

NOTICE CONCERNING COPYRIGHT RESTRICTIONS

This document may contain copyrighted materials. These materials have been made available for use in research, teaching, and private study, but may not be used for any commercial purpose. Users may not otherwise copy, reproduce, retransmit, distribute, publish, commercially exploit or otherwise transfer any material.

The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted material.

Under certain conditions specified in the law, libraries and archives are authorized to furnish a photocopy or other reproduction. One of these specific conditions is that the photocopy or reproduction is not to be "used for any purpose other than private study, scholarship, or research." If a user makes a request for, or later uses, a photocopy or reproduction for purposes in excess of "fair use," that user may be liable for copyright infringement.

This institution reserves the right to refuse to accept a copying order if, in its judgment, fulfillment of the order would involve violation of copyright law.

THE LEGALITIES OF GEOTHERMAL ENERGY DEVELOPMENT

Anthony J. Bohner

Boise City Energy Task Force Attorney

Definition and Characteristics: In order to understand fully the legal development of geothermal resources within the law, it is necessary to understand the technical and regulatory definitions which have been given this resource within the geothermal industry itself. The question then, "What is a geothermal resource?", has been answered in a variety of ways. In 1973, Donald E. White defined it as "resources derived from the distribution of temperatures and thermal energy beneath the earth's surface". Dr. Carl F. Austin borrows the definition of Combs and Muffler and gives this practical definition of the term:

"Broadly considered, geothermal resources are the natural heat of the Earth's crust. This natural energy is economically significant, however, only where it is concentrated into restricted volumes in a manner analogous to the concentration of valuable metals into ore deposits or of oil into commercial petroleum reservoirs".

The geothermal resource itself may be contained in a number of different types of substances. Dr. Austin states: "The key factor is heat". It may be in the form of hot water, hot dry rock, hot carbon dioxide, hot dry air, or any hot geological material. The United States itself is presently the world's largest producer of electrical power from geothermal resources.

This first place position in the world market stems from the production of electrical energy in the Northern California geyser fields where enough electrical energy is produced by geothermal resources to supply electricity to a city with a population of half a million. Besides the production of electrical power, geothermal resources have a large possible field of use by providing space heating needs where the resources are located close to population centers and are capable of being harnessed and put to a beneficial use at an economically feasible rate.

Geothermal resources take on the characteristics of an attractive alternate source of energy, since the resource is not dependent upon any types of fossil fuels. It also has a long-term capacity of use including potential for renewal.

Another important characteristic and aspect in the use of geothermal resources involves environmental appeal. Geothermal energy is especially appealing when reviewed in light of the environmental consequences of the production of coal, for example, and the use of coal as an energy source.

This does not mean that geothermal resources are free of all environmental problems. There are still questions and problem areas in thermal pollution to air and water, noise pollution, resource conservation and effect on underground and surface water systems.

Legislation: In 1970, the Federal Government implemented the Geothermal Steam Act of 1970. The act itself is designed and provides for private exploration of geothermal resources situated on Federally owned land or land in which the Federal Government had protected mineral rights. The development of the geothermal resources is done both via the means of competitive and non-competitive leases, depending upon whether or not the Federal Government has classified a certain area as "known geothermal resource".

The Geothermal Steam Act of 1970 becomes increasingly significant when one realizes that approximately 60% of the nation's geothermal resources underline Federal lands. Since the Act itself became law and the leasing program operational, more than 1,435,000 acres of Federal lands have been under lease by private individuals for geothermal potential.

Although the number of acres presently under lease is significant, it also may be misleading. Presently the Federal government is experiencing a vast amount of difficulty with its leasing program, from a logistical and environmental point of view. Presently there remains a backlog of approximately 1,800 non-competitive lease applications which are awaiting action with only a little over 700 applications on a non-competitive basis actually being issued. It should also be noted that there are not many competitive lease applications that have been issued. The main problem in this area stems from the legal interpretation of a "geothermal resource". This problem will be discussed later in detail.

A closer review of the Act itself reveals that Congress did not want any part in attempting to define precisely the term "geothermal resource". The precise language of the Geothermal Act is interesting and states the following:

"Geothermal resources in lands the surface of which has passed from Federal ownership but in which the minerals have been reserved to the United States shall not be developed or produced except under geothermal leases made pursuant to this Act. If the Secretary of the Interior finds that such development is imminent, or that production from a well heretofore drilled on such lands is imminent, he shall so report to the Attorney General, and the Attorney General is authorized and directed to institute an appropriate proceeding in the United States District Court of the district in which such lands are located, to quiet the title of the United States in such resources, and if the Court determines that the reservation of minerals to the United States in the lands involved included the geothermal resources, to enjoin their production otherwise than under the terms of this Act: Provided, that upon an authoritative judicial determination that Federal mineral reservation does not include geothermal steam and associated geothermal resources the duties of the Secretary of the Interior to report and of the Attorney General to institute proceedings, as hereinbefore set forth, shall cease." (Emphasis added.)

In 1974 an extension of the Geothermal Steam Act was passed, called the Geothermal Energy Research Development and Demonstration Act. This established a geothermal loan guarantee program whereby the private sector was given financial incentives to procure geothermal federal leases. This loan guarantee program basically attempts to minimize the financial risk to lending institutions who are lending to borrowers involved in geothermal leases.

The Legislation presents two basic methods of leasing geothermal lands, both of which have been referred to earlier, "competitive" and "non-competitive" leases. The United States Geological Survey has been delegated the responsibility and authority to make surveys of all federally controlled lands and determine which lands contain commercially feasible geothermal resources. Once these areas are established by the Geological Survey, then the United States categorizes them as "known geothermal resource areas or KGRAs". Federal lands within a KGRA will be nominated for lease by the Bureau of Land Management (BLM) or a third party.

Once a KGRA is established, all private individuals or entities desiring to lease these lands will be required to enter a competitive bid for purposes of acquiring a lease. Notice of this lease sale will be published weekly for at least four consecutive weeks prior to the date of

the sale. The Notice will describe the lands to be sold, the terms and conditions of the sale, the time and place of sale, and the manner in which bids may be submitted. All bidders must submit with their sealed bids a certified or cashier's check, bank draft, money order or cash in the amount of one-half of the bid. The right to reject any bids is reserved by regulations. Once a successful bidder is determined, he will be sent three copies of the lease. Within thirty days thereafter he must pay the first year's rental and the balance of the bonus bid, if any, and he must file the required bond, submit a proposed plan of operation setting forth those matters detailed in the regulations. These direct proceedings in making application in a KGRA are quite detailed and specific.

If an area is not determined to be a known geothermal resource area and thereby classified as a KGRA, a person may make application for a non-competitive lease. The application would be submitted to that federal agency which has control of those particular lands in which the person is seeking a lease, which would more than likely be either the Bureau of Land Management or the United States Forest Service. The application for the non-competitive lease must contain a "plan of exploration" which is submitted to the agency detailing the procedures the developer will go through to exploit the geothermal resource. If the results of the exploration are affirmative, and there is a commercially feasible amount of geothermal resource available which can be harnessed economically, then a final plan of operation would be submitted by the developer.

In analyzing state regulation of geothermal resources it is very evident that most state statutes are patterned after either a state's existing oil and gas regulations or a state's existing water laws. Of the state laws enacted in reference to geothermal activity, the State of Idaho has one of the most "progressive" statutes. The State of Idaho enacted a State Geothermal Resources Act in 1972. In it, Idaho pronounced that it was not considering geothermal resources as either a mineral or a water, but as a "sui generis", which is defined as follows:

"'Geothermal resource' means the natural heat energy of the earth, the energy, in whatever form, which may be found in any position and at any depth below the surface of the earth present in, resulting from, or created by, or which may be extracted from such natural heat, and all minerals in solution or other products obtained from the material medium of any geothermal resource. Geothermal resources are found and hereby declared to be sui generis, being neither a mineral resource nor a water resource, but they are also found and hereby declared to be closely related to and possibly affecting and affected by water and mineral resources in many instances."

What the State of Idaho is attempting to do with its unique definition of geothermal resource as a "sui generis" is to get away from the legal argument of whether a geothermal resource is a "mineral" or a "water". It is very evident that the determination of whether it would be classified as a mineral or water is of the utmost concern, since the classification of a mineral or a water would drastically alter who has the right to exploit the resource. If it was determined to be a mineral, then that person or entity holding the mineral rights would have the right to exploit this resource. If, on the other hand, the resource was classified as "water", then the person or entity holding the water rights would have the right for exploration.

An analysis of the Idaho law reveals one particular gap which could present a problem to a geothermal developer. This problem may also be found in all states which have adopted the prior appropriation method to determine water rights. The problem stems from the very probable interference that would occur between a known geothermal field and prior perfected water rights for irrigation or domestic use.

To illustrate this potential problem, assume the case of a farmer who is presently irrigating a section of land from deep water wells, and has perfected a water right under the laws of the State of Idaho to this well water. Along comes Mr. Geothermal Developer, and two miles away, over the hill from Mr. Farmer, drills a deep geothermal well for the purposes of extracting a geothermal resource. Under the Idaho law, since his well is for geothermal exploration, Mr. Geothermal Developer does not have to file for a water permit or license. He therefore does not receive any perfected water right, and, of course, he does not have a right to obtain a water permit, since he is not drilling for water but for a "sui generis".

Assume, now, that Mr. Farmer has an interference problem from the geothermal well, can he shut down the geothermal developer? Mr. Farmer would argue that he has a perfected water right which is being interfered with by the water discharge from the geothermal user. The geothermal user would argue that the water user has no right to shut down the use of his well, since he is not interfering with the water right, but is merely exploiting an energy resource from his lands.

The Idaho Department of Water Administration readily admits, in conference, that this is a potential problem that is not answered by the Act. The answer probably will have to be determined in the Court, and someone must lose.

Case Law: The development of Court decisions in the geothermal areas is still in its infancy. The only real significant case to be handed down thus far, at the appellate level, was on January 31, 1977. This was a Ninth Circuit Court of Appeals decision, reversing the

United States District Court for the Northern District of California and entitled United States v. Union Oil Company of California.

In Union Oil, the Attorney General for the United States, in accordance with the mandate of the Geothermal Steam Act, brought an action against the Union Oil Company of California to determine whether or not the United States had ownership rights to the Geothermal Steam and associated geothermal resources which were being produced by Union Oil Company under leases from landowners who received surface title only under the Federal Stock-Raising Homestead Act.

The United States based its claim to the geothermal resources on the provision in the transfers to the landowners of the surface rights under the Stock-Raising Homestead Act, wherein there was a reservation of "coal and other minerals" to the United States when the patents were issued.

The question upon which Union Oil centered was whether or not the geothermal resources were included in the definition of a mineral and therefore part of the mineral reservation which the United States kept. The District Court, upon hearing the case, made the decision that the "geothermal resources were not included within the meaning of a "mineral" and, therefore the United States did not have any right to the geothermal resources under the lands conveyed under the Stock-Raising Homestead Act. In making its decision, the District Court seemed to place a great deal of emphasis on the fact that the geothermal resources took the form of water or steam, and that interdepartmental memos from the Department of Interior seemed to classify, in the opinion of "experts within the Department of Interior", the concept that water and geothermal resources were not included within the definition of mineral.

Upon reversing the District Court the Court of Appeals held that "geothermal resources" did come under and within the intended meaning contained in the Deeds transferring the surface rights. This reservation is as follows:

"Excepting and reserving, however, to the United States all coal and other minerals in the lands so entered and patented, together with the right to prospect for, mine, and remove the same pursuant to the provisions and limitations of the Stock-Raising Homestead Act."

The Ninth Circuit Court of Appeals spent a considerable amount of time during its decision in tracing the historical development of the lands and interpreting the intent of Congress when it reserved unto the United States the reservation of minerals. The Court placed heavy emphasis on the legislative history and Congressional debates. The judges felt that the primary intent of Congress was to reverse unto the United States any and all forms of energies or fuels.

Therefore, since in 1916, the full potential of "geothermal resources" had not been developed or known, clearly from the discussions in Congress, it was the intent of the United States to reserve any and all fuel sources and not to allow them to pass to the fee owners under the Stock-Raising Homestead Act.

The Court disposed of the issue as to whether or not geothermal resources were water by concluding that what was meant by the term "water" was water in the form that was used and available either for domestic or agricultural purposes, and that since "geothermal resources" were not water used for agriculture or domestic purposes, it was not the intent of Congress to allow the purchasers of the surface rights control of "geothermal resources" under the guise of water.

Speculation as to what effect the Union Oil Decision will have upon the classification of "geothermal resources" is risky; but based upon the Ninth Circuit Court of Appeals decision the following conclusions can be made:

a. The case is appealed to the United States Supreme Court, whose decision as to what a geothermal resource is could be anyone's guess. If the Supreme Court does not grant review, the opinion of the Ninth Circuit Court of Appeals would become final, and, in reality, the United States Supreme Court would be affirming the Ninth Circuit decision.

b. Under the facts of Union Oil, it must be remembered that the interpretation of the word "mineral" and the word "water" was done and based upon the fact that the geothermal resource in question was in the form of a hot steam geyser and not in the form of water. Therefore, the effect of the Union Oil decision upon the determination of whether or not the geothermal resource is water or a mineral is definitely limited to the factual situation in which the resource is in the form of steam. The majority of known geothermal resources, especially in the states of Colorado, Idaho, Utah and Washington are in the form of hot water, and this form of geothermal resource can be distinguished quite easily from the form discussed in Union Oil.

c. Another conclusion which could be drawn is that water, defined as an agricultural or domestic use is not the same as the substance water used to carry an energy source such as "geothermal". In the latter, the classification of water is lost, and it becomes a mineral.

In conclusion, with reference to Union Oil, it would seem that the Court still has not answered the question as to whether or not all "geothermal resources" can be classified as minerals. It will take a series of cases, analy-

zing the specific forms of geothermal energy until we have a complete set of definitions telling us what this creature really is in the eyes of the law.

CONCLUSION: As our country begins to realize the importance of alternate sources of energy, the potential power of geothermal resources continues to gather momentum. The courts and the legislatures must seek ways and make determinations which will allow the effective harness and use of this resource.

It would seem that the Federal Government, under Union Oil, is content to believe that all "geothermal resources" are hereafter to be classified and embraced within the meaning of "coal and other minerals".

On the other hand, we cannot forget that geothermal resources often appear in the form of water, and, in one way or another, most of the western states recognize the prior Appropriation Doctrine of Water Rights. Water rights have been the subject of a great many decisions, and literally millions of hours of judicial reasoning and research have been done to define and clarify rights within the area.

My fear is that during this time when alternate sources of energy are needed desperately, our judicial system will become entangled in a legal, technical battle as to whether or not the resource is to be defined within the concepts of water law or that of mineral law. While the battle continues, the use of the resource will be lost. It is important to eliminate, as much as possible, this legal battlefield that confronts the geothermal resource. What is needed is a united front, a "sui generis", and a plan of harnessing the use of this energy source efficiently, giving respect to all vested rights, whether they are mineral or water.

REFERENCES

1. Carl F. Austin, "Technical Overview of Geothermal Resources," as published and presented at the Rocky Mountain Mineral Law Foundation Institute for Geothermal Resources, January 26, 1977.
2. Gerald J. Kitchen, "Geothermal Leasing Practice," as published and presented at the Rocky Mountain Mineral Law Foundation Institute for Geothermal Resources, January 26, 1977.
3. Idaho Code Annotated Section, 42-4002 (c).
4. "Institutional Barriers to Geothermal Energy Development, A Report By The Institutional Barriers Panel Of The Geothermal Advisory Council," June 30, 1976.
5. The Geothermal Steam Act of 1970, 84 USC 1566 ET SEQ.
6. Donald E. White, "Characteristics of Geothermal" edited by Paul Kruger & Carel Otte, Stanford, California, Stanford University Press, 1973