CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

ORDER NO. 77-37

WASTE DISCHARGE REQUIREMENTS
FOR
CHEVRON RESOURCES COMPANY
Brawley Area - Imperial County

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

1. Chevron Resources Company (hereinafter also referred to as the discharger), P. O. Box 3722, San Francisco, CA 94119, submitted a Report of Waste Discharge dated March 23, 1977.

2. The discharger proposes to drill five exploratory geothermal wells in the Brawley area. The wells will be located as follows:

Geothermal Wells	Location
Rutherford No. 1	700'E and 900'N from SW corner Section 8, T13S, R14E, SBB&M
Rutherford Location A	2000'W and 500'N from SE corner Section 18, T13S, R14E, SBB&M
Rutherford Location B	2000'W and 1800'S from NE corner Section 19, T13S, R14E, SBB&M
Rutherford Location C	2000'W and 600'N from SE corner Section 19, T13S, R14E, SBB&M
Rutherford Location D	1300'E and 900'N from SW corner Section 10, T13S, R14E, SBB&M

Each well site will disturb about 2 acres of surface.

Rescinded 9/17/86 by 86-06

3. The discharger proposes to discharge from each well a maximum volume of 63,000 gallons of drilling muds and cleanout water into a clay lined impervious storage basin located about 50 feet from each well. Water will be allowed to evaporate from each basin and the residual solids will be either discharged at the site or trucked to a disposal site approved by the Regional Board.

The drilling fluid components which may be used are:

Bentonite clay	Bicarbonate of soda
Sepiolite	Drilling detergent (diethanolamide)
Lignite	Soda ash
Caustic soda (NaOH)	Cotton seed hulls
Cypan (Sodium Polyacrylate)	Wood fiber

4. The discharger plans to construct each storage basin approximately 125 feet long by 40 feet wide by 6 feet deep.

5. The discharger reports that water for drilling the wells would be obtained from nearby irrigation canals.

6. The discharger proposes to test each well for geothermal potential in two phases. The first phase involves a drill stem test during drilling in which a maximum of 8,400 gallons of formation fluid would be discharged into steel storage tanks. After drilling is completed, the second phase of flow testing each well would discharge a maximum of 168,000 gallons into a storage basin. The fluids from both would be either reinjected or discharged at a disposal site approved by the Regional Board. Reinjection would occur at a depth of 6,000 to 7,500 feet.

7. The discharger is hereby informed that there are no solid waste disposal sites in the Colorado River Basin Region at this time that have been approved by the Regional Board to receive geothermal salt wastes.

8. The discharger estimates that approximately 6 - 11 persons will be working at the well sites at any one time. Portable sanitary facilities will be provided at the sites.

9. The Water Quality Control Plan for the West Colorado River Basin was adopted on April 10, 1975. This Order implements the objectives in said Plan.

10. Beneficial uses to be protected by this Order are as follows:

    a. Groundwater

        1. Shallow groundwaters at the discharge location are saline and are not beneficially used.

    b. Imperial Valley Drains

        1. Transport of dissolved solids to the Salton Sea for agricultural soil salinity control
        2. Limited public fishing sctivity
        3. Freshwater habitat for fish and wildlife
        4. Freshwater replenishment for the Salton Sea

    c. Salton Sea

        1. Water contact recreation
        2. Non-contact recreation
        3. Water and vegetative habitat for the maintenance of wildlife

11. The Imperial County Planning Department has prepared a final Environmental Impact Report, No. 153-77, dated March 17, 1977. This report indicates that this project will not have any significant effects on the environment.

12. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the proposed discharge.

13. The Board in a public meeting heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, Chevron Resources Company shall comply with the following:

A. Discharge Specifications

1. Neither the treatment nor the discharge of wastes shall cause a pollution or a nuisance.

2. Geothermal fluids and other wastes shall not enter the Salton Sea or any canals, drainage channels, or drains (including subsurface drainage systems or aquifers) which could provide flow or seepage to the Salton Sea.

3. Residual solids, with extractable water containing a total dissolved solids concentration exceeding 6,000 mg/l, shall be discharged at a disposal site approved by the Regional Board to receive said waste. Residual solids, with extractable water containing a total dissolved solids concentration which is less than 6,000 mg/l shall be either disposed of at the site or disposed of at a Class II disposal site approved by the Regional Board to receive said wastes.

4. The surface discharge of geothermal fluids is prohibited into any container that could cause flow or seepage to irrigation drains.

5. Prior to discharging geothermal fluids into each storage basin, each clay liner shall be maintained in a damp condition to prevent desication cracks from developing.

6. 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.

7. A minimum freeboard of at least two (2) feet shall be maintained in storage basins.

8. Storage basins shall not be located within 50 linear feet of any irrigation drainage ditch.

9. Fluids discharged by subsurface injection at this location shall not be discharged into any subsurface zone which has a total dissolved solids concentration of less than 10,000 mg/l, unless the quality of the injection water is comparable to that of the receiving water.

10. Final disposal of residual wastes, in accordance with Specification No. 3 and 9 above, shall be accomplished upon abandonment of operations. Lack of construction or operational activity on the site for a period of one year shall constitute abandonment for the purposes of this Order.

B. Provisions

1. The discharger shall comply with "Monitoring and Reporting Program No. 77-37",and "General Provisions for Monitoring and Reporting", and future revisions, thereto, as specified by the Executive Officer.

2. Prior to the discharge of any geothermal materials into a storage basin, the discharger shall submit to the Regional Board, a technical report showing the construction of said basin, and 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. This Order is for the discharge of only drilling muds, cleanout water, and geothermal flow testing fluids from the exploratory wells specified in Finding No. 2 (above).

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 May 18, 1977.

Arthur Swajian

Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM NO. 77-37
FOR
CHEVRON RESOURCES COMPANY
Brawley Area - Imperial County

Location: Sections 8, 10, 18, and 19, T13S, R14E, SBB&M

MONITORING

Chevron Resources Company shall report monitoring data to the Regional Board in accordance with the following schedule:

Constituent	Unit	Sampling Frequency
1. Volume discharged to each storage basin	Gallons	Monthly
2. Volume injected to subsurface strata from each storage basin	Gallons	Monthly
3. Volume contained in each storage basin	Gallons	Monthly
4. Total dissolved solids content of waste fluid in each storage basin	mg/l	Monthly
5. Total dissolved solids concentration of groundwater contained in strata receiving waste fluid injection	mg/l	At least 10 days prior to commencement of injection
6. Location and depth of strata for injection disposal		At least 10 days prior to commencement of injection
7. Calibrated electrical conductivity of flow from tile drain system underlying the area of each well and holding basin.	Micromhos/cm	Daily*, Monday through Friday

* Tile drain monitoring shall commence one (1) week prior to the initial discharge of geothermal fluids into the holding basin, and shall continue until wastes are removed from the basin.

8. Within 10 days after the initial discharge of geothermal fluids 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. Estimate of total amount (tons) of drilling muds hauled to a Class II solid waste disposal site - upon completion of operations - reported in final monitoring report.

11. Report of completion of removal of all geothermal waste from each storage basin and cleanup of the premises - reported within one (1) week following completion of work.

12. At least ten (10) days prior to destruction of a storage basin, the discharger shall request a Regional Board staff inspection and approval of the cleanup procedure.

REPORTING

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

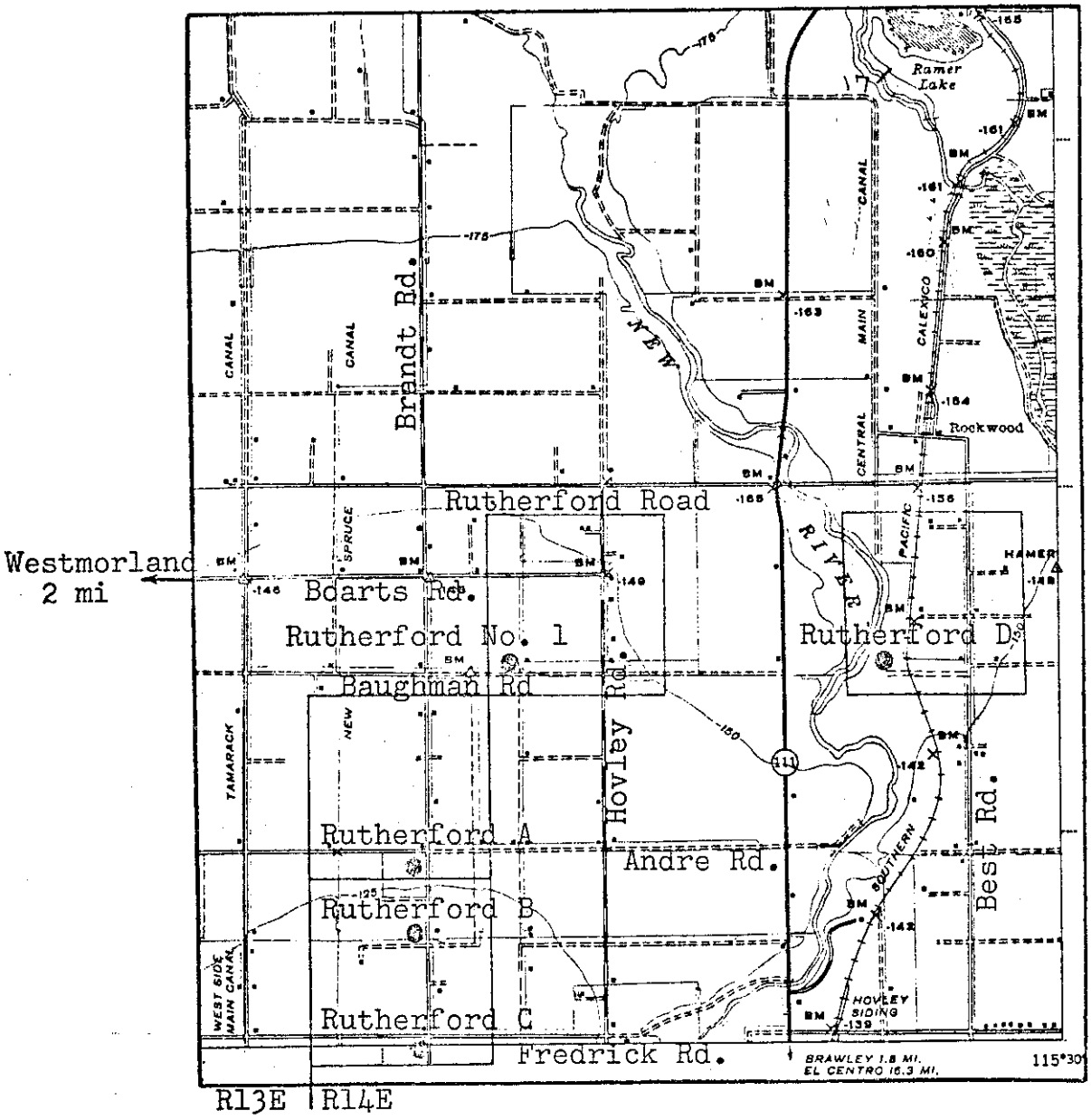
Monthly reports shall be submitted to the Regional Board by the 15th day of the following month. Reports for Item 9 (above) shall be forwarded immediately, and if at all possible shall be preceded by phone communication to the Regional Board's office. Phone No. (714) 346-7491. Copies of the reports submitted 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 Arthur Kevajian
Executive Officer

May 18, 1977
Date



SITE MAP
CHEVRON RESOURCES COMPANY
Brawley Area - Imperial County
Sections 8, 10, 18 and 19, T13S, R14E, SBB&M
Calipatria 15 min. Topographic Map

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