

COWDEN OIL & GAS PROPERTIES  
(L.L. COWDEN)

IBLA 90-8

Decided April 14, 1993

Appeal from a decision of the New Mexico State Office, Bureau of Land Management, affirming a decision of the Tulsa District Office finding that drainage requiring payment of compensatory royalty had occurred from restricted Indian oil and gas lease 68326. NM SDR 89-28 (Oil and Gas).

Reversed.

1. Oil and Gas Leases: Compensatory Royalty--Oil and Gas Leases: Drainage

Compensatory royalties accrue upon the passage of a reasonable time following the date the lessee knew or should have known that drainage was occurring. In a common lessee context, the lessee who drills the offending well is in the best position to know that drainage is occurring. In such case BLM need not assume the initial burden of showing that the lessee knew or that a reasonably prudent operator should have known that drainage was occurring, as the common lessee is presumed to have knowledge of the drainage upon first production from its offending well. This presumption is rebuttable by the common lessee, who bears the ultimate burden of persuasion as to the date he had notice that drainage was occurring.

2. Oil and Gas Leases: Compensatory Royalty--Oil and Gas Leases: Drainage

Under the usual statement of the standard for prudent operation, the lessee is not obligated to drill an offset well unless there is a sufficient quantity of oil or gas to pay a reasonable profit to the lessee over and above the cost of drilling and operating the well. The prudent operator standard applies to situations in which a leased Federal (or Indian) tract is being drained by a well operated by a common lessee. In such cases, BLM has the burden of establishing that the leased Federal (or Indian) tract is being drained by the common lessee's non-Federal well, but need not

prove as a part of its cause of action that a protective well would be economic. The burden of producing evidence and the ultimate burden of persuasion on this issue rest with the common lessee.

3. Oil and Gas Leases: Compensatory Royalty--Oil and Gas Leases: Drainage

No breach of a lessee's duty to prevent drainage will occur if the cost of drilling and operating an offset well is greater than the value of the recovered oil and/or gas. However, if a lessee can make a reasonable profit by drilling the well, he has a duty to protect the lease from drainage. The prudent operator test is applied looking to the reasonably anticipatable recovery from the offset well, rather than the oil and/or gas which would be lost if the well were not drilled.

4. Oil and Gas Leases: Compensatory Royalty--Oil and Gas Leases: Drainage

A BLM assessment of compensatory royalty will be overturned on appeal where the lessee establishes by a preponderance of the evidence that little or no drainage occurred from the lease in question and that at all relevant times a prudent operator would not have drilled a well to protect the lease in question from drainage.

APPEARANCES: John R. Robertson, Jr., Esq., Oklahoma City, Oklahoma, for appellants; Margaret C. Miller, Esq., Office of the Field Solicitor, U.S. Department of the Interior, Santa Fe, New Mexico, for the Bureau of Land Management.

OPINION BY ADMINISTRATIVE JUDGE FRAZIER

L.L. Cowden and Cowden Oil & Gas Properties (referred to collectively as Cowden) have appealed from a July 20, 1989, decision of the Deputy State Director, Mineral Resources, New Mexico State Office, Bureau of Land Management (BLM), affirming a decision of the Tulsa District Office assessing Cowden compensatory royalty for drainage of restricted Indian oil and gas lease 68326. Cowden is the lessee of Indian oil and gas lease 68326 which embraces one half of the mineral interest in the S $\frac{1}{2}$  NE $\frac{1}{4}$  and the N $\frac{1}{2}$  SE $\frac{1}{4}$  sec. 17, T. 11 N., R. 14 E., Indian Meridian, McIntosh County, Oklahoma.

On August 11, 1987, BLM notified Cowden that the Dutcher Formation in the N $\frac{1}{2}$  SE $\frac{1}{4}$  of sec. 17 within Indian lease 68326 was subject to possible drainage by his 1/ No. 1 Marcella Chesser well (No. 1 Chesser), located

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1/ Counsel for Cowden argues that because BLM has never made a specific finding that Cowden owns an interest in the No. 1 Chesser, Cowden should not be considered a common lessee subject to the rules applicable in the

approximately 200 feet south of the Indian lease in the NW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec. 17, T. 11 N., R. 14 W., Indian Meridian, McIntosh County, Oklahoma. BLM informed Cowden that he would be expected to drill a protective well

on the Indian lease unless he could demonstrate with detailed engineering, geologic, and economic data that no drainage was occurring, or that a protective well would have little or no chance of encountering oil or gas in quantities sufficient to pay the cost of drilling and operating the well. BLM also apprised Cowden of his option of relinquishing the lease upon payment of any assessed compensatory royalty.

Cowden responded to BLM's notice by letter dated September 3, 1987. He indicated that he owned the seven-eighth working interest as well as the other 50 percent of the minerals in the lands embraced by the Indian lease and asserted that he would benefit by producing as much as possible from that lease. He contended that neither he nor his geologist believed that the Dutcher sands of the Indian lease were the same sands from which the No. 1 Chesser was producing gas because "these Dutcher sands are lenticular and do not extend far enough to communicate with the sand in the Chesser # 1" (Sept. 3, 1987, Letter at 1). Cowden also provided information concerning the geology of the area.

By decision dated August 17, 1988, BLM concluded that considerable drainage was occurring from Indian lease 68326. Based on its reservoir study and calculations, BLM determined that 33.6 percent of the production from Cowden's No. 1 Chesser was coming from the Indian lease, and assessed Cowden for 6,063 mcf of gas for past production through October 1987. 2/ BLM advised Cowden that he would be assessed monthly at this same rate for production occurring after October 1987. BLM gave Cowden 30 days to respond to the decision with specific reasons and supporting data as to why the assessment should not be made.

Cowden met with BLM officials on September 20, 1988, to discuss the compensatory royalty assessment. By letter dated September 23, 1988, BLM summarized the meeting, noting that Cowden had proposed to drill a well, the No. 8 Stand, to test the Dutcher Formation on the Indian lease in the SE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> of sec. 17. Because the No. 8 Stand would test the Dutcher Formation and offset the offending No. 1 Chesser, BLM found that the well would have a significant bearing on the compensatory royalty assessment and decided to delay rendering a final drainage decision until after completion of the No. 8 Stand.

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fn. 1 (continued)

common lessee context. Cowden, however, has frequently admitted that he owns an interest in the lease upon which the No. 1 Chesser was drilled and that he operates that well. See, e.g., Cowden's Dec. 19, 1988, Petition for Review at 1-2; Answer Brief of Appellants at 1-2, 8. Cowden's conceded interests in both the No. 1 Chesser and the Indian lease clearly classify him as a common lessee. Therefore, the issues raised by this appeal will be analyzed in accordance with the rules governing common lessee situations. 2/ The No. 1 Chesser was completed in January 1981 and began production in August 1981.

By decision dated October 17, 1988, following another meeting with Cowden, BLM rejected the geologic interpretations presented by Cowden in September 1988 and reinstated the August 17, 1988, compensatory royalty assessment letter. This decision was followed by a letter dated October 20, 1988, in which BLM 3/ advised Cowden that:

no drainage assessment, past or future, will be made to cover Dutcher drainage from restricted Indian lease 68326 if your Well No. 8 Stand (when drilled) does not encounter the Dutcher zone that is producing in your Well No. 1 Chesser. This relates only to the Dutcher drainage by your Well No. 1 Chesser, and assumes you will drill the No. 8 Stand in the SE 1/4 NW 1/4 SE 1/4 of sec. 17, T. 11 N., R. 14 E., IM, McIntosh County, OK.

If the above-mentioned Dutcher zone is encountered in your proposed Well No. 8 Stand, we will revise our drainage assessment based on such actual data. Our revision could increase or decrease our drainage assessment, depending on the data contributed by Well No. 8 Stand. If the Dutcher zone is encountered, but will not produce, we could conceivably cancel our drainage assessment. However, this depends upon variables such as geological and reservoir properties, how and if the Dutcher zone was treated, and whether or not there is indication that the Dutcher has already been drained. Accordingly, our final decision in regard to Dutcher drainage by Well No. 1 Marcella Chesser will not be rendered until you have completed your Well No. 8 Stand.

Cowden drilled the No. 8 Stand in November 1988 approximately 330 feet north of the lease boundary and 530 feet due north of the No. 1 Chesser and met with BLM officials on December 1, 1988, to discuss the well logs and completion information. In a decision dated December 9, 1988, BLM referred to the data presented at the meeting and determined that the logs from the No. 1 Chesser and the No. 8 Stand compared favorably including in the pay thickness and the perforated interval in the Dutcher zone. BLM noted that Cowden had indicated that the No. 8 Stand was producing gas from the Dutcher zone without treatment and that he intended to increase the production potential with an acid treatment. BLM concluded:

This decision is to advise you that we are allowing you until December 19, 1988, to respond to the conditions of our compensatory royalty assessment letter to you, dated August 17, 1988. After lengthy review and meetings with you, we believe

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3/ This letter was signed by the Chief, Branch of Reservoir Management and Solid Minerals, of the Tulsa District Office, BLM. The earlier BLM letters and decisions sent to Cowden were signed by the Chief, Branch of Fluid Minerals, Tulsa District Office.

that you have now reached the point where you need to accept the compensatory royalty assessment or file a formal appeal.

(Dec. 9, 1988, Decision at 2).

On December 19, 1988, Cowden filed a petition for review, asserting that no drainage had occurred and requesting a formal evidentiary hearing before an Administrative Law Judge and administrative review of the compensatory royalty assessment. BLM treated this petition as a notice of appeal and forwarded the case file to the Board.

Pursuant to a motion for remand filed by counsel for BLM, the Board, by order dated February 9, 1989, dismissed the appeal and remanded the case to the New Mexico State Office to enable the State Director to review the Tulsa District Office's compensatory royalty assessment pursuant to 43 CFR 3165.3(b).

The State Director remanded the case to the District Manager for further study by order dated March 24, 1989. In a memorandum also dated March 24, 1989, the Deputy State Director, Mineral Resources, requested that the Tulsa District Manager revise its geologic report to analyze actual data from the No. 8 Stand, including log traces and correlations, and to discuss the reasons for the low initial pressure exhibited by the No. 8 Stand. The Deputy State Director also informed the Tulsa District Manager that in accordance with the revised Drainage Manual and Manual Handbook, the District Office should determine whether an economic well could have been drilled before the No. 8 Stand was actually drilled and should prepare an engineering report documenting the source of all data, all calculations including reservoir determinations, and all assumptions made. In accordance with these instructions, the District Office prepared an updated geologic report dated April 14, 1989, and an engineering review dated May 24, 1989.

By decision dated May 25, 1989, the District Office again concluded that drainage had occurred and that the Indian lessor was entitled to compensatory royalty. It based its decision on:

1. Analysis of logs and production and pressure tests run on Well No. 1 Chesser and Well No. 8 Stand which indicate that the two wells are structurally and lithologically similar and are in communication.
2. Reservoir engineering calculations [which] establish that the area drained by the Chesser No. 1 Well overlaps the Indian lease.
3. Our economic analysis [which] shows a paying Lower Dutcher well could have been drilled in August 1981, on Lease 68326.

(May 25, 1989, Decision at 1).

BLM determined that compensatory royalty should be assessed based on gas production from the No. 1 Chesser from the date of first production of the well, i.e., August 1981, until the date the protective well, the No. 8 Stand, was put on production, i.e., February 26, 1989. BLM found that 35 percent of the production from the No. 1 Chesser was attributable to Indian lease 68326, and informed Cowden that he would receive a notice for payment of compensatory royalty from the Minerals Management Service (MMS). Cowden was also advised of his right to request a State Director review of the decision.

Cowden sought State Director review of the compensatory royalty assessment. In his written submission <sup>4/</sup> Cowden discussed his development of the Indian lease and other oil and gas properties in the area. He explained that he based his drilling decisions, including well locations, on the advice of his geologist, Lewis B. Peters, Jr., who had recommended against drilling an offset well in the current location of the No. 8 Stand because he believed that the producing sands of the No. 1 Chesser were not present in the Indian lease. Despite this advice, Cowden stated that he agreed to drill the No. 8 Stand at a location determined by BLM in the hope that the well would resolve the issue of whether the No. 1 Chesser was draining the Indian lease.

Cowden stated that the No. 8 Stand encountered the Lower Dutcher zone 10 feet higher than in the No. 1 Chesser, but that the sand was not as thick. He noted that the No. 8 Stand tested 7.5 mcf per day when perforated and that even after the well was acidized and fracture treated, which initially raised production to 52 mcf per day, production levels steadily dropped reaching 11 mcf after 16 weeks and were still declining. In contrast, gas production from the No. 1 Chesser remained steady throughout the period. Because the No. 8 Stand was structurally higher than the No. 1 Chesser, Cowden asserted that it should have produced more gas than the No. 1 Chesser was then producing. According to Cowden, the No. 8 Stand's failure to produce comparable quantities of gas stemmed from the quality of its sand which was tight, with clay and shale, and, thus, did not conduct the gas. Therefore, Cowden concluded, the No. 1 Chesser could not have drained the Indian lease because no well drilled at any time on the Indian lease could have produced gas from the same sand as the No. 1 Chesser. Cowden requested that BLM cancel the drainage claim as promised in its October 20, 1988, letter.

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<sup>4/</sup> Cowden made an oral presentation on June 29, 1989, during State Director review. The case file, however, contains no record of that presentation. When BLM grants State Director review and, as a part of that review, allows a party to make an oral presentation, some effort must be made to commemorate that event and to make it part of the record in the case, whether it be through the utilization of an audio tape, a written verbatim transcription, or a written summary of the presentation. Jack Corman, 119 IBLA 289, 291 n. 4 (1991). The lack of such a record hampers our ability to evaluate the information upon which the State Director based his decision.

In support of his position, Cowden submitted Peters' July 3, 1989, updated report on the geology of the area. Peters stated that the data derived from the No. 8 Stand clearly indicated that it did not have the same clean, porous sand conditions as the No. 1 Chesser, noting that an independent analysis of the well logs performed by Schlumberger Well Service demonstrated that the zone was very tight (9-12.5 percent porosity) due to a high percentage of shale in the sand, and that even though the sand was shown to be gas productive, it might have limited permeability due to the percent of shales and clays in the sand. Peters asserted that if the fracture treatment of the No. 8 Stand had reached the porous sands producing in the No. 1 Chesser, the treating pressure would typically have dropped, which it did not do. Peters also indicated that structurally lower wells (such as the No. 1 Chesser) do not drain the top of the structure, and that, all factors being the same, a structurally higher well (such as the No. 8 Stand) would still have commercial gas. Peters, therefore, opined that even if the No. 8 Stand had been drilled before the No. 1 Chesser, its sand would not have been commercial due to its high content of shale, clay, and compaction, which inhibited the rate of gas flow by limiting the effective permeability of the sand.

Peters also discussed the structure and stratigraphy of the area. He described the Dutcher sands as "discontinuous, meandering, lenticular channel-type deposits, often truncated by faults, or pinched-out because of erosion and/or shale deposits" (Report at 2), and emphasized that the sand condition is of extreme importance in controlling the accumulation of gas. Peters concluded that if the No. 1 Chesser and the No. 8 Stand had the same sand condition, then the No. 8 Stand, which was structurally higher with almost the same sand thickness, should produce at least as much gas as the No. 1 Chesser was currently producing (40 mcf), which it was not. Peters posited that, given the slight thinning of the sand in the No. 8 Stand, the sand was rapidly pinching out to the north, and that the porous sand of the No. 1 Chesser was only 200 to 300 feet wide, deposited along the north side of the fault just south of the No. 1 Chesser. Accordingly, he reasoned that any drainage from the Indian lease was minimal and that the Dutcher sand producing in the No. 1 Chesser was not commercial in the No. 8 Stand.

Cowden also provided additional structural and subsurface structure maps, plats showing possible drainage limits, structural and correlation profiles, computer printouts of the fracture treatment of the No. 8 Stand, deliverability test results, well logs, and other data to support his position that no drainage had occurred.

On July 20, 1989, the Deputy State Director, Mineral Resources, issued his decision on review. After summarizing Cowden's arguments, he affirmed the Tulsa District Manager's decision assessing Cowden compensatory royalty for drainage of the Dutcher Formation of the Indian lease by the No. 1 Chesser for the following reasons:

The pressure data for the two wells indicate that the Stand well and the Chesser well are in the same reservoir, the reserves of which have been drained by the latter.

The Stand well fracture treatment result does not indicate the wells are in different reservoirs. The reported porosity differences between the two wells are not great enough to cause the fracture treating pressure to drop. The results actually confirm that the two wells are in the same reservoir. The porosity differences are merely variations within the same reservoir.

The fault to the south of the offending well indicates that production is coming more from an area north of the Chesser well.

Well log correlations indicate that the Dutcher Formation is continuous in its extension into Lease 68326. The log correlation does not support Cowden's interpretation that the producing reservoir of the Chesser well is only 200-300 feet wide, deposited along the north side of the fault, just south of the Chesser well.

The [District Manager] has shown that an economic well could have been drilled on the subject lease in 1981 when the offending well began production.

\* \* \* [t]he [District Manager's] letter of October 20, 1988, stated that the drainage assessment would be revised, based on actual data obtained from the Stand well when drilled. The letter also advised that the assessment could conceivably increase or decrease. No promise was ever made to cancel the assessment, if the Stand well proved to be noncommercial.

(Decision at 2).

In his initial appeal submission (entitled Brief of Appellants), Cowden argues that based on the facts available from the time the No. 1 Chesser was drilled to today, a reasonably prudent operator would not have drilled an offset well to the No. 1 Chesser on Indian lease 68326 to protect it from drainage. Essentially, Cowden contends that no drainage has occurred from the Indian lease, citing Peters' geologic reports and recommendations and actual well data to substantiate this contention, and that he, therefore, had a prudent and rational basis for not drilling an offset well.

Cowden asserts that even if compensatory royalty is due, it should not be assessed from the date of first production from the No. 1 Chesser, but rather from a reasonable time after he first received notice of the purported drainage from BLM, *i.e.*, August 11, 1987. Cowden claims that even if he is a common lessee <sup>5/</sup>, he has successfully rebutted the presumption of notice of drainage from first production of the offending well by demonstrating that he reasonably believed that no drainage was occurring.

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<sup>5/</sup> See n.1, *supra*.

Cowden argues that the information obtained from his drilling of the No. 8 Stand clearly demonstrates that the Dutcher sands in the Indian lease do not contain commercial hydrocarbons. He challenges BLM's conclusion that the well data supports its compensatory royalty assessment, noting that even though the electric log correlations of the No. 1 Chesser and the No. 8 Stand logs indicate that the two zones may be stratigraphically equivalent, those zones still may not be connected. He further contends that the pressure depletion revealed by the initial bottom hole pressure in the No. 8 Stand was not necessarily caused by the No. 1 Chesser. Cowden also disputes BLM's calculation of the area drained by the No. 1 Chesser, asserting that BLM's radial drainage assumptions do not comport with established Dutcher characteristics. <sup>6/</sup>

In the agency response, counsel for BLM incorporates an attached memorandum, dated January 19, 1990, from the Tulsa District Manager to the State Director (January 19, 1990, Memorandum), responding to Cowden's appeal brief. BLM states that, contrary to Cowden's assertions, it did not require the drilling of a protective well on the Indian lease, but simply assessed compensatory royalty for drainage from that lease. BLM denies that it had any agreement with Cowden concerning the drilling of the No. 8 Stand or that it specified or staked the location for that well.

BLM argues that its evaluation of the various maps, geologic profiles and electric log cross-sections show that the Lower Dutcher gas sand in the No. 1 Chesser and the No. 8 Stand are the same sand with almost identical properties and constitute only one reservoir. BLM concedes that the No. 8 Stand is an uneconomic well but asserts that its data demonstrates that the well would have been economic if Cowden had drilled it as an offset several years ago as a prudent operator would have done because the Dutcher zone in the Indian lease did contain commercial hydrocarbons until it was drained by the No. 1 Chesser. BLM suggests that Cowden's failure to drill the offset well stemmed from his interest in the production from the No. 1 Chesser. BLM further insists that the pressure depletion revealed by the bottom hole pressure in the No. 8 Stand was caused by the No. 1 Chesser and supports its drainage determination.

BLM justifies its drainage assumptions by explaining that subsurface mapping of the Dutcher interval could not be accomplished because of insufficient or unreliable well data in the immediate vicinity of the No. 1 Chesser. Therefore, BLM asserts, it decided to take a conservative

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<sup>6/</sup> Cowden also argues that resolution of this appeal will not conclude this case because the dollar amount of compensatory royalty for the purported drainage has not yet been calculated, and the parameters upon which such a computation is based are appealable issues. BLM determines liability for compensatory royalty, while MMS calculates the dollar amount of the compensatory royalty due and bills for that amount. Given this division of authority and responsibility, an immediate appeal from the BLM liability determination is clearly warranted.

approach to defining the reservoir and assumed a circular or radial drainage pattern which it believes is the most logical and equitable approach and may actually work to Cowden's benefit. It challenges Cowden's analysis of the drainage radius as inconsistent with basic reservoir engineering principles.

BLM concludes that Cowden did not have a rational, prudent man basis for not drilling an offset to the No. 1 Chesser because the production from the No. 1 Chesser should have prompted him to drill the offset. BLM asserts that, even if Peters advised Cowden not to drill the offset, Cowden's responsibility to protect the Indian lease from drainage was not lessened by that advice. BLM acknowledges, however, that it erred in requiring compensatory royalty from the date of first production from the No. 1 Chesser since such royalty should not be assessed until after the passage of a reasonable time from notice of the drainage. In this case, BLM contends that Cowden had notice of the drainage upon first production from the No. 1 Chesser and that sixty days after that date is a reasonable period of time given the amount of time it would have taken to complete an offset well. BLM asks that the case be remanded to it to enable it to so modify its decision.

In a submission entitled Answer Brief of Appellants, Cowden asserts that it would have been to his economic advantage to drill an offset to the No. 1 Chesser if the possibility of commercial production from the Indian lease had existed because he owned a greater interest in the Indian lease (93.75 percent) <sup>7/</sup> than in the Chesser lease (12.5 percent). He repeats his contention that the Dutcher sands in the zone perforated by the No. 8 Stand could not produce commercial gas in 1981 or today, citing the analysis of Schlumberger Well Service and a comparison of current production from both the No. 1 Chesser and the No. 8 Stand, and concludes that a prudent operator would not have drilled an offset well in 1981 or today.

[1] The applicable regulations governing drainage and compensatory royalty, 43 CFR 3100.2-2 and 43 CFR 3162.2(a), provide in part, respectively:

Where lands in any leases are being drained of their oil or gas content by wells either on a Federal lease issued at a lower rate of royalty or on non-Federal lands, the lessee shall both drill and produce all wells necessary to protect the leased lands from drainage. In lieu of drilling necessary wells, the lessee may, with the consent of the authorized officer, pay compensatory

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<sup>7/</sup> Apparently Cowden owns the surface and the other 50 percent of the mineral interest in the lands embraced by the Indian lease. See Cowden's State Director Review submission entitled "Facts Regarding the Operation of the Thomas Stand Restricted Indian Lease 68326" at 1.

royalty in the amount determined in accordance with § 3162.2(a) of this title.

(a) The operating rights owner [8/] shall drill diligently and produce continuously from such wells as are necessary to protect the lessor from loss of royalty by reason of drainage. The authorized officer may assess compensatory royalty under which the operating rights owner shall pay a sum determined by the authorized officer as adequate to compensate the lessor for [the] operating rights owner's failure to drill and produce wells required to protect the lessor from loss through drainage by wells on adjacent lands.

Paragraph 3.(b)(1) of Indian lease 68326 similarly requires the lessee to protect the leased land from drainage either by drilling offset wells or paying compensatory royalty.

In Atlantic Richfield Co., 105 IBLA 218, 95 I.D. 235 (1988), and Atlantic Richfield Co. (On Reconsideration), 110 IBLA 200, 96 I.D. 363 (1989), this Board considered the drainage issue in the context of the common lessee. 9/ In our initial decision we discussed the principle that compensatory royalties commence upon the passage of a reasonable time following notice to the lessee that drainage is occurring. We held:

In a common lessee context, the lessee who drills the offending well is in the best position to know that drainage is occurring. In such context, we find no reason for requiring BLM to assume the initial burden of going forward with evidence that the common lessee knew or that a reasonably prudent operator should have known that drainage was occurring. See Elliott v. Pure Oil Co., [10 Ill.2d 146, 139 N.E.2d 295 (1956)]. The common lessee shall be presumed to have knowledge of the drainage upon first production from its offending well. However, this presumption is rebuttable by the common lessee, who bears the ultimate burden of persuasion as to notice of drainage.

Id. at 226, 95 I.D. at 240. See also NGC Energy Co., 114 IBLA 141, 152, 97 I.D. 159, 165 (1990); Cordillera Corp., 110 IBLA 61, 65-66 (1989).

[2] Under the usual statement of the prudent operator rule, even if drainage is occurring, the lessee is not required to drill an offset well unless there is a sufficient quantity of oil or gas to pay a reasonable

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8/ The operating rights owner is "the person or entity holding operating rights in a lease issued by the United States. A lessee may also be an operating rights owner if the operating rights in a lease or portion thereof have not been severed from record title." 43 CFR 3160.0-5(p).

9/ These rules apply to both common lessees and common operators. Petroleum, Inc., 115 IBLA 188, 191-92 (1990).

profit to the lessee over and above the cost of drilling the well. Nola Grace Ptasynski, 63 IBLA 240, 247, 89 I.D. 208, 212 (1982).

In Atlantic Richfield Co., supra at 224-25, 226, 95 I.D. at 239, 240, we determined that the prudent operator standard applies to situations in which a leased Federal tract is being drained by a well operated by a common lessee. We refined our determination of the proper burdens of proof in the common lessee context. In such situations, although BLM has the burden of establishing that the leased Federal tract is being drained by the common lessee's non-Federal well, it need not prove as a part of its cause of action that a protective well would be economic. In such cases the burden of producing evidence and the ultimate burden of persuasion on this issue rest with the common lessee. Id. at 225, 95 I.D. at 239. See also NGC Co., supra at 153, 97 I.D. at 165; Cordillera Corp., supra at 66.

[3] In Atlantic Richfield Co., supra, we also discussed the appropriate test of prudent operation to be applied in common lessee cases. We noted that, because the loss to the lessor is an economic loss, economics should govern the duty to drill. We held that if the cost of drilling and operating an offset well is greater than the value of the recovered oil and/or gas, there would be no breach of a lessee's duty to prevent drainage. However, if a lessee can make a reasonable profit by drilling the well, he should drill. We held that the prudent operator test is applied looking to the reasonably anticipatable recovery from the offset well, rather than the oil and/or gas which would be lost if the well were not drilled. Atlantic Richfield Co., supra at 226-27, 95 I.D. at 240-41.

In Atlantic Richfield Company (On Reconsideration), supra, we also addressed the extent to which the prudent operator rule applies to drainage by a common lessee. In that decision we held that the prudent operator rule limits the duty of a common lessee to protect Federal lands from drainage, i.e., a common lessee must pay compensatory royalty on oil and gas that it drained from a Federal lease only if the reserves recoverable by a protective well on the Federal lease are sufficient to pay a reasonable profit over and above the cost of drilling and operating the well. See NGC Co., supra at 154, 97 I.D. at 166.

In this case, appellant claims that at no time would a prudent operator have drilled a well in the N $\frac{1}{2}$  SW $\frac{1}{4}$  sec. 17 in order to protect the lease covering that land from drainage from the No. 1 Chesser well. As we have held, appellant herein was a common lessee. As such, the burden of going forward and the ultimate burden of persuasion that a protective well would not be economical is on appellant. Atlantic Richfield Co., 105 IBLA at 225, 95 I.D. at 239.

In its reply, BLM asserts that its August 17, 1988, letter to appellant never required the drilling of an offset well, that it only assessed compensatory royalty, and that appellant chose to drill the well on his own (Reply at 2, 4). What BLM ignores is its August 1987 letter to appellant in which it informed Cowden that he would be expected to drill a protective well on the Indian lease unless he could demonstrate with detailed engineering, geologic, and economic data that no drainage was occurring,

or that a protective well would have little or no chance of encountering oil or gas in quantities sufficient to pay the cost of drilling and operating the well. BLM also apprised Cowden of his option of relinquishing the lease upon payment of any assessed compensatory royalty. Thus, BLM did require the drilling of a protective well, as an alternative to paying compensatory royalty, in the absence of a showing that a prudent operator would not drill a well. Moreover, that demand was not unreasonable. When BLM makes a drainage determination, the lessee should be informed thereof and offered those options.

In this case, Cowden attempted to persuade BLM that a prudent operator would not drill a well. When BLM was unconvinced by the information submitted, Cowden decided to establish his position by drilling the Stand No. 8, and BLM advised him in a letter dated October 20, 1988, that "no drainage assessment, past or future, will be made to cover Dutcher drainage from restricted Indian lease 68326 if your Well No. 8 Stand (when drilled) does not encounter the Dutcher zone that is producing in your Well No. 1 Chesser." BLM further stated that if that zone were encountered, the drainage assessment would be revised based on actual data. BLM added that this was conditioned on the assumption that the No. 8 Stand would be drilled in the SE $\frac{1}{4}$  NW $\frac{1}{4}$  SE $\frac{1}{4}$  sec. 17.

The drilling of the Stand No. 8 is completed, and each party claims that the results of that drilling support its position. BLM, in an updated geologic report dated April 14, 1989, found that when Cowden drilled the No. 8 Stand, he encountered the Lower Dutcher sand, which is the producing sand in the No. 1 Chesser. In its January 19, 1990, memorandum, responding to Cowden's statement of reasons, BLM stated at page 2:

The various maps, geologic profiles, and electric log cross-sections presented by the Tulsa District Office, BLM, show that the Lower Dutcher gas sand in the Chesser No. 1 and in the Stand No. 8 are not only the same sand, but are almost identical except for a two percent difference in porosity. \* \* \* The fact that the Stand No. 8 is only 10 feet higher than the Chesser No. 1, and that both wells have very similar sand thickness and porosity "breaks" in the Lower Dutcher sand, is strong evidence that no fault or permeability barrier is present between the two wells. The above data, when considered with the fact that only 535 feet separates these two wells, and that both wells had similar, low, depleted reservoir pressures in the Lower Dutcher sand at the time of the Stand No. 8 completion in February 1989, is indeed convincing evidence that these two wells are producing gas from the same reservoir, and the Chesser No. 1, which is only 200 feet south of Indian Lease 68326, has been draining that lease for approximately 8 years.

In an addendum to the Tulsa District Office's Reservoir Engineering Review, dated May 24, 1989, was a document entitled "Daily Average Production Comparison Between Well No. 8 Stand and Well No. 1 Chesser." That document utilized 7-day gas production flow charts submitted by Cowden for

the period from February 26, 1989, through March 29, 1989, to show the average daily calculated gas volume (mcf) for each to the two wells, as follows:

	Average Daily Calculated Volume, MCFG	
<u>Chart Time Interval</u>	<u>Stand No.8</u>	<u>Chesser No.1</u>
2-26-89 to 3-5-89	45.15	36.13
3-5-89 to 3-19-89	33.38	33.97
3-13-89 to 3-21-89	31.48	34.29
3-21-89 to 3-29-89	25.08	34.16

BLM concluded in that document that "the two wells have production and pressures that are essentially the same. Accordingly, we believe the wells are in communication and are producing from the same reservoir. Drainage of Lease 68326 did occur." 10/

[4] We believe that BLM has not properly analyzed the data presented in this case. The drilling of the No. 8 Stand resulted in initial gas flow upon perforation in the Lower Dutcher sand of 7.5 mcfpd on December 14, 1988. A letter from a Schlumberger Well Services employee, Mo Cordes, to Cowden, dated January 5, 1989, summarizes interpretations of logs compiled in the drilling of the No. 8 Stand. Therein, he stated that the Lower Dutcher sand

(2,233-50 [feet]) calculates to be very tight with several shale streaks in the top 8 feet of this interval. The lower 9 feet of this sand has porosity ranging from (9 to 12.5%) with shale content of (9 to 14%). This zone should be gas productive but may have limited permeability due to the percentage of shale or clays present within this formation. [11/]

The Lower Dutcher sand was encountered 10 feet structurally higher in the No. 8 Stand (2,233-2,250 feet) than in the No. 1 Chesser (2,250-2,268 feet).

Following acidization of the well in order to clean the sand without any improvement in production, Cowden contracted to have Halliburton conduct a nitrogen fracturing of the No. 8 Stand. It was Cowden's contention, as expressed in his July 1989, State Director review submission,

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10/ The average static chart pressures for the two wells for the time in question ranged from 4.18 to 4.00 pounds per square inch (psi) for the No. 8 Stand and from 6.04 to 4.20 psi for the No. 1 Chesser.

11/ BLM explained in its Apr. 14, 1989, geologic report that the Schlumberger letter "analyzed the correct zones, but did not use the correct names." It noted that the Lower Dutcher sand was termed the Upper Dutcher sand in that letter. On a copy of the Schlumberger letter attached as Exhibit 8 to the geologic report, BLM added in the left margin the correct names of the zones being discussed. The quote in the text relates to the Lower Dutcher sand, as corrected.

that he had informed BLM prior to undertaking the fracturing that, based on his experience with other Dutcher sands in the area, fracturing would likely help production for a period of time, but that it would gradually return to its initial production. The well was fractured, and Cowden stated that after recovery of the fracturing fluid, G & O Measurement Company tested the well at 52 mcf for a 24-hour period on January 24-25, 1989. The production flow charts submitted to BLM for the period from February 26, 1989, to March 29, 1989, upon which BLM based its conclusion that production from the two wells was "essentially the same," substantiate Cowden's claim that production in the No. 8 Stand would gradually decrease. While those charts showed a drop over the period of a month for the No. 8 Stand from 45.15 mcf to 25.08 mcf, Cowden alleged at pages 3-4 in his July 1989 submission that production "after 16 weeks has fallen down to 11 mcfpd and is still declining." In his March 16, 1990, Answer Brief at pages 3-4, Cowden states that "[f]or the month of January, 1990, the Chesser No. 1 averaged 58.68 MCFPD as compared to the Stand No. 8 of 8.48 MCFPD for the same 31 days." These assertions regarding the return of the No. 8 Stand well to its initial production figure have not been disputed by BLM.

The conclusion to be drawn from this is that while the two wells have been completed in the same sand, *i.e.*, the Lower Dutcher sand, there is little or no communication between the wells. The gradual decline in production from the fractured rate to the initial rate indicates that the sand is the same in name only. The Schlumberger assessment that the Lower Dutcher sand in the No. 8 Stand might be of limited permeability because of a high percentage of shales and clays appears to be borne out. Moreover, if the wells were in communication, it would be a logical assumption that because the No. 8 Stand intercepted the Lower Dutcher sand at a more shallow depth (2,233-2,250 feet) than the No. 1 Chesser (2,250-2,268), gas production from the No. 8 Stand would be the same as that from the No. 1 Chesser, or greater. <sup>12/</sup> It is not greater; it is not "essentially the same;" it is much less.

In addition, BLM has questioned whether Cowden "actually received any advice from his geological expert back at the time the offset should have been drilled" (January 19, 1990, Memorandum, Addendum at 1), regarding whether or not to drill an offset. BLM bases this remark on the fact that no document from Cowden's geologist bears a date on or about the time the No. 1 Chesser was drilled. Despite the lack of such dated material, there is little reason to doubt Cowden's contentions. The record shows that he is a successful oil and gas operator in the Tiger Mountain Field, of which the Stand lease is a part, and that he has a 12.5 percent ownership in the Chesser lease, and a 93.75 percent ownership in the Stand lease. The

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<sup>12/</sup> BLM admits that the No. 8 Stand is an uneconomic well; however, it contends that production is less from the No. 8 Stand because the Stand lease has been drained by the No. 1 Chesser since 1981. We find that lack of communication between the wells and their relative depths on structure undercut that contention.

persuasive argument presented by Cowden, which is never addressed by BLM, is that it would have been in his economic interest to drill an offset well to the No. 1 Chesser in the Stand lease, if there was a likelihood that commercial production would have resulted. <sup>13/</sup> He states that at all times his geologist has advised him that a Stand lease well to offset the No. 1 Chesser would not be productive. Based on that advice, Cowden made a business decision not to drill. Cowden's drilling of the No. 8 Stand has proved his geologist right. It has also established that BLM's assessment of compensatory royalty in this case was improper.

We conclude that Cowden has shown by a preponderance of the evidence that the No. 1 Chesser has drained little or no gas from the Stand lease; that he had a reasonable basis for determining in 1981 and thereafter that the No. 1 Chesser was not draining the Stand lease; and that a prudent operator would not have drilled a well in the N½ SW¼ of sec. 17 of the Stand lease to protect that lease from drainage at any time following the completion of the No. 1 Chesser.

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 reversed.

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Gail M. Frazier  
Administrative Judge

I concur:

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Bruce R. Harris  
Deputy Chief Administrative Judge

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<sup>13/</sup> Rather than address Cowden's argument, BLM merely stated that "[w]e believe that Cowden did not drill an offset primarily because of his ownership in both the Chesser lease and Indian Lease 68326" (Jan. 19, 1990, Memorandum at 3).

