

LEWIS & CLARK EXPLORATION CO.

IBLA 85-309, 85-310, 85-311

Decided May 7, 1987

Appeal from decisions of the Wyoming State Office, Bureau of Land Management, increasing annual rental rates for noncompetitive oil and gas leases. W-19510, W-24554 and W-66820.

Affirmed.

1. Oil and Gas Leases: Known Geologic Structure -- Oil and Gas Leases: Rentals

BLM may properly require the holder of a noncompetitive oil and gas lease to pay an increased rental of \$ 2 per acre for the entire leasehold pursuant to 43 CFR 3103.2-2(d), where BLM determines during the lease term that any part of the lands included in the lease is within a known geologic structure.

2. Oil and Gas Leases: Known Geologic Structure

A BLM determination that land leased for oil and gas is within a known geologic structure will not be overturned where the evidence establishes that land within the lease is included within the limits of productive formations as determined by the composite isopach of several productive formations and the lessee fails to present a preponderance of evidence to the contrary.

APPEARANCES: Donald R. Hembre, President, Lewis & Clark Exploration Company, for appellant; Lowell L. Madsen, Esq., Office of the Regional Solicitor, U.S. Department of the Interior, Denver, Colorado, for the Bureau of Land Management.

OPINION BY ADMINISTRATIVE JUDGE FRAZIER

The Lewis & Clark Exploration Company has appealed from decisions of the Wyoming State Office, Bureau of Land Management (BLM), dated December 12 and 17, 1984, increasing the annual rental rates for three noncompetitive oil and gas leases, W-19510, W-24554 and W-66820, because "all or part" of the lands in the leases are within an undefined addition to the Nitchie Gulch-Pine Canyon Known Geologic Structure (KGS), designated effective July 24, 1984. 1/

BLM thereby increased the rental rate from \$ 1.00 to \$ 2.00 per acre "[b]eginning with the lease year which starts at least 30 days from your receipt of this notice, and for each year thereafter."

In its statements of reasons for appeal, appellant contends that the lease acreage was improperly included in the undefined addition to the Nitchie Gulch-Pine Canyon KGS because the land lies "wholly outside the Nitchie Gulch and Pine Canyon Unit Areas." Appellant notes the land was voluntarily eliminated from the Boars Tusk Unit effective October 1, 1983, "based on a lack of development." Further, appellant contends drilling in the vicinity of the leased land or, in the case of lease W-19510, on the leased land, has resulted in "dry holes." 2/

In a response to appellant's statement of reasons, the Regional Solicitor, on behalf of BLM, contends that the "presence or absence of Federal unit areas is not a criterion for KGS classification." The Regional Solicitor also argues that the three wells cited by appellant were considered in the KGS determination, along with other wells in the area, and that the determination was made on the basis of the extent of "presumptively productive strata" not the "economic development potential" of the lands involved.

[1] It is well established that when BLM has determined that any part of the lands described in a noncompetitive oil and gas lease is within an addition to a KGS, the lessee is properly required by BLM to pay an increased annual rental of \$ 2 per acre for the entire leasehold pursuant to 43 CFR 3103.2-2(d). James D. Creighton, 87 IBLA 79 (1985), and cases cited therein.

[2] Appellant does not challenge this regulatory requirement, rather it contends that BLM should not have included all or part of its oil and gas leases within the undefined addition to the Nitchie Gulch-Pine Canyon KGS. This Board has previously held that an appellant challenging a KGS determination has the burden of proving by a preponderance of the evidence that the KGS determination is in error. Thunderbird Oil Corp., 91 IBLA 195 (1986).

A KGS is defined as "technically the trap in which an accumulation of oil or gas has been discovered by drilling and determined to be productive, the limits of which include all acreage that is presumptively productive."

1/ It appears from the record appellant owns a record title interest in each of the leases. The three leases cover 2,200 acres of land situated in Sweetwater County, Wyoming, and were issued pursuant to section 17 of the Mineral Leasing Act, as amended, 30 U.S.C. § 226 (1982), on the following effective dates: June 1, 1969 (W-19510); July 1, 1970 (W-24554); March 1, 1979 (W-66820).

2/ Appellant refers to three wells situated in the SE 1/4 sec. 15, the SE 1/4 sec. 23 and the SW 1/4 sec. 26, T. 23 N., R. 104 W., Sixth Principal Meridian, Wyoming. These wells are identified by BLM as the FMC No. 1-15, FMC No. 1-23 and the Southland No. 1-26.

43 CFR 3100.0-5(1). A KGS designation recognizes the existence of a continuous entrapping structure on some part of which there is production. Lloyd Chemical Sales, Inc., 82 IBLA 182 (1984). Accordingly, it is not necessary that there be production within or in the immediate vicinity of land designated as part of a KGS, as long as the land is determined to be "presumptively productive" on the basis of geologic evidence of the existence of a productive structure underlying the land. R. K. O'Connell, 85 IBLA 29 (1985).

Designation of the undefined addition to the Nitchie Gulch-Pine Canyon KGS was based on a "Geologic Report," dated July 24, 1984, which relied on subsurface geologic conditions and oil and gas development "along the Rock Springs Uplift." 3/ Id. at 1. The expansion of the KGS was designed to include two producing wells and "intervening lands that presently lack commercial production but are considered to be presumptively productive." Id. Those formations productive of oil and/or gas in the Rock Springs Uplift are reported to be the Frontier, Muddy and/or Dakota and the Morrison formations. The report states that the accumulation of oil and gas is stratigraphically and structurally controlled, with the "primary controls" being the stratigraphic properties of the productive formations. 4/ Id. The undefined addition to the Nitchie Gulch-Pine Canyon KGS was determined in relevant part as follows:

Isopach maps of net effective reservoir thickness were prepared for the Frontier, Dakota (including Muddy and Lakota), and Morrison formations to outline the extent of producible hydrocarbon accumulation, or presumptively productive strata, in each formation. Net effective reservoir is considered to include those known reservoir sands containing producible hydrocarbons as identified from drill stem tests, production tests, geophysical well log interpretations, and/or other data. Where tests were conducted and the data was available, any indication of free gas or oil, such as gas to surface or a recovered sample of free oil on a drill stem test, was considered primary evidence of producible hydrocarbon content. In the tested or productive intervals, net effective reservoir thicknesses were measured from geophysical well logs. Where well logs were not available, perforation thicknesses or producing zone thicknesses, if known, were used for net effective reservoir thickness. For untested intervals in productive formations, net effective reservoir thicknesses

3/ The "Rock Springs Uplift" is described in the Geologic Report, at page 1, as "a large north-south trending anticlinal fold that dips steeply on the western limb, gently on the eastern limb and plunges to the north." The report notes the presence of east-west faults but states that they have "little actual influence on hydrocarbon accumulation." Id.

4/ The influence of the stratigraphic controls is "demonstrated by the occurrence of non-productive wells in close proximity to productive wells even in the structurally highest portions of the anticline." Id. at 2.

were calculated by comparison with the well logs for tested or productive intervals within the same formation. In some instances reservoir thicknesses were based solely on well-log analysis. Compensated neutron-density logs were generally used for this purpose wherever they were available, however, any type of available log was used. Each well was considered on the basis of whatever data was available. In the absence of data to indicate otherwise, untested wells without logs to provide a direct indication of hydrocarbon content were considered to reflect a lack of producible hydrocarbons. These locations were generally given zero net effective reservoir thickness.

The maximum extent of presumptively productive strata in each formation is considered to be the outermost zero net effective reservoir isopach for that formation. Although there is Morrison Formation net effective reservoir in the southern portion of the KGS addition, all of the Morrison reservoir is inside the Frontier and Dakota presumptively productive areas. The Morrison Formation, therefore, has no actual influence on establishment of the KGS addition. The boundary of the addition is placed along a composite zero net effective reservoir isopach that was constructed by overlaying the Frontier and Dakota zero isopachs. To insure consistency with State spacing requirements, each quarter section (160 acres) or, in irregular sections equivalent lots, intersected by the composite zero isopach is included in the KGS addition. ^{5/} [Emphasis added.]

Id. at 2-3.

Maps included with the report indicate that appellant's leases are either crossed by the "composite zero net effective reservoir isopach" or a higher composite isopach and thus, are considered to overlie "presumptively productive strata."

Whether leased land is included in a unit area has no bearing on whether the land is also properly included in a KGS, except to the extent that unitization or contraction of a unit is proven to have been based on the existence or absence of a productive formation underlying the land, which formation BLM relied upon in its KGS determination. See Phillips Petroleum Company v. Peterson, 218 F.2d 926, 933 (10th Cir. 1954), cert denied, 349 U.S. 947 (1955).

^{5/} Although this Board has recently reversed KGS determinations to the extent they embraced parts of a section greater than the smallest legal subdivision (generally quarter quarter section) invaded by the productive formation, see Pamela S. Crocker-Davis, 94 IBLA 328 (1986), this is not an issue here as lease rental rates are affected by a KGS determination embracing any lands within the lease and each of the leases is crossed by the net effective reservoir isopach.

In the case of contraction, it is particularly important that one challenging a KGS determination also establish that the unit agreement encompassed the particular productive formation upon which BLM relied in making that determination.

Unit agreements are drawn up for the broad purpose of allocating costs of development of a particular area for oil or gas, with the ultimate purpose of "conserving" natural resources. 30 U.S.C. § 226(j) (1982). As such, inclusion within a unit does not necessarily mean that the land contains an entrapping mechanism which is productive or presumptively productive of oil or gas as required for designation of a KGS under 43 CFR 3100.0-5(l). See Law of Federal Oil and Gas Leases, Rocky Mountain Mineral Law Foundation, § 18.04[1] (1985), [and] Cf. Kathleen M. Blake, 96 IBLA 61, 75 (1987) (state spacing unit designation irrelevant to KGS determination). Similarly, elimination from a unit does not necessarily establish that the land does not contain an entrapping mechanism which is productive or presumptively productive.

Appellant states, however, that elimination of the lease acreage from the Boars Tusk Unit was based on "no apparent development potential," presumably in what BLM regarded as the productive formations. Appellant has neither substantiated this assertion nor offered any supportive evidence. In this light, the mere fact of elimination simply does not rebut the evidence offered by BLM demonstrating that the leased land is underlain by presumptively productive strata.

Appellant also points to the existence of certain "dry holes." As the Regional Solicitor notes, each of these wells was evaluated and used in BLM's mapping of the net effective reservoir thicknesses. ^{6/} This is shown by the maps included in the record. Appellant's reference to "dry holes" was apparently made to indicate that the three wells were considered not commercially productive. However, at least one of the wells was productive to some extent

^{6/} The Regional Solicitor states:

"The FMC #1-[15] well (SE 1/4 Sec. 15) perforated 90 feet of the Frontier formation and had a show of gas. A drillstem test in the Dakota formation recovered only gas-cut mud. Net effective reservoir thicknesses were calculated for each formation on the basis of these tests and well log analysis. At this location, the Frontier was determined to have a 10-foot thick section of net effective reservoir and the Dakota was determined to have zero thickness. The FMC #1-23 well (SE 1/4, Sec. 23) was abandoned without testing either the Frontier or Dakota formations. Analysis of the logs from this well did not identify any net effective reservoir in either formation. Zero net effective reservoir thicknesses were assigned to each formation at this location. The Southland #1-26 well (SW 1/4, Sec. 26) did not test the Dakota formation but was completed for production in the Frontier formation with an initial production of 24 MCFPD, 1 BOPD and 2 BWPD. This well was determined to be noneconomic and subsequently abandoned. Net effective reservoir thicknesses at this well were determined to be 18 feet in the Frontier formation and zero in the Dakota."

in the Frontier formation (Southland No. 1-26) and another had some gas shows in the Frontier formation (FMC No. 1-15). This evidence by itself does not establish by a preponderance of the evidence that the lands in the leases on the structure are nonproductive. The third well, which was determined to have no potential, was only used to define the outer limits of the KGS. Moreover, all three wells were used to delineate the location of the net effective reservoir thickness isopachs for either the Frontier or Dakota formation. Appellant has offered no evidence indicating that either the calculation of net effective reservoir thickness in the case of each well or the overall delineation of isopachs was inaccurate. Moreover, appellant has not demonstrated that the fact that the leased land is crossed by a zero or higher composite net effective reservoir isopach does not indicate the presence of presumptively productive strata. Accordingly, we conclude that BLM properly included all or part of the land in appellant's oil and gas leases within the Nitchie Gulch-Pine Canyon KGS where the land was determined to be underlain by presumptively productive strata. ^{7/} Kathleen M. Blake, supra; J. A. Masek, 92 IBLA 12 (1986).

Pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior, 43 CFR 4.1, the decisions appealed from are affirmed.

Gail M. Frazier
Administrative Judge

We concur:

Franklin D. Arness
Administrative Judge

C. Randall Grant, Jr.
Administrative Judge

^{7/} On November 18, 1985, BLM requested the Board to remand the cases involving oil and gas leases W-19510 (IBLA 85-309) and W-24554 (IBLA 85-310) because those leases had terminated automatically by operation of law for "failure to pay rental timely," and BLM wanted to issue a notice of termination. On December 16, 1985, BLM clarified its request, indicating that no rental had been paid for 1985 with respect to either lease "as of November 8, 1985." The lease anniversary dates were June 1, 1975 (W-19510) and July 1, 1975 (W-24554). Having decided this case, there is no need for a remand, and BLM may take appropriate action respect to appellant's failure to timely pay its annual rental for the leases when the case files are returned to it.