Imperial County Planning Department certified on September 23, 1981, Environmental Impact Report SCH 81050106 for these proposed wells. This report indicates that this project would not have any significant adverse effects on water quality.
10. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the proposed discharge.
11. These geothermal wells have been subject to waste discharge requirements adopted in Board Order No. 81-54.
12. The Board in a public meeting heard and considered all comments pertaining to the discharge.
13. Imperial County Planning Department has required that the discharger post a blanket bond in the sum of \$150,000 to "indemnify the County for any costs incurred by the County in repairing any drill, test or production facility site, to as near as possible to its original state, and in abating any public nuisance caused by the principal's exploratory, testing, or producing operations."

IT IS HEREBY ORDERED, Geysers Geothermal Company shall comply with the following:

A. Discharge Specifications

1. Neither the treatment nor the discharge of wastes shall create a pollution or a nuisance as defined in Division 7 of the California Water Code.
2. Geothermal cleanout fluid and geothermal test fluid shall be injected subsurface or discharged for temporary storage into either:
 - a. Earthen basins with a minimum six-inch compacted clay lining having a coefficient of permeability of 1×10^{-6} cm/sec or less. Clay lining shall be defined as: at least 30 percent of the material, by weight, passing a No. 200 U.S. Standard Sieve; or
 - b. Earthen basins lined with a synthetic liner of not less than 40 mil thickness; or

c. Metal or other type containers approved by the Executive Officer.

All such basins or containers shall be protected and maintained to ensure their effectiveness.

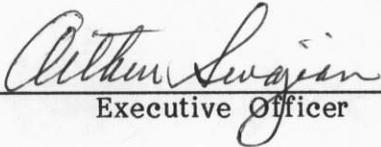
3. A minimum freeboard of at least two (2) feet shall be maintained at each temporary containment basin.
4. Fluid discharged by subsurface injection shall not be injected into any subsurface aquifer which has a TDS concentration of less than 10,000 mg/l, unless the TDS concentration of the injection water is less than or equal to that of the receiving water, and the discharger shall demonstrate to the satisfaction of the Regional Board that injection into said zone will not pose a threat to water quality.
5. Fluids discharged by subsurface injection shall be injected below the fracture pressures of the receiving aquifer and of the confining layer immediately above the receiving aquifer.
6. Noninjected geothermal waste with extractable water containing a TDS concentration exceeding 6,000 mg/l shall be discharged at a Class I or Class II waste management facility approved by the Regional Board to receive such waste.
7. Noninjected geothermal waste with extractable water containing a TDS concentration less than 6,000 mg/l, and not containing hazardous constituents as defined in Article 11, Title 22 of the California Administrative Code and future editions, shall be discharged at a waste management facility approved by the Regional Board to receive such waste.
8. Final disposal of residual wastes and cleanup of containment facilities shall be accomplished upon abandonment or closure of operations to the satisfaction of the Executive Officer. Lack of construction or operational activity on site for a period of one (1) year shall constitute abandonment for the purposes of this Order.

B. Provisions

1. The discharger shall comply with the "Monitoring and Reporting Program No. 87-10", and future revisions thereto, as specified by the Executive Officer.
2. Permanent (longer than one (1) year) disposal or storage of geothermal waste to on-site temporary containment basins is prohibited.
3. The discharger shall submit to the Board, at least 30 days prior to commencement of operation at each new well, a written report on the proposed method and estimated costs of cleanup and closure in accordance with the requirements of this Order.
4. At least ten (10) days prior to the discharge of any material into a temporary containment basin, the discharger shall submit to the Regional Board a report signed by a California Registered Civil Engineer, advising the Executive Officer that the temporary containment basin and attendant facilities are constructed to meet the requirements of this Order.

5. Prior to any change of ownership of these operations, the discharger shall transmit a copy of this Order to the succeeding owner/operator, and forward a copy of the transmittal letter to this Board.
6. This Order does not authorize violation of any federal, state, or local laws or regulations.
7. This Order supersedes Board Order No. 81-54.

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 January 21, 1987.



Executive Officer

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

MONITORING AND REPORTING PROGRAM NO. 87-10
FOR

GEYSERS GEOTHERMAL COMPANY
TRUCKHAVEN WELLS
South of Salton City - Imperial County

Location: Section 5 and Section 7, T11S, R10E, SBB&M

MONITORING

Geysers Geothermal Company shall report monitoring data to the Regional Board in accordance with the following schedule:

1. The discharger shall submit to the Board, at least 30 days prior to commencement of operation at each new well, a written report on the proposed method and estimated costs of cleanup and closure in accordance with the requirements of this Order.
2. At least ten (10) days prior to the discharge of any material into a temporary containment basin, the discharger shall submit to the Regional Board a report signed by a California Registered Civil Engineer advising the Executive Officer that the temporary containment basin and attendant facilities are constructed to meet the requirements of this Order.
3. The discharger shall submit the following information:

<u>Constituent</u>	<u>Unit</u>	<u>Reporting Frequency</u>
a. Volume of discharge contained in each temporary containment basin.	Gallons	Monthly
b. Volume of geothermal waste containing greater than 6,000 mg/l TDS concentration discharged at a Class I or Class II waste management facility, and name of facility.	Gallons	Monthly
c. Volume and TDS concentration of geothermal waste containing less than 6,000 mg/l TDS discharged at a waste management facility approved by the Regional Board, and name of facility.	Gallons and mg/l	Monthly
d. Total dissolved solids concentration of fluid waste injected into each injection well.	mg/l	Monthly

<u>Constituent</u>	<u>Unit</u>	<u>Reporting Frequency</u>
e. Total dissolved solids concentration of ground water contained in strata proposed to receive fluid waste injection.	mg/l	At least ten days prior to commencement of injection
4. Immediate reporting of any accidental spillage or release of waste material, and immediate measures being taken to correct same and to limit detrimental effects.		
5. Report of completion of removal of all geothermal waste from temporary storage basins within one (1) week following completion of work.		
6. At least ten (10) days prior to destruction of each temporary storage basin, the discharger shall request a Regional Board staff inspection and approval of the cleanup procedures.		

REPORTING

Except for Items 1 and 2, above, the above monitoring program shall be implemented immediately upon commencement of discharge at each site.

Monthly reports shall be submitted to the Regional Board by the 15th day of the following month. Reports for Item 5 (above) shall be forwarded immediately and shall be preceded by phone communication to the Regional Board's office, phone No. (619) 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:

Arthur Sevajian

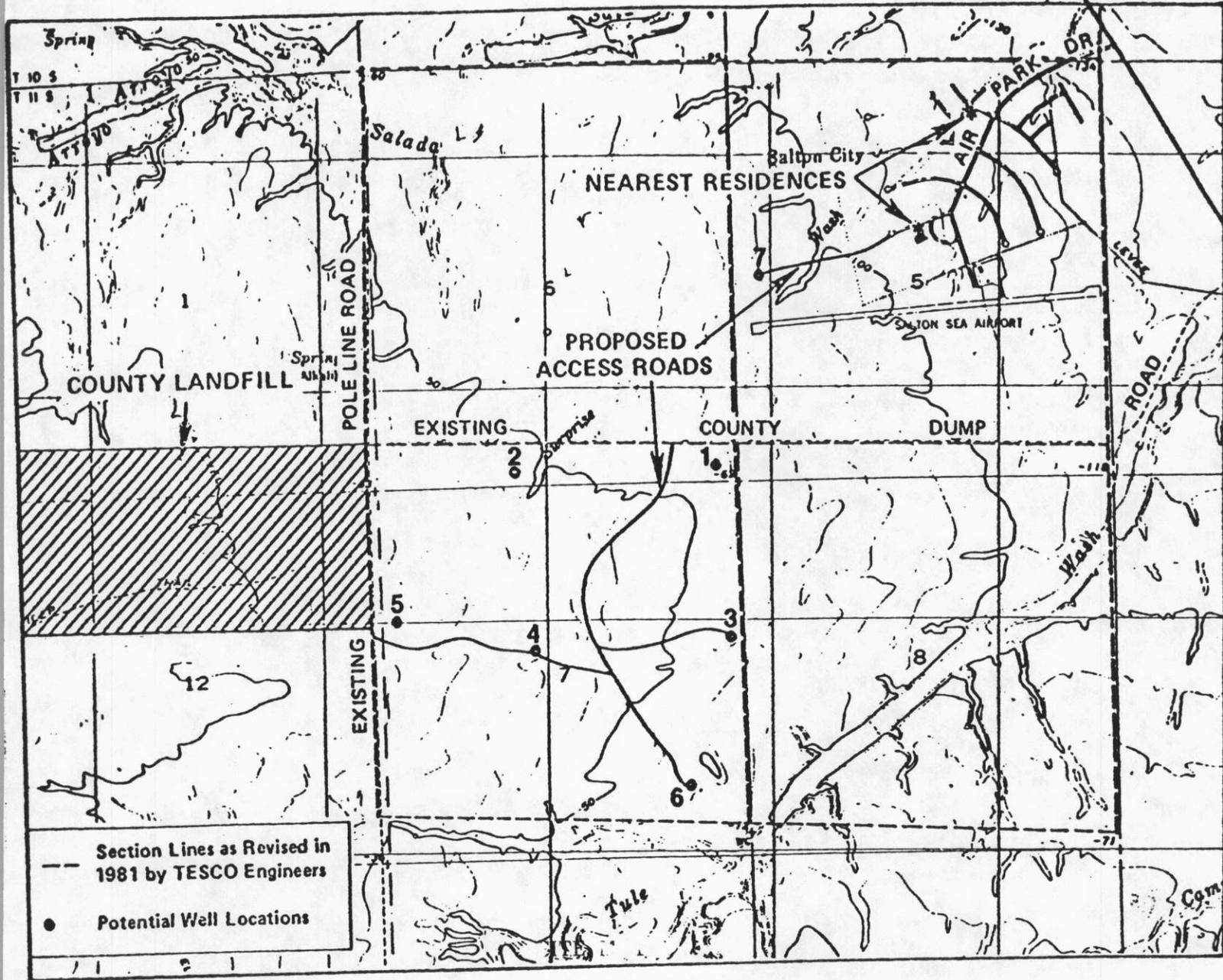
Executive Officer

January 21, 1987

Date

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD -7

Salton City 3 mi.



SITE MAP

GEYSERS GEOTHERMAL COMPANY
TRUCKHAVEN WELLS

South of Salton City - Imperial County
Sections 5 and 7 of T11S, R10E SBB&M
USGS Kane Spring NW 7.5 min. Topographic Map



Scale:
1"=2,200'

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