

McCLURE OIL COMPANY

IBLA 70-530

Decided January 13, 1972

Appeal from decision (ES 4082(A) Michigan) by Assistant Manager, Eastern States land office, Bureau of Land Management, holding annual lease rental increased.

Affirmed.

Oil and Gas Leases: Known Geological Structure -- Words and Phrases

"Known geologic structure." The term "known geologic structure of a producing oil or gas field," as used in 43 CFR § 3125.1(b) (1970), now 43 CFR 3103.3-2(b) (1971) has been defined as the trap, whether structural or stratigraphic, in which an accumulation of oil and gas has taken place, and in which there has been production. It includes all acreage that is presumptively productive.

Oil and Gas Leases: Known Geological Structure

The fact that there has been a cessation of production or abandonment of wells in a given field is not of itself sufficient to warrant a redefinition of the known geological structure or the revocation of the classification of the field in the absence of a proper showing that the area does not in fact contain valuable deposits of oil or gas.

Oil and Gas Leases: Known Geological Structure

The determination of the boundary lines of the known geologic structure of a producing oil or gas field or of an undefined addition to such field does not guarantee the productiveness of the area so designated.

Oil and Gas Leases: Known Geological Structure -- Oil and Gas Leases: Rentals

In the absence of a clear and definite showing that it was improperly made, the Geological Survey's definition of a known

geological structure of a producing oil or gas field will not be disturbed. Increase in the rental rate of an oil and gas lease, based upon such definition, is sustained.

OPINION BY MR. FISHMAN

McClure Oil Company has appealed to the Secretary of the Interior from a decision dated March 4, 1970, of the Assistant Manager, Eastern States land office, Bureau of Land Management, requiring an increased rental under noncompetitive oil and gas lease ES 4082(A). Beginning with the commencement of the lease year on April 1, 1971, the rental was increased to a rate of \$2.00 per acre because of the finding of the Geological Survey that the leased land is within the undefined known geologic structure of the South Boardman Field, a producing gas field.

The land concerned, the S 1/2 NW 1/4 sec. 7, T. 26 N., R. 8. W., is located in Kalkaska County, Michigan, and was leased under the Mineral Leasing Act for Acquired Lands, 30 U.S.C., §§ 351-359 (1970), with rentals fixed in accordance with 43 CFR 3125.1 (1970), now 43 CFR 3103.3-2 (1971). The land office decision was based upon a memorandum of the Geological Survey, dated February 25, 1970, which recited as follows:

Based on a gas discovery in NE/4SE/4 sec. 12, T. 26 N., R. 9 W., the following described lands are within the undefined known geologic structure of the South Boardman field effective October 15, 1969:

T. 26 N., R. 8 W., Michigan Meridian, Michigan, sec. 7, W/2.

T. 26 N., R. 9 W., sec. 12, E/2.

Leases ES-3948 and 4082 are affected by this determination.

These lands are not considered to be valuable for geothermal resource development.

The appellant in its appeal asserts as follows:

1. The decision resulted from a report of the United States Geological Survey following the discovery of the McClure Oil Company

State-Union #1, located in the NE/4 SW/4 sec. 12, T. 26 N., R. 9 W., Grand Traverse County, Michigan, completed as a gas well on September 14, 1969.

2. On October 27, 1969, the Michigan Department of Natural Resources issued "Spacing Order for Wells Drilled for Natural Dry Gas in the South Boardman Salina-Niagaran Formation Pool in Grand Traverse and Kalkaska Counties, Michigan." This order requires 640-acre spacing in the development of the South Boardman Field.

3. On February 20, 1970, Shell Oil Company and appellant drilled and plugged as a dry hole the USA-State Boardman 1-7, located in the NE/4 NW 1/4 sec. 7, T. 26 N., R. 8 W., Michigan. This test was drilled in compliance with the spacing order, and drilled off pattern to avoid the South Boardman River. In view of this spacing order, there will be no further testing of the subject acreage.

4. The Salina-Niagaran Formation was topped at a subsea of -5651 feet in the State-Union #1, but said formation was topped at a subsea of -5809 feet in the USA-State Boardman #1-7. This difference in formation tops in a relatively small lateral area demonstrates the nature of the Salina-Niagaran reefing present in the Michigan Basin, indicating the build-up in this area of steep pinnacle reefs.

5. There is not sufficient evidence in view of the USA-State Boardman #1-7 test to establish that subject acreage lies within a known geologic structure. And appellant further contends that in view of the spacing order, no further testing of the subject acreage will be possible in the normal course of business.

In response to the request of the Bureau of Land Management, dated April 29, 1970, for comments on the appeal, the Geological Survey stated in pertinent part:

A review of all information available on the South Boardman field reveals the following:

1. Two dry holes and one gas well have been completed in the field.
2. The discovery well for this field does not conform to the State Spacing Order, being located in C NE/4 SE/4, sec. 12, 660 feet from the east line of the established drilling unit. This well is about 933 feet southwest of the subject lease.

3. The dry hole #1-7 is 330 feet north of the subject lease on lease ES 4082.

4. Correlation of the electric logs for the three wells in this field indicates a reef build-up at the top of the Niagara Formation in the discovery well. However, the producing interval is near the base of this build-up and the top of the producing zone is only 15 feet higher than the Niagaran top in the dry hole #1-7 and 29 feet higher than in dry hole #1-14.

5. Gas production at the South Boardman field is indicated to be dependent upon the development of porosity and permeability in the producing formation.

In areas where oil and gas production is dependent upon the stratigraphic factors of porosity and permeability rather than structural control, the reservoirs tend to have an irregular distribution and dry-hole completions in search of these porous-permeable zones are not uncommon within known productive areas. Therefore, the drilling of the dry hole #1-7, NE/4 NW/4, sec. 7, does not condemn all of section 7.

The spacing order authorizes the drilling of wells at any one of four specified locations within each section. Since the initial test well in section 7 was a dry hole, we see no prohibition to the drilling of another well at any one of the untested specified locations.

Inasmuch as the appellant has not submitted sufficient justification for changing the boundary of the known geologic structure, the subject lease is deemed to be properly classified as being within the known geologic structure of the South Boardman gas field.

The appeal involves basically two propositions: (1) there is insufficient evidence to establish that the land lies within a known geologic structure of a producing oil or gas field, and (2) in view of the spacing order, further testing of land will not be possible in the normal course of business.

The term "known geologic structure of a producing oil or gas field," as used in 43 CFR § 3125.1(b) (1970), now 43 CFR § 3103.3-2(b) has been defined as a trap, whether structural or stratigraphic, in which an accumulation of oil and gas has taken place and includes all acreage that is presently productive. Columbian Carbon Company, A-28706 (October 10, 1962). <sup>1/</sup>

The Secretary's statutory authority is "to fix and determine the boundary lines of any structure, or oil or gas field" for the purposes of the Mineral Leasing Act, 30 U.S.C. § 189 (1970). Accordingly, the determinations of the Geological Survey are always made in terms of the extent of the geological structure of a field on which there is production. Such determinations do not guarantee the productive quality of the land included in a structure; they do no more than to announce that on the basis of geological evidence, the Department has found that a certain geological structure constitutes a trap in which oil or gas, or both, have accumulated. The thing known is the existence of a continuous entrapping structure on some part of which there is production. There is no prediction as to future productivity, or statement as an existing fact that anything is known about the productivity of all the land included in a structure. Columbian Carbon Company, supra.

Appellant has offered no persuasive evidence to controvert the Survey's determination of the existence of a structure entrapping gas. The fact that there has been a cessation of production or abandonment of wells in a given field is not of itself sufficient to warrant a redefinition of the structure or the revocation of the classification of the field in the absence of a proper showing that the area does not in fact contain valuable deposits of oil or gas. Kermit D. Lacy, 54 I.D. 192 (1933).

Appellant's second contention is that the October 27, 1969, spacing order makes further testing impossible in the normal course of business. The Geological Survey's position is that the spacing order authorizes the drilling of wells at any of four specified locations within the section and there is no prohibition against drilling of another well at one of the untested specified locations in Section 7. Apart from this, however, any impracticality of further drilling in order to disprove the Geological Survey finding does not afford a sufficient predicate for overturning a Geological

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<sup>1/</sup> See recently promulgated 43 CFR § 3100.0-5(a) (1971).

Survey determination that lands are within the known geological structure of a producing gas field. In essence, the difficulties attendant upon disproving such a determination do not create a showing that such determination is erroneous. Cf. F. William Johnson, 3 IBLA 232 (1971) and Duncan Miller, 2 IBLA 254 (1971).

In the absence of a clear and definite showing that it was improperly made, a definition by the Geological Survey of the known geological structure of a producing oil or gas field will not be disturbed. Duncan Miller, Louise Cuccia, 66 I.D. 388 (1959).

Therefore, pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior (Sec. 211 DM 13.5; 35 F.R. 12081), the decision appealed from is affirmed.

Frederick Fishman, Member

We concur:

Martin Ritvo, Member

Joan B. Thompson, Member.

