

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

ORDER NO. 89-043

WASTE DISCHARGE REQUIREMENTS

FOR

VULCAN POWER COMPANY

35 MEGAWATT (NET) GEOTHERMAL POWER PLANT

CONTAINMENT BASIN

Salton Sea Known Geothermal Resource Area (KGRA) - Imperial County

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

1. Magma Power Company transferred the operation of the facility to Vulcan Power Company (hereinafter referred to as the discharger) and the ownership to Vulcan/BN Geothermal Power Company on August 8, 1988.
2. Magma Power Company, 11770 Bernardo Plaza Court, Suite 366, San Diego, California 92128, submitted a Report of Waste Discharge on February 6, 1984.
3. Board Order No. 84-045 was adopted by the Regional Board on June 6, 1984 for the containment basin at the Power Plant. The purpose of this Order (Board Order No. 89-043) is to update the Waste Discharge Requirements for this containment basin.
4. The discharger has constructed a containment basin with a capacity of about 750,000 gallons. Said containment basin is used to temporarily retain geothermal brines and cooling tower blowdown during emergencies and during maintenance operations.
5. The holding basin is located at the power plant site in the S $\frac{1}{2}$, SE $\frac{1}{4}$, Section 33, T11S, R13E, SBB&M.
6. The Water Quality Control Plan for the Colorado River Basin Region of California was adopted by the Regional Board on November 14, 1984. This Order implements the applicable objectives stated in said Plan.
7. The beneficial uses of ground water to be protected are:
 - a. Ground Water
 1. Shallow ground waters at the discharge location are brackish and are not beneficially used.
 2. Deep ground waters are brine and are being investigated for geothermal development.
 - b. Surface Water: New and Alamo Rivers and Imperial Valley Irrigation Drains
 1. Freshwater replenishment for Salton Sea
 2. Freshwater habitat for fish and wildlife
 3. Recreation - nonwater contact
8. Imperial County Planning Department adopted in July 1984 an "Addendum to Environmental Impact Report - SCH #79072515" which contains mitigation measures for this 35 megawatt (net) geothermal power plant.

*Replaced
by
89-083*

This report indicates that this project would not have a significant adverse effect on water quality.

9. The Board has notified the discharger and interested agencies and persons of its intent to update waste discharge requirements for this discharge.
10. The Board in a public meeting heard and considered all comments pertaining to the existing discharge.

IT IS HEREBY ORDERED, the discharger shall comply with the following:

A. Discharge Specifications

1. Neither the treatment nor the discharge of wastewater shall create pollution or nuisance as defined in Division 7 of the California Water Code.
2. Geothermal fluids and other wastes shall not enter any canals, natural or man-made drainage channels, or drains (including subsurface drainage systems) except as allowed under an appropriate National Pollutant Discharge Elimination System (NPDES) Permit.
3. Storage of fluids described in Finding 3, above, other than into a containment basin having a liner permeability of 1×10^{-8} cm/sec, or less, is prohibited, and the fluids contained therein shall not penetrate through the lining during the containment period.
4. Materials discharged to and/or stored in the containment basin shall not overflow said basin.
5. The containment basin shall be designed, constructed, operated and maintained to prevent inundation, or washout due to floods with a 100-year return period.
6. A minimum depth of freeboard of at least two (2) feet shall be maintained in the containment basin at all times. Said basin shall be protected and maintained to ensure its effectiveness.
7. Prior to the disposal of any materials contained in the containment basin, the discharger shall inform the Executive Officer concerning the nature and volume of the materials and the proposed location of disposal. Said materials shall only be disposed of at a location approved by the Regional Board.
8. Final disposal of residual wastes shall be accomplished to the satisfaction of the Executive Officer upon abandonment or closure of operations. Lack of construction or operational activity on the site for a period of one (1) year shall constitute abandonment for the purposes of this Order.

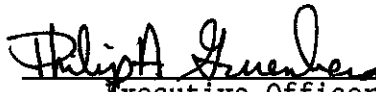
B. Provisions

1. The discharger shall comply with "Monitoring and Reporting Program No. 89-043", and future revisions thereto, as specified by the Executive Officer.
2. The discharger shall submit to the Regional Board a proposal to monitor the uppermost aquifer beneath the containment basin during the project life of the basin. Said proposal shall be submitted within 60 days of the adoption of this Order, and shall be implemented after receiving the approval of the Executive Officer.

3. The discharger shall submit to the Regional Board within 30 days of adoption of this Board Order No. 89-043 written adequate assurance that money is committed in the amount of \$50,000.00 to insure that the containment basin is cleaned up and closed in accordance with the requirements of this Order.
4. Fluids from the containment basin which are discharged by subsurface injection shall not be injected into any subsurface aquifer which has a Total Dissolved Solids (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, or as an alternative, the discharger demonstrates to the satisfaction of the Executive Officer that injection into said zone will not pose a threat to water quality.
5. In the event of any change in operation, or in control or ownership of land or waste disposal facilities owned or controlled by the discharger, the discharger shall:
 - a. Notify this Board of such change; and
 - b. Transmit a copy of this Order to the succeeding owner or operator, and file a copy of the transmittal letter with this Board.
6. This Order does not authorize violation of any federal, state, or local laws or regulations.

IT IS FURTHER ORDERED THAT: Board Order No. 84-45 be superseded by this Order.

I, Phil Gruenberg, 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 28, 1989.



Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM NO. 89-043
FOR

VULCAN POWER COMPANY
35 MEGAWATT (NET) GEOTHERMAL POWER PLANT
CONTAINMENT BASIN

Salton Sea Known Geothermal Resource Area (KGRA) - Imperial County

Location of Discharge: S $\frac{1}{2}$, SE $\frac{1}{4}$, Section 33, T11S, R13E, SBB&M

MONITORING

Vulcan Power Company (discharger) shall report monitoring data to the Regional Board in accordance with the following schedule:

1. At least 30 days prior to discharge to a newly constructed containment basin, submit a technical report on the construction of said basin, and a certificate signed by a California Registered Civil Engineer, or Certified Engineering Geologist, stating that the basin and attendant facilities are constructed to meet the requirements contained in Board Order No. 89-043.
2. At least 30 days prior to discharge to the containment basin, submit a written report on the proposed method and estimated costs of cleanup and closure in accordance with the requirements of Board Order No. 89-043.
3. Information in compliance with the approved ground water monitoring proposal (see Provision No. 2, above) shall include the following analyses:

<u>Constituent</u>	<u>Unit</u>	<u>Sampling Frequency</u>
Total Dissolved Solids	mg/l	Monthly
Suspended Solids	mg/l	Monthly
Lithium	mg/l	Quarterly
Strontium	mg/l	Quarterly
Zinc	mg/l	Quarterly

4. Submit monthly reports on the volume of fluid contained in the containment basin and the Total Dissolved Solids (TDS) concentration of said fluid.
5. Submit monthly reports on the volume and TDS concentration of fluid from the basin which is injected into an injection well, the name and location of the well(s), and the depth of fluid injection of said well(s).
6. Immediately report on any accidental spillage or release of waste material, noting corrective steps taken both to clean up the spillage and to deter possible future spillage.

REPORTING

Monthly monitoring reports shall be submitted to the Regional Board by the 15th day of the following month. Quarterly monitoring reports shall be submitted to the Regional Board by January 15, April 15, July 15, and October 15 of each year. Reports for Item No. 6 (above) shall be forwarded immediately and shall be preceded by phone communication to the Regional Board's office, telephone number (619) 346-7491. Copies of the report submitted to the Board pursuant to this Monitoring and Reporting Program shall be maintained at the operations site, and shall be made available to staff of the Regional Board upon request.

Submit monitoring reports to:

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

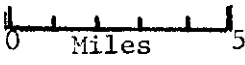
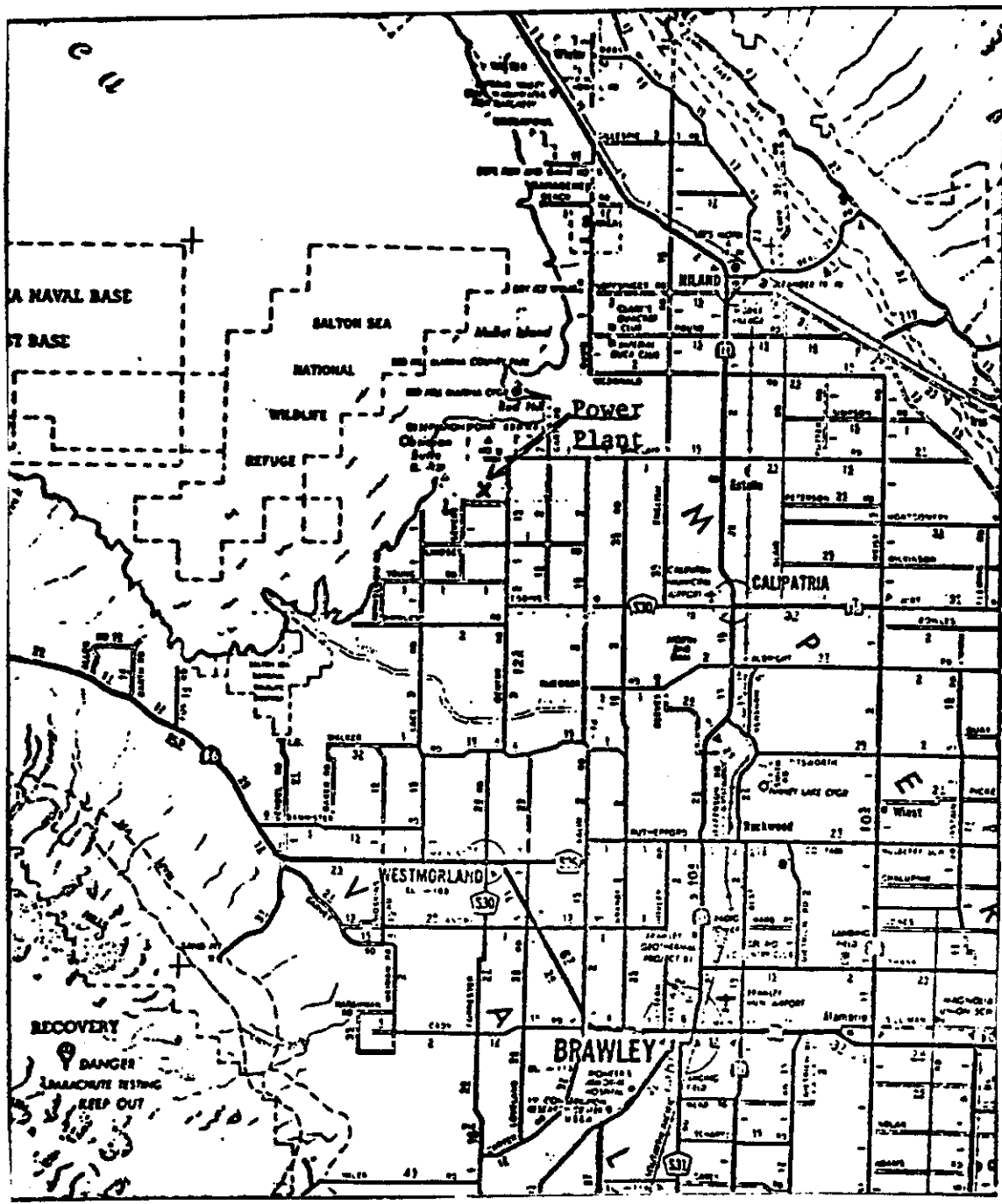
ORDERED BY:

Philip A. Gnanberg
Executive Officer

June 28, 1989

Date

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD - 7



SITE MAP
 VULCAN POWER COMPANY
 35 MEGAWATT (NET) GEOTHERMAL POWER PLANT
 CONTAINMENT BASIN
 Salton Sea Known Geothermal Resource Area (KGRA) - Imperial County
 S½, SE¼, Section 33, T11S, R13E, SBB&M
 Imperial County