

# **OIL CONSERVATION COMMISSION**

**STATE OF NEW MEXICO**  
**P. O. BOX 2088 - SANTA FE**  
**87501**

**I. R. TRUJILLO**  
CHAIRMAN  
**LAND COMMISSIONER**  
**ALEX J. ARMIJO**  
MEMBER  
**STATE GEOLOGIST**  
**A. L. PORTER, JR.**  
SECRETARY - DIRECTOR

## **MEMORANDUM**

**TO: JIM BACA, GOVERNOR'S OFFICE**

**FROM: DAN NUTTER, CHIEF ENGINEER**

The New Mexico Oil Conservation Commission has docketed a case to be heard June 11, 1974, at Morgan Hall, State Land Office Building, Santa Fe, to consider the adoption of rules and regulations governing the drilling for and production of geothermal resources in the state.

The Commission was given jurisdiction over these resources by the 1973 Legislature, due to the similarity of drilling operations for steam wells and oil and gas wells.

The Commission staff has prepared proposed rules which have been circulated to all known interested parties, and were also discussed at a recent San Francisco meeting of the Geothermal Resources Council, a national organization of geothermal producing companies and state geothermal regulatory agencies.

Although most geothermal activity in this nation has thus far been confined to the west coast, New Mexico is regarded as having a very substantial potential in this field.

Notice of this hearing was published in accordance with law in several state newspapers in May, 1974.

June 7, 1974

dr/

RECEIVED

JUN 25 1974

OIL CONSERVATION COMMISSION

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PMS NEW MEXICO OIL CONSERVATION COMMISSION, FONE , DLR

STATELAND OFFICE BUILDING

SANTA FE NM

GENTLEMEN THE WESTERN OIL AND GAS ASSOCIATION REPRESENTING MAJOR  
GEOTHERMAL PRODUCERS AND EXPLORERS OPERATING IN THE WESTERN  
STATES RESPECTFULLY REQUEST THAT YOUR COMMISSION SERIOUSLY CONSIDER  
DELETING RULE NUMBER 5 SINCE IT DOES NOT REFLECT EXISTING AND  
APPLICABLE STATUTES OF THE STATE OF NEW MEXICO. WE WOULD GREATLY  
APPRECIATE HAVING OUR SUGGESTION PLACED ON THE HEARING RECORD  
REGARDING PROPOSED RULE AND REGULATION FOR GEOTHERMAL RESOURCES.  
WE REGRET OUR INABILITY TO ATTEND YOUR RECENT HEARING BUT APPRECIATE  
YOUR KEEPING THE RECORD OPEN FOR OUR COMMENT.

HENRY W WRIGHT SEC GEOTHERMAL RESOURCES COMMITTEE

1436 EDTM

IPMFEKA SANA

J. O. SETH (1883-1963)

MONTGOMERY, FEDERICI, ANDREWS, HANNAHS & BUELL

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June 25, 1974

New Mexico Oil Conservation Commission  
State Land Office Building  
Santa Fe, New Mexico 87501

Attention: Mr. William F. Carr

Gentlemen:

At the hearing on the proposed Rules and Regulations for Geothermal Resources held June 11, 1974, the record was left open for additional comments. On behalf of the Union Oil Company of California we are submitting comments for inclusion within the record.

In the definition section, on page A3, the word "well" is defined. Basically, the definition includes certain wells "drilled below fresh water". A geothermal well, whether it be exploratory, development or injection, could well be drilled into fresh water and not below it. We submit that perhaps the language should be changed to read "drilled for geothermal purposes" and delete the language "below fresh water."

Rule 5, appearing at page B2, was the subject of considerable discussion at the hearings. Union Oil Company of California submits that clarifying language could be used in place of Rule 5 to clearly delineate the jurisdiction of both the Oil Conservation Commission and the State Engineer's Office. We submit the following proposed substitute for Rule 5:

The Commission recognizes that the appropriation of water for geothermal development and production is subject to the laws of the State of New Mexico governing water rights.

Rule 5 as it is presently written, or as proposed to be amended by the State Engineer, appears to grant to the State Engineer, by regulation, some of the jurisdiction

placed in the Commission by the Legislature. Section 65-3-11.2 NMSA 1953 clearly vested the Commission with the authority and duty to regulate drilling, development and production of geothermal resources. It seems apparent that had the Legislature desired the State Engineer to regulate geothermal activities that it would have spoken clearly on the subject. The Legislature decided to place geothermal regulation with the Commission and the Commission should not now by rule assign a portion of that duty to another state agency. The legislative mandate seems quite clear in this regard.

Rule 103, at page C2 provides for a sign to be placed on the wells designating the well location by quarter-quarter section. There are many areas in this state that are unsurveyed and some alternative should be available. We request that the rule be amended to permit well locations to be designated by either a latitude-longitude designation or by using an approved coordinate system such as is available from the United States Geological Survey.

Rule 200(B) appearing at page D1 provides that records are to be kept by an owner or operator with his statutory agent in New Mexico. We feel that the use of the language "designated agent" would be more appropriate since many corporations have only the Secretary of State or a corporate service agency as statutory agents.

Rule 303, page E2 permits additional extensions or time during which a well can be carried in a temporarily abandoned status. However, the situation as presently provided by the rule arises only during the construction of power plants or as the power plant is being designed, on order or under construction. The need to have an extended period of time in which a well may be carried as temporarily abandoned also exists during the development phase for a geothermal reservoir. We submit that at the end of the last paragraph in this rule that the period be deleted and the following language added:

. . . or in the case of an ongoing exploration program of a geothermal reservoir to determine its commercial feasibility.

By the use of this additional language we think an owner-operator would be protected while conducting a good faith diligent exploration and development program. We do not

New Mexico Oil Conservation Commission

June 25, 1974

Page 3

wish to provide protection for an owner-operator who is merely sitting on a single well with no plans of additional development. Of course, any person wishing to extend the status of the well would have to demonstrate their good faith to the Commission.

Union Oil Company of California would like to extend their appreciation to the Commission and its staff for being allowed to participate in the hearings and give their views. The Rules and Regulations represent a comprehensive regulatory scheme that should adequately protect the State of New Mexico, its citizens and its resources.

Respectfully submitted,

SGB: sbw

A handwritten signature in cursive script, appearing to read "Sam Jones", is written in dark ink.

# Gulf Mineral Resources Co.

## GEOTHERMAL EXPLORATION

Robert W. Maxwell  
MANAGER

Gulf Building  
1780 So. Bellaire St.  
Denver, Colo. 80222

June 26, 1974

New Mexico Oil Conservation Commission  
Geothermal Division  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Re: Rules and Regulations for  
Geothermal Resources (Proposed)

Gentlemen:

Thank you for providing us with the opportunity to submit comments to you on your Proposed Rules and Regulations for Geothermal Resources. Gulf's comments are as follows:

### Definitions

It is suggested that the definition of "Geothermal Observation Well" be modified by deleting the word "shallow" therefrom. In addition, an observation well should be able to be used for the purpose of obtaining geophysical and geological information. Therefore, the definition should be expanded to permit the well to be used for such purposes.

The definition of "Well" should either be deleted or the words "below fresh water" removed therefrom. As you know, it is entirely possible that fresh water may be found at great depths below the surface of the earth. It is submitted that it may be unrealistic for your Rules and Regulations to restrict geothermal wells to those that are below fresh water. It is also respectfully submitted that the different types of wells are adequately defined elsewhere in the definitions and that a separate definition of the term "Well" is not necessary.



Rule 5

Consideration should be given by the Commission to the deletion of Rule 5 in its entirety. While it may be appropriate for the Commission to provide that water from nongeothermal reservoir sources is subject to the New Mexico laws dealing with water rights and permits for the appropriation of water, is it correct to provide that geothermal reservoirs are subject to such laws? Gulf believes that geothermal resources should not be subject to the water laws of New Mexico, because the laws and cases on water rights were not written or decided with the intent that they would deal with geothermal resources. Any attempt to saddle geothermal exploration, development and production with the water laws of the State will only result in retarding or possibly prohibiting the development of the geothermal industry in New Mexico.

It is Gulf's opinion that one of the Commission's highest priorities should be the resolution of the question of whether State water law applies to geothermal resources. If it does, then we believe that the Commission should take such steps as are necessary to have geothermal resources treated separate and apart from such water laws.

Rule 117

Gulf suggests that the definition of the term "Watercourse" be changed so as to provide that a watercourse is an actual body of water, be it a lake, river, stream or canal. It is believed that immediate notification should not be required if the spill, break or leak occurs on dry ground. Gulf would have no objection to notifying the Commission within a reasonable time after such an event has occurred.

Rule 303

It is requested that the extension of the permit for temporary abandonment be increased from one year to five years, or in the alternative that a ground be added to the last paragraph of the Rule so as to allow a waiver and the granting of additional extensions if an owner is in good faith attempting to enter into a contract for the construction of power plants, or is conducting geothermal exploration to determine the field's potential and feasibility for further drilling operations. As you know, the geothermal industry is in its infancy and delays are likely to occur which in the oil and gas business may be unreasonable. Therefore, any flexibility that the State of New Mexico can give an owner will provide more incentive. Gulf believes that these types of incentives will be in the best interest of all parties.

New Mexico Oil Conservation Commission  
June 26, 1974  
Page Three

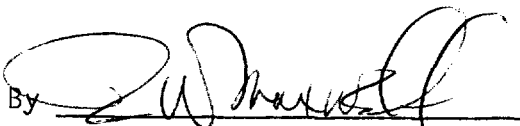
Rule 402

Gulf believes that the "ratable take" concept is unrealistic when applied to geothermal resources. Oil and gas wells may lend themselves to such a concept, because usually the oil and gas produced therefrom can be readily sold. On the other hand, a number of geothermal wells are required in order to obtain a market for the geothermal resources. The market would, in most instances, be a power plant capable of producing electricity, and it would be manifestly unfair for an owner who has developed sufficient geothermal resources to justify a power plant to have to shut-in wells capable of production, or not drill at all, because the resources of another owner, which may be insufficient by themselves, must be purchased under the "ratable take" concept. We suggest that Rule 402 be deleted.

In Gulf's opinion the Proposed Rules and Regulations are well drafted, and with the exception of the comments set forth above, Gulf believes that their adoption will further geothermal development in New Mexico.

Very truly yours,

GULF MINERAL RESOURCES CO.

By   
Robert W. Maxwell, Manager  
Geothermal Exploration

RWM:JGZ:jaf





**Chevron Oil Company**  
**Western Division**

1700 Broadway, P.O. Box 599, Denver, CO 80201

June 28, 1974



Proposed Rules and Regulations  
For Geothermal Resources  
New Mexico Oil Conservation  
Commission, Geothermal Division

New Mexico Oil Conservation Commission  
State Land Office Building  
Santa Fe, New Mexico 87501

Attention Mr. William F. Carr

Gentlemen:

Thank you for allowing us the opportunity to review the proposed Rules and Regulations for Geothermal Resources which were considered at the Hearing in Santa Fe on June 11, and the further privilege of submitting our comments thereon.

We respectfully request that the following comments and suggestions be included in the Hearing Record:

Definitions, Page A-1

A. It appears that the definition "Geothermal Observation Well" includes temperature gradient wells which are drilled to a depth of less than 500' and can be likened to a seismic hole. We submit that is unreasonable both from a time and cost standpoint:

- (1) To require a permit to drill a temperature gradient well (Rule 201);
- (2) To require the survey of the location of such a well as would be necessary to complete a Form G-102 (Rule 202);
- (3) To require filing of a plugging and abandonment report (Rule 203B);
- (4) To require the filing of a bond (Rule 101); and
- (5) To require the filing of any reports with respect to such wells.

We, therefore, recommend the definition be amended to read: "GEO THERMAL OBSERVATION WELL shall mean a shallow well drilled to a depth of 500' or

*less* ~~more~~ solely for - - - - -."

*(talked to Mr. Cornier 8/6/74)*

Further, it is recommended that the following be added to the definition of WELL: "A hole drilled to a depth of less than 500' for the purpose of determining temperature gradient shall not be considered a well."

- B. We recognize that the definition of geothermal resources in the proposed rules follows the statutes; nevertheless, we would like to point out that such definition restricts by-products to those carried by naturally heated fluids. This precludes by-product recovery by injection and should be amended. An example would be the creation of steam by injecting water into a hot-rocks formation.

Rule 103, Page C-2

Said rule provides, in part, for a sign to be placed on each well designating the well location by quarter-quarter section, township and range. We know of several areas in New Mexico that are unsurveyed; therefore, we request that the said rule be amended to provide alternate methods of designating the well location in the event the well location is in an unsurveyed area.

Rule 104B (1), Page C-3

We suggest that there be no acreage restriction on the size lease or drilling parcel upon which an exploratory well can be drilled; that the only restriction be that the well be located at least 330' from the boundary of a legal subdivision or a projected legal subdivision (unsurveyed land or protracted survey) and 660' from another well. It is our experience within many potential geothermal areas the tracts are small and irregular. There should be no reason for creating unnecessary drilling parcels for an exploratory well. This can come in the event of a discovery and subsequent development. If an acreage restriction is to be retained, we strongly recommend that it be 10 acres rather than 40 acres.

Rule 107(a), Page C-5

The present language appears to include all types of water likely to be encountered in drilling for geothermal resources. We recommend this be limited to zones of fresh-salt water interface only.

Rule 108B (4), Page C-7

With reference to the second paragraph of this rule, it has been our experience that in lower temperature areas, binary heat exchange methods of production will have to be used. In such cases the normal procedure is to lap the production string into the surface casing so a large diameter pump can be used in the surface casing. We recommend deletion of this part of the rule.

Rule 200B, Page D-1

The second sentence of the first paragraph is not complete. Perhaps the following will clarify the intent:

- (1) Delete the comma after "encountered" in the 6th line and insert "shall be recorded," and
- (2) Delete the period after "surveys" in the 8th (last) line and add "shall be kept on file."

Also, in this connection with this rule, we assume that "geothermal resources well" does not include a geothermal observation well since observation wells are drilled during the prospecting stage and the operator is not likely to have an office or agent in the state on a permanent or semipermanent basis. To clarify this point, we suggest the following be added after "well" in the first line: "but not a geothermal observation well."

We concur with Mr. Reynolds' suggestion made at the Hearing and recommend that in the last paragraph, second line, that the word "statutory" be deleted and the word "designated" be substituted therefor.

Further, how long must an owner or operator have a local office or "designated" agent in the state? If his operations in the state are discontinued either on a temporary or permanent basis, he should be able to move the records to his headquarters in another state. In such event, he should be obligated to furnish copies of the data upon reasonable demand by the Commission.

Rule 201, Page D-1

This rule requires a separate permit for each "temperature observation well." For the sake of consistency, we believe this should be changed to "geothermal observation well."

Rule 205A, Page D-6

This rule requires the submission of copies of "electric logs, deviation and directional surveys, physical or chemical logs, water analyses, tests, including potential tests and temperature surveys." We believe the use of the word potential will result in problems. How will it be determined and by whom? We believe the matter would be clarified by striking that portion of the second sentence beginning with the word "including" and substituting therefor the words "and any other tests or temperature surveys that may be conducted."

Rule 206, Page D-7

To be consistent with Rules 205 and 207, we recommend that the report required by this rule be made subject to Rule 303-B also, since said report also includes proprietary data.

Rule 303B, Pages E-1 and E-2

We concur with Union's suggestion made at the Hearing and strongly recommend the addition of their suggested language at the end of the last paragraph of said rule: "or in the case of an ongoing exploration program of a geothermal reservoir to determine its commercial feasibility." The need to have an extended period of time in which a well may be carried as temporarily abandoned certainly exists and perhaps more so during the exploration phase in attempting to define a geothermal reservoir. Such need becomes especially important when considering remote areas where it will be more difficult to interest a power company in building a power facility. For example, within the time-frame presently allowed (1-1/2 years without notice and hearing), an operator may be able to prove up resources sufficient for only a 55-megawatt facility, and assuming that the reservoir is located in a remote mountainous area, may be unable to interest a utility company in building a plant for that amount; whereas, if the operator had more time and could prove up resources sufficient for 110 or more megawatts, he would stand a much better chance of getting a Utility Company to build a plant or plants. We further believe the addition of the suggested language would encourage development inasmuch as it would afford an owner (and/or operator) a means of protecting proprietary data so long as he can demonstrate that he is conducting a diligent exploration and development program in good faith. Under the prescribed periodic review system, the Commission will have ample opportunity to determine if an owner (and/or operator) is acting in good faith.

Rule 503(4) and (5), Pages G-1 and G-2

The information required by these rules is interpretive. We do not believe an operator should be required to furnish this information; that each interested party should make his own interpretation of information available to him.

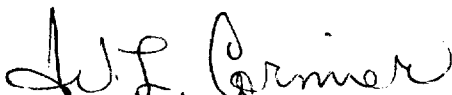
In summation, may we again strongly emphasize the importance and necessity for making a distinction between temperature gradient holes less than 500' (which, based on our experience, is a very vital tool in any preliminary exploration program) and temperature observation wells deeper than 500'. We feel the failure to recognize this distinction and make provision therefor, will be seriously detrimental and impede exploration for geothermal resources in the State of New Mexico.

As a whole, we feel that the rules are well written and appreciate the effort that has been made to be fair to both the State of New Mexico and the industry.

Again, we would like to express our appreciation to the Commission for the courtesy extended in allowing us to submit our comments.

Respectfully submitted,

CHEVRON OIL COMPANY

By   
W. L. Cormier, Landman



# OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO  
P. O. BOX 2088 - SANTA FE  
87501

October 1, 1974

I. R. TRUJILLO  
CHAIRMAN  
LAND COMMISSIONER  
ALEX J. ARMIJO  
MEMBER  
STATE GEOLOGIST  
A. L. PORTER, JR.  
SECRETARY - DIRECTOR

Re: CASE NO. 5255  
ORDER NO. R-4860  
Applicant:  
OCC

Mr. Sumner G. Buell  
Montgomery, Federici, Andrews, Hannahs  
& Buell  
Attorneys at Law  
Post Office Box 2307  
Santa Fe, New Mexico

Dear Sir:

Enclosed herewith are two copies of the above-referenced  
Commission order recently entered in the subject case.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC	<u>x</u>
Artesia OCC	<u>x</u>
Aztec OCC	<u>x</u>

Other Mr. Steve Reynolds, Mr. W. L. Cormier, Chevron, Denver,  
Gulf Oil Corporation, Denver, Colorado

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Attn: Mr. Vane Suter

Shell Oil Company  
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Attn: R. L. Freeman

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