



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
Conservation Division, MS-92  
345 Middlefield Road  
Menlo Park, CA 94025



## Memorandum

To: Interested Parties

From: Acting Deputy Conservation Manager, Geothermal

Subject: Plan of Operation, Union Oil Company, Federal Lease CA-6219,  
East Mesa KGRA, Imperial County, California  
Ref: 2403-01a (POO for EA/CER #188-82)

Union Oil Company has submitted a Plan of Operation in accordance with 30 CFR 270.34 to construct a well drilling site and access road and to drill and test exploratory wells. A copy of the Plan is available from the Office of the Deputy Conservation Manager for Geothermal, or from the office of the Reno District Geothermal Supervisor.

You are invited to participate in a field inspection to be led by Mr. Bernard Moroz, Reno District Geothermal Supervisor, USGS on Wednesday, October 21, 1981. Participants are asked to meet at the El Centro BLM office located at 333 South Waterman Avenue, El Centro at 9:00 a.m. The field inspection will also include the site inspection for the Ultrasystems Ethanol Refinery to which Union will supply the geothermal resource.

After an environmental review of the project, either an Environmental Assessment or a Categorical Exclusion Review (EA/CER #188-82) will be prepared by the Office of the Deputy Conservation Manager for Geothermal for the proposed project.

We urge you to send your written comments and will appreciate hearing from you even if you are of the opinion that the existing regulations, lease stipulations, and operational orders provide adequate environmental protection.

All comments concerning the proposed actions should be received no later than November 13, 1981 by:

Deputy Conservation Manager, Geothermal  
U.S. Geological Survey - Conservation Division  
345 Middlefield Road, MS-92  
Menlo Park, CA 94025

Tel: (415) 323-8111, ext. 2848 (FTS 467-2848)

All comments will be given serious consideration in the preparation of the environmental document and any subsequent conditions of approval.

The Office of the Deputy Conservation Manager for Geothermal will distribute copies of the environmental document to the surface managing agency, the lessee, the Geothermal Advisory Panel (GEAP), and the U.S. Fish and Wildlife Service. Other interested parties may receive a copy of the EA or CER upon request. Copies will also be available for inspection during normal business hours at the Office of the Deputy Conservation Manager for Geothermal, the Reno District Geothermal Supervisor's office, Reno, Nevada and the Bureau of Land Management, El Centro Office.



William F. Isherwood

Enclosures

RECEIVED

SEP 28 1981

OFFICE OF DCM, GEOTHERMAL  
CONSERVATION DIVISION  
U.S. GEOLOGICAL SURVEY  
MENLO PARK, CALIFORNIA

PLAN OF OPERATION  
EXPLORATION/DRILLING

East Mesa KGRA,  
Imperial County, California

Lease Number CA-6219  
Section 8, T16S-R17E, SBB&M

UNION OIL COMPANY OF CALIFORNIA  
Geothermal Division  
2099 Range Avenue  
Santa Rosa, California 95406,  
(707) 542-9543

This plan proposes the construction of a well drilling site and access road, and the drilling and testing of exploratory wells in the above leases. The intended use for the geothermal resource is as process heat for an ethanol refinery, proposed by Ultrasystems Inc. In the event the resource is proven, subsequent plans of operation will be submitted by Ultrasystems.

Estimated Starting Date: March 1982

Estimated Completion Date: Unknown

September 23, 1981





U.S. DEPARTMENT OF ENERGY  
**memorandum**

DATE: October 5, 1981

REPLY TO: CE-324  
ATTN OF:

SUBJECT: Weekly Report for the Week Ending October 2, 1981, Geothermal and  
Hydropower Technologies Division

TO: Acting Director  
Office of Renewable Technology

1. Items Requiring Secretarial Guidance

None to report

2. Actions Completed During Current Week

- A. Geopressure Program: The Nevada Operations Office has informally advised us that operation of the four design wells will require 10-12 million dollars in FY 1982. This is much higher than anticipated and will require some hard decisions in the near future. (Clifton Carwile, 633-9362)
- B. Injection Monitoring Contract: The DOE Operations Office at Idaho Falls has contracted with EG&G to perform development of injection monitoring of geothermal disposal systems. A subcontract has been written for the University of Idaho to perform a literature review of injection experience and to write case histories of injection monitoring systems outside the geothermal industry. A literature review of methods for measuring dispersion coefficients in both lab and the field has been initiated. (David Allen, 633-8112)
- C. Downhole Probes: An autoclave test of the G.E. and Owens-Illinois pH electrodes to determine their response at 200°C was successfully carried out. The G.E. electrode had an excellent pH response while the Owens-Illinois electrode had essentially no pH response. These data will permit the prediction and control of corrosion, scaling, and pollution in both newly explored and established geothermal fields as well as in associated power generating equipment. (David Allen, 633-8112)
- D. Sperry Gravity Head Binary Plant: Sperry continues to seek venture capital to complete demonstration of their 5 MWE advanced binary plant. Southern California Edison has agreed to purchase power and provide transmission capability but no direct funding. Two investment houses, Kidder-Peabody and Winthrop Capital, Inc., are considering participation. If DOE is able to continue the program (in which we have already invested \$12M) through the high-risk pump test phase, at an additional cost of \$1.5M, the probability of private sector completion of the program is high. (Clifton McFarland, 633-8106)



- E. Downhole Brine Pumps Development Progress: Reda, the pump division of TRW, has agreed to a change of order for what was originally a 680 hp electric submersible pump for Raft River to a 300 hp unit suitable for testing at the Magma East Mesa Binary plant. The pump will be set at 1,500 feet in the 9 5/8 inch casing at 360°F and will produce 650 gpm at a head of 500 psi. Magma will set, pull and operate the pump at no cost to DOE.

Kobe Pump, Bartlesville, Oklahoma, continues development of a high temperature electric submersible pump using the portable DOE pump test fixture. Following motor failure at 350°F, Kobe is fabricating a new unit employing a high temperature varnish for motor winding insulation.

Barber-Nichols Engineering, who built the DOE portable pump test fixture used by Kobe (and previously by Reda and Centrilift) has received a contract from SAN to proceed with the large horsepower in-ground test facility at East Mesa. The facility is necessary to develop the 500-1000 hp pumps which cannot be tested in the portable fixture (100 hp limit). Our experience has shown that although experience gained in testing small units is valuable, extrapolation to a full size unit is not straightforward. (Clifton McFarland, 633-8106)

- F. Drilling Technology Industry Panel Meeting: SANDIA convened a meeting of its review panel in Austin on September 24-25. The panel is composed of senior representatives from bit manufacturers and developers with extensive field experience, who participate at no cost because of the reputation and success of the SANDIA program. The panel was highly laudatory of inert gas drilling research and Stratapax bit development. (Clifton McFarland, 633-8106)
- G. Reservoir Stimulation Baca Fracture Treatment: Union continues to experience difficulty in cementing in a liner to isolate the fracture zone in Baca well No. 20. At temperatures over 500°F, this will be by far the hottest frac job attempted in the program. This test is now scheduled for October 5, 1981. (Clifton McFarland, 633-8106)
- H. Susanville District Heating Dedication: On September 19 dedication ceremonies were held for the Susanville, California, geothermal district heating system. California State Senator Ray Johnson turned the switch which started the well pump supplying 14 public buildings with heat.

The City is now negotiating with four private businesses who have expressed an interest in hooking into the pipeline. The firms have agreed to pay retrofit costs for their buildings as well as costs for piping to the main supply line. It is anticipated that other businesses along the route will be interested in tying into the system in the next few months. (James Bresee, 633-8909)

I. Magma 10 MW Binary Plant (East Mesa): The propane unit at the plant was started last week and is now running in conjunction with the isobutane turbine. Together they are producing approximately 6 MW which is being purchased by the Imperial Irrigation District.  
(James Bresee, 633-8909)

3. Actions Anticipated During the Coming Week

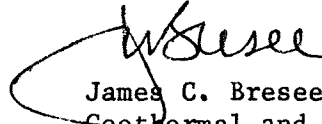
None to report.

4. Listing of Events Planned and Scheduled for the Next Six Weeks

None to report.

5. Status of Current Assignments from the Secretary

None to report



James C. Bresee, Acting Director  
Geothermal and Hydropower  
Technologies Division  
Conservation and Renewable Energy