

SINCLAIR OIL CORP.

IBLA 87-163

Decided December 7, 1988

Appeal from a decision of the Montana State Office, Bureau of Land Management, which increased the rental rate on a noncompetitive oil and gas lease because the lands were determined to be situated within the known geologic structure of a producing oil and gas field. M 55019 (ND) Acq.

Affirmed.

1. Oil and Gas Leases: Acquired Lands Leases--Oil and Gas Leases:
Known Geologic Structure

A person challenging a determination by the Bureau of Land Management that land is within a known geologic structure of a producing oil or gas field has the burden of showing by a preponderance of the evidence that the determination is in error.

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

When the Bureau of Land Management has determined that any part of the lands described in a noncompetitive oil and gas lease is within an addition to a known geologic structure, the lessee is required to pay an increased rental of \$2 per acre for the entire lease.

APPEARANCES: Randy S. Hunter, Esq., Salt Lake City, Utah, for appellant; Richard K. Aldrich, Esq., Office of the Field Solicitor, U.S. Department of the Interior, Billings, Montana, for the Bureau of Land Management.

OPINION BY ADMINISTRATIVE JUDGE LYNN

Sinclair Oil Corporation (Sinclair) has appealed from a decision of the Montana State Office, Bureau of Land Management (BLM), dated October 24, 1986, which increased the annual rental rate on its noncompetitive oil and gas lease, M 55019 (ND) Acq., from \$1 to \$2 per acre.

Pursuant to the Act of August 7, 1947, 61 Stat. 913, 30 U.S.C. §§ 351-359 (1982), noncompetitive oil and gas lease M 55019 (ND) Acq. was issued to Richard Thorp on November 1, 1982. The lease covered lands totalling 1,240 acres more or less, located in secs. 12, 14, and 20 of T. 144 N.,

R. 100 W., fifth principal meridian, Billings County, North Dakota. At the time the lease was issued, the lands were not part of a known geologic structure (KGS). On August 25, 1985, Thorp executed an assignment of the lease to J & L Oil & Gas, Inc., which, on September 30, 1985, executed an assignment to Sinclair. Both assignments were approved and became effective on November 1, 1985.

By memorandum dated October 3, 1986, the Acting Deputy State Director, Division of Mineral Resources, informed the North Dakota State Director of several additions to the North Billings Nose Bakken KGS. The additions were based upon a September 24, 1986, Geological Report for the North Billings Nose Bakken KGS, Billings, McKenzie, and Golden Valley Counties, North Dakota. The added lands included all of sec. 20, T. 144 N., R. 100 W., fifth principal meridian.

Therefore, by decision dated October 24, 1986, Sinclair was notified that its leased lands located in the N $\frac{1}{4}$ of sec. 20 had been determined to be within a KGS. The decision stated that beginning with the next lease year, November 1, 1987, the rental rate for the entire lease would be increased to \$2 per acre, or fraction thereof.

A KGS, as defined by Department regulation, is "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." 43 CFR 3100.0-5(1). A KGS determination recognizes the existence of a continuous entrapping structure on some part of which there is production, but does not predict productivity at any particular place within the "presumptively productive" area. Jack J. Grynberg, 104 IBLA 51 (1988); Beard Oil Co., 99 IBLA 40 (1987); R. K. O'Connell, 85 IBLA 29 (1985). Accordingly, it is not necessary that there be production within or in the immediate vicinity of land designated as part of a KGS. Land may properly be included in a KGS based upon geologic evidence indicating that a producing deposit extends under the land which renders the land "presumptively productive." Sherbourne Partnership, 90 IBLA 130, 133 (1985); Charles J. Frank, 90 IBLA 33, 37 (1985); Thomas Bohr, Jr., 89 IBLA 384, 386 (1985).

[1] A person challenging a Departmental determination that land is within the KGS of a producing oil or gas field has the burden of showing by a preponderance of the evidence that the determination is in error. Bender v. Clark, 744 F.2d 1424 (10th Cir. 1984); Grynberg, supra; Eagle Exploration Co., 83 IBLA 354 (1984), and cases cited therein. In essence, challengers must demonstrate that their conclusion that the lands are not within the KGS is more convincing. This proof should generally consist of evidence that any purported traps do not occur at all under the land in question or that the entire purported accumulation of oil or gas which does exist is not productive in paying quantities, thereby rebutting the presumption of productivity raised by BLM's addition of the land to the KGS. Celeste C. Grynberg, 96 IBLA 87, 89 (1987), and cases cited therein.

[2] It is also 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 required to pay an increased annual rental of \$2 per acre for the entire leasehold pursuant to 43 CFR 3103.2-2(d), which states that rental shall be payable at the following rate:

On lands within a lease issued under Subpart 3111 of this title after the effective date of this regulation which is later determined to be within a known geologic structure outside of Alaska * * *, the annual rental shall be \$2 per acre or fraction thereof beginning with the first lease year after the expiration of 30-days notice to the lessee. During the first 5 years of the lease term, the same rental increase is applicable to leases issued under Subpart 3112 of this title.

Lewis & Clark Exploration Co., 97 IBLA 171 (1987); James D. Creighton, 87 IBLA 79 (1985), and cases cited therein.

In its statement of reasons for appeal, Sinclair notes that prior to its receipt of the October 24, 1986, BLM decision, it was not aware of any proceedings to reclassify the lands as KGS. ^{1/} Sinclair argues at pages 2-3 of its statement of reasons:

[BLM's] Report combines ten KGS's and adds considerable previously unclassified properties to form the massive North Billings Nose Bakken KGS. This Geologic Report supposes the existence of a vast hydrocarbon trap in the Bakken formation which covers this expansive area. Sinclair is painfully aware of the faulty nature of this theory, having completed Sinclair 7-18 well in T145N, R100W to the Bakken formation without receiving production from the Bakken.

Closer to the questioned lease in Section 20, Ladd Petroleum drilled in Section 7 into the Duperow Foundation unsuccessfully. This well was re-completed by Armadillo to the Bakken and has enjoyed some production. This producer is two miles from Section 20. Between the Sinclair Lease and the Ladd well, a well was drilled in Section 17 to the Duperow unsuccessfully. This dry hole would have seen the Bakken on its way down to the Duperow. This is applicable to the dry hole in Section 19.

The fact that holes have been drilled on sections neighboring Section 20 to the north and west both to depths deepest [sic] than the Bakken without becoming producers indicates the spotty nature of Bakken production.

The Geologic Report on which this KGS determination was made views the Bakken formation as a trap with a consistent producing

^{1/} In its Mar. 12, 1987, memorandum, BLM states at page 1: "As [Sinclair's] Statement of Reasons mentions, it has not been the standard procedure of the BLM to inform lessees of potential KGS reclassification of their land prior to finalizing the KGS boundaries. Rather, the BLM informs the lessee of new KGS actions in the rental increase notice."

capability. Drill tests have shown otherwise. It is not reasonable to infer that conditions exist allowing entrapment throughout the structure.

Because of the limited nature of Bakken Well completions, there is no showing of a producing oil and gas field as contemplated by Congress in the Minerals Leasing Act, 30 U.S.C.S. § 226(b).

Based on the foregoing, Sinclair requested a redetermination that the lands located in sec. 20 were not within a KGS, a hearing, and the opportunity to present additional geologic evidence.

By order dated February 3, 1987, the Board granted BLM an extension of time within which to file an answer to the statement of reasons. In the same order, we noted that Sinclair had requested a hearing and an opportunity to present additional geologic evidence. We stated that "[b]ecause the request lacks specificity, [Sinclair] is hereby requested to file with this Board, within 30 days of receipt of BLM's answer, a petition for a hearing setting forth with specificity those issues of fact that [Sinclair] seeks to resolve at such hearing."

In its response, BLM characterizes Sinclair's arguments as contending that "the * * * KGS decision is in error because dry wells have been completed to and below the Bakken formation without production." The March 12, 1987, technical comment memorandum addresses the arguments contained in Sinclair's statement of reasons, at pages 1-2 as follows:

We were aware of Sinclair's 7-18 well in NW¼NE¼ sec. 18, T. 145 N., R. 100 W. which, according to the Statement of Reasons, was completed "* * * to the Bakken Formation without receiving production from the Bakken."

Instead, the well was completed farther "downhole" in the Duperow Formation (Montana Oil Journal, 1986). As stated on page 1 of the KGS geologic report, "* * * Completion often is attempted in the Bakken as a 'bailout' zone, only after drillstem tests in formations farther downhole prove unfavorable * * *."

It is not unusual for companies to delay completions in the Bakken Formation when a reservoir exists "downhole" and until that reservoir is depleted. An example of this is the Apache 2-4 Federal well in the KGS in SW¼SW¼ sec. 2, T. 144 N., R. 102 W. The well was completed in the Duperow in 1981. Only after the Duperow reservoir was depleted in that well was a completion made in 1983 in the Bakken (Petroleum Information, 1983a).

According to our analysis of the logs for the Sinclair 7-18 well, the Bakken contains production potential based on the three criteria discussed in the KGS geologic report: (1) the presence of fractures in the Bakken Formation, (2) porosity greater than 3.5 percent in the middle member of the Bakken, and (3) low water

saturations (less than 50 percent) in the middle member of the Bakken (Plates 3, 4, and 5).

The Statement of Reasons also refers to the two dry holes (secs. 17 and 19, T. 144 N., R. 100 W.) between the subject lease (N½ sec. 20, T. 144 N., R. 100 W.) and the nearest Bakken producer, 2 miles away in sec. 7, T. 144 N., R. 100 W. (Plate 1). Well log analysis of the Bakken Formation in these two dry holes indicated the Bakken should have been productive. Both wells calculated porosities greater than 3.5 percent, and water saturations below 50 percent in the middle member of the Bakken (Plates 3 and 4). In addition, the well in sec. 19 contains fractures, according to the well log analysis (Plate 5). Attachment 3 is a copy of the log from this well showing the fractures highlighted in red.

The presence of a dry hole does not rule out the possibility of a well having the potential to produce from the Bakken. For example, Florida exploration drilled the 11-2 Federal well (SW¼SW¼ sec. 11, T. 144 N., R. 102 W.) within the KGS in 1983. After drilling through the Bakken Formation, the well was abandoned. However, the well was reentered in late 1984 and completed as a Bakken producer (Petroleum Information 1983b, 1984).

The Statement of Reasons goes on to say, "The Geologic Report on which this KGS determination was made views the Bakken formation as a trap with a consistent producing capability. Drill tests have shown otherwise * * *."

Our KGS geologic report described the Bakken as a trap with consistent producing capabilities only where it meets the three reservoir criteria mentioned above. We also maintain that lack of oil shows in drillstem tests (DSTs) do not define the limits of the Bakken reservoir. Wells have been completed in the Bakken Formation within the KGS which contained no oil shows in the DST.

An example of this is Florida Exploration's 11-2 well again. A drillstem test was run in the Bakken Formation prior to completion of the well with a recovery of only 190 feet of gas cut fluid in the pipe, and 1200 cc mud cut salt water in the sample chamber (Petroleum Information, 1983b). The well was later completed in the Bakken Formation in December 1984, with an initial potential of 42 bbls of oil per day (BOPD). As of July 1986, this well continued to produce Bakken oil at an average of 25 BOPD (North Dakota Industrial Commission, 1986).

The second to last paragraph in the Statement of Reasons states, "Because of the limited nature of Bakken Well completions, there is no showing of a producing oil and gas field as contemplated by Congress in the Minerals Leasing Act, 30 U.S.C.S. § 226(b)." However, Table 2 of the KGS Geologic Report lists

33 well completions which have [been] made in the Bakken Formation within the boundaries of North Billings Nose Bakken KGS, indicating Bakken completions have not been limited in this area.

Sinclair has not responded to BLM's submission or filed a petition setting forth what additional evidence it would show at a hearing. Thus, while BLM has presented extensive evidence and analysis, our review of Sinclair's statement of reasons shows that Sinclair has not made the requisite showing that BLM's determination was in error.

Therefore, 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.

Kathryn A. Lynn
Administrative Judge
Alternate Member

I concur:

John H. Kelly
Administrative Judge

