

ROBERT L. LYON

IBLA 82-566

Decided August 10, 1982

Appeal from decision of the New Mexico State Office, Bureau of Land Management, rejecting acquired lands noncompetitive oil and gas lease offer NM-A40070TX.

Affirmed.

1. Oil and Gas Leases: Applications: Generally--Oil and Gas Leases: Known Geologic Structure--Oil and Gas Leases: Noncompetitive Leases

Under 30 U.S.C. § 226(b) (1976) land within the known geologic structure of a producing oil or gas field may only be leased by competitive bidding, and where land is determined to be within such a structure while a noncompetitive lease offer is pending, the offer must be rejected.

2. Oil and Gas Leases: Applications: Generally--Oil and Gas Leases: Known Geologic Structure--Oil and Gas Leases: Noncompetitive Leases

An applicant for a noncompetitive oil and gas lease who challenges a determination by the Geological Survey that land is within the known geologic structure of a producing oil or gas field has the burden of showing that the determination is in error.

APPEARANCES: Robert L. Lyon, College Station, Texas, pro se; John H. Harrington, Esq., Office of the Field Solicitor, U.S. Department of the Interior, Santa Fe, New Mexico.

## OPINION BY ADMINISTRATIVE JUDGE HARRIS

Robert L. Lyon has appealed the New Mexico State Office, Bureau of Land Management (BLM), decision of February 3, 1982, which rejected his acquired lands noncompetitive oil and gas lease offer NM-A40070TX because the land sought had been determined to be "an extension to the undefined known geologic structure (KGS) of the Giddings field." 1/

Lyon filed his offer on January 22, 1980, for 49.30 acres in the Somerville Reservoir Project, Burleson County, Texas. Surface jurisdiction of the land rested with the U.S. Army Corps of Engineers. Following review of the offer by the Corps of Engineers and execution of required stipulations by Lyon, BLM requested that Geological Survey (Survey) report on the status of the land. By memorandum dated December 9, 1981, Survey informed BLM that certain lands, including those in question, were "within an extension to the Undefined Known Geologic Structure of the Giddings field (Somerville Reservoir area), effective December 1, 1981."

On appeal appellant initially states that BLM's decision rejecting his offer was issued more than 2 years after his offer was filed. He complains that during that time (December 1980) BLM issued a lease in the same area, and that it also offered two Somerville Lake parcels for leasing in November 1980. He indicates that fairness required the issuance of his lease in a timely manner.

Secondly, appellant asserts that Survey's decision to include this land in the undefined KGS is erroneous. The formation involved is the Austin Chalk. With respect to it, appellant argues that "[t]he Austin Chalk formation (consisting of a series of independent fractures) may or may not be productive and is not a known structure." In support of this opinion appellant submits a letter from a consulting geologist and letters from the Director, Oil and Gas Division, Railroad Commission of Texas.

The consulting geologist states in his

The Austin Chalk has been of interest to oilmen since the early 1930's. With increasing oil prices and newly developed technological advances, interest in Austin Chalk production began in earnest in 1973. Since that time over 400 wells have been drilled for Austin Chalk production, with a remarkably high success ratio. This success ratio is in part due to the fact that seismic exploration has advanced to a point where the location of fractures can be more readily determined. The fractures increase the permeability as well as the porosity of the chalk and thereby make the difference between a producing well and a test which encounters the chalk but in a tight and impermeable condition.

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1/ "Known geologic structure" is defined in 43 CFR 3100.0-5(a) as "technically the trap in which an accumulation of oil and gas has been discovered by drilling and determined to be productive, the limits of which include all acreage that is presumptively productive."

It is completely unwarranted to refer to the entire Austin Chalk trend in Fayette, Lee and Burleson Counties as one oil field. There are numerous dry holes which have been drilled in this chalk trend. Production is based primarily on the nature of the natural fracture pattern and this initial fracture pattern is not found throughout the area. The chalk is present throughout Fayette, Lee and Burleson Counties but it is not productive everywhere. Hence, production is dependent upon local conditions and one cannot refer to the entire Austin Chalk trend as one field.

One of the letters of the Director, Oil and Gas Division, Railroad Commission, that is dated October 23, 1981, states:

With respect to the development of oil and gas reserves in the Giddings area, I agree with Ray Holifield and Richard Brewer that each of the fracture systems is probably a separate entity. Further, that development in this particular area is not based on structure, but drilling in the vicinity of a fracture system.

[1] Under 30 U.S.C. § 226(a) (1976), land within the KGS of a producing oil and gas field may only be leased by competitive bidding. When land is determined to be within a KGS either before a noncompetitive offer was filed or while such an offer is pending, the noncompetitive offer must be rejected. Jack J. Bender, 54 IBLA 375, 88 I.D. 550 (1981); Richard J. DiMarco, 53 IBLA 130 (1981).

[2] An applicant for an oil and gas lease who challenges a determination by Survey that the lands are situated within the KGS of a producing oil or gas field has the burden of showing that the determination is in error. The determination will not be disturbed in the absence of a clear and definite showing of error. Jack J. Bender, *supra*.

Counsel for BLM submitted a copy of a memorandum from the District Supervisor, Resource Evaluation, Minerals Management Service (MMS), 2/ Tulsa, Oklahoma, dated April 27, 1982, which provided supporting documentation for the KGS determination. That memorandum provided in part:

Regionally, the Giddings Field is located on the Gulf Coast monocline or flexure that, generally, parallels the present-day coastline. Recent aerial magnetic surveys (Jenny, 1982, p. 212) indicate a large, extended basement anticline below the Giddings Field. If the anticline is predepositional, draping and differential settling of the overlying sediments could have induced

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2/ By Secretarial Order No. 3071 published in the Federal Register on Feb. 2, 1982, 47 FR 4751, the Secretary created the Minerals Management Service to, inter alia, take over the functions of the Conservation Division, Geological Survey. Further reference in the decision will be to Survey, since the Conservation Division, Geological Survey, was in existence during the relevant determination.

adjustment faulting of these beds. If the basement anticline occurred after deposition of the overlying sediments, arching of the basement could have also induced adjustment faulting of the overlying beds, possibly taking form as listric and antithetic faults. Stratigraphically, within the Austin Chalk Formation exists extensive lithologic facies and thickness variations. These alone, or in combination with the fracture-fault system, could also create hydrocarbon traps.

Stapp (1978, p. 55), suggests that Austin Chalk-Buda Limestone production depends on finding areas with highly fractured pays. These fractures may be in response to deep seated structural features, faults within the pay zones, or they may be textural fractures not directly related to faulting. This investigator also states that in the Austin Chalk there are two kinds of occurrences of oil accumulation. One involves the textbook type closures where there is porosity. The second, where the large part of the trend is downdip, the oil has accumulated in fractures in the very tight limestone which has little porosity (Taylor, 1982, p. 4).

There seems to be a consensus among the various geologists and developers active in the Giddings Field, that production from each of the wells comes from permeable fracture-fault systems present in the Austin Chalk Formation. One has only to inspect a map of the Giddings Fields showing the hundreds of adjoining wells over a seven-county area to conclude that there are indeed countless, closely-spaced fracture-fault systems over a large area. Exactly where these fracture-fault systems extend, whether they interconnect with other adjacent systems, and to what extent, is presently subject to conjecture. The Texas Railroad Commission reports the following statistics on the Austin Chalk in 1981: Of the 2,600 wells drilled, 74.4 percent were producers, 1,480 as oil wells and 454 as gas wells (Taylor, 1982, p. 8).

The memorandum from the District Supervisor further discussed reasons for the KGS classification and stated:

The December 9, 1981 memorandum to the FILE [Exhibit 4] stated, generally, the reasons for classifying as competitive all of the Federal minerals within the boundaries of the Somerville Lake (Reservoir). As described in the above memorandum, the Austin Chalk development of the Giddings Field moved entirely around and across Lake Somerville during 1981, thus making it apparent that the entire lake area (and all Federal mineral tracts) would very likely be productive of oil and gas. The dry holes shown on the KGS map were, with two minor exceptions, drilled to shallow horizons far above the Austin Chalk and long before the Giddings Field Chalk play commenced. Note the total depth of each of these dry holes is given. The overlay (Exhibit 6) [Exhibit 6 overlays the KGS map of the Somerville Lake area which shows all wells drilled; Federal minerals, previously leased and never leased; survey boundaries, names, abstracts; and tract numbers for known Federal mineral tracts] shows the relationship of each of the significant wells to each of the applications

being appealed. The number by each of the significant well locations refers to the detailed description and record of that well in Exhibit No. 7. Note, other oil and gas wells are also in the vicinity of the significant wells, but are generally not as close to the Federal tracts.

Also, accompanying this report is a chronology of the leasing events (Exhibit 8), and a chronology of the KGS determinations in the Somerville Reservoir area (Exhibit 8-A). These chronologies, when compared to the well completion dates (Exhibit 7), indicate the well data available at the times the various appealed noncompetitive over-the-counter lease applications were received by the USGS for KGS determinations. As these exhibits (7, 8, and 8-A) show, when completion data were finally received on wells known to be located near the applied-for-tracts, the actual completion dates varied from several months before the applications were received by the USGS to shortly thereafter. This was the case with Tract 101 in the J. Lastly Survey, A-35 (Application NM-40070). This application, which was appealed by R. L. Lyon, was received by the USGS on June 18, 1981. Although well no. 11 (completed 10-21-80) was half a mile to the west of this tract, the actual continuation of the Giddings Field across this tract and to the southeast was not definitely demonstrated until the completion data were received for well no. 14 on October 13, 1981. These data indicated that well no. 14 (K. Graham, No. 1 Houston) had actually been completed April 1, 1981, several months before NM-40070 was received by the USGS for a KGS determination. Note the six month delay in receiving the completion of well no. 14 (Exhibit No. 7). Also shown at the bottom of Exhibit No. 7 is the four month average delay from the time a well was completed by the operator, to the time this completion information was received by the USGS from Petroleum Information. Exhibit No. 9 indicates one of the attempts at obtaining official well completion data from sources other than Petroleum Information.

With specific reference to appellant's argument that there is no structure in the Austin Chalk, the District Supervisor stated in his memorandum:

The fact that there is, or is not, an anticlinal structure containing the accumulation of oil in the Giddings Field has no bearing on the classification of this entire area as a "known geologic structure" (KGS). This term, as used by the Federal government simply refers to a Federal procedure for classifying as competitive any Federal land that has a reasonable probability of being underlain by the reservoir of a producing oil or gas field. Another definition of a KGS is that given in the U.S. Geological Survey Conservation Division's Manual (620.3.4) where it states: "A known geologic structure is technically the trap in which an accumulation of oil or gas had been discovered by drilling and

determined to be productive, the limits of which include all acreage that is presumptively productive." The classic anticlinal structure is not a requirement for classifying land as competitive. In fact, many present-day KGS classifications involve stratigraphic traps, and not structural traps. In the case of the Giddings Field, it is probably both kinds of traps.

In the present situation, Survey does not deny the existence of fracture systems in the Giddings area; rather, it has presented evidence which tends to establish that the Giddings Field contains traps, whether stratigraphic or structural, such that the area constitutes a KGS which is presumptively productive. Appellant's submissions are explained away by the Survey materials. Accordingly, appellant has not made a clear and definite showing that the Survey determination was in error.

In addition, a determination by the Survey that certain lands are in the KGS of a producing oil and gas field does not guarantee the productive quality of the lands included in the KGS. Such a determination does no more than to announce that on the basis of geological evidence, Survey has concluded that there is a reasonable probability that the land in question is underlain by a reservoir of a producing oil and gas field. 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 KGS. Vernon Benson, 48 IBLA 64 (1980).

Further, the delay for nearly 2 years before the declaration that the area was within a KGS does not aid appellant since an applicant for a noncompetitive lease acquires no vested right to a lease by the filing of an application but only an inchoate right to receive a lease over a later applicant. Donnie R. Clouse, 51 IBLA 221 (1980); Minnetta A. Miller, 17 IBLA 245 (1974). BLM was required by statute to reject appellant's offer following Survey's determination. Minnetta A. Miller, supra at 248.

Accordingly, pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior, 43 CFR 4.1, the decision appealed from is affirmed.

Bruce R. Harris  
Administrative Judge

We concur:

Will A. Irwin  
Administrative Judge

Edward W. Stuebing  
Administrative Judge

