

RIO DE VIENTO, INC.

IBLA 2000-118

Decided July 18, 2000

Appeal from a decision of the Deputy State Director, Wyoming State Office, Bureau of Land Management, affirming a decision of the Casper Field Office, Wyoming Reservoir Management Group, approving the Second Revision of the Sour Gas Paleozoic Interval Participating Area "A" in the Madden Deep Unit. SDR WY-2000-04.

Affirmed.

1. Oil and Gas Leases: Unit and Cooperative Agreements—Oil and Gas Leases: Well Capable of Production

Paying quantities for purposes of a unit well includes quantities sufficient to repay the cost of drilling and producing operations with a reasonable profit. The costs of producing the well include the normal or usual handling, treating, measurement, and transportation costs which a lessee could be expected to pay to market leasehold production.

2. Oil and Gas Leases: Unit and Cooperative Agreements—Oil and Gas Leases: Well Capable of Production

A BLM decision approving an expansion to a participating area under a unit agreement based on a paying well determination for an exploratory well will be affirmed when the finding is based on a preponderance of the evidence. Appellant's burden of showing error on appeal is not met by showing BLM did not include the capital costs for construction of a unique gas processing plant required by discovery of a deposit of natural gas which is very deep, very high in temperature, and has abnormally high concentrations of sulfur dioxide in excess of 10 percent when it does not appear that BLM

has included such capital costs in the paying well determination for any of the paying unit wells in the participating area or that any one of the paying unit wells could recoup such extraordinary costs.

APPEARANCES: Phillip Wm. Lear, Esq., Salt Lake City, Utah, for Rio de Viento, Inc.; Laura Lindley, Esq., Denver, Colorado, and James J. Behrmann, Esq., Midland, Texas, for intervenor Louisiana Land and Exploration Company; Craig Newman, Esq., Casper, Wyoming, for intervenors W.A. Moncrief, Jr., and North Central Oil Corporation.

#### OPINION BY ADMINISTRATIVE JUDGE GRANT

Rio de Viento, Inc. (Rio or appellant), has appealed the December 22, 1999, decision of the Deputy State Director, Wyoming State Office, Bureau of Land Management (BLM), on State Director Review (SDR), affirming the November 4, 1999, decision of the Casper Field Office, Wyoming Reservoir Management Group (RMG), BLM, approving the Second Revision of the Sour Gas Paleozoic Interval Participating Area (PA) "A" of the Madden Deep Unit. By order dated March 10, 2000, the Board granted the motion to intervene filed by the unit operator, Louisiana Land and Exploration Company (LL&E or intervenor), granted the motion to stay the effect of the BLM decision pending administrative review, and granted the motion to expedite our review of this case.

This is the second time that this case has come before the Board. Rio, a lessee which has committed its working interests to the unit agreement, had challenged a prior (October 1998) RMG decision approving this revision of the PA based on the Bighorn No. 4-36 well, asserting on SDR that RMG had failed to properly include in its paying well determination the capital costs of extending a pipeline gathering system and expanding the capacity of a gas processing plant (for the removal of hydrogen sulfide and carbon dioxide), which are necessary for the full-scale production and marketing of the natural gas from the well. The paying well determination was also contested on the grounds that the flow test on which it was based was insufficient to support the determination. Further, Rio had asserted that the effective date of any expansion of the PA should have been later than that approved by BLM. We reversed the prior BLM decision on SDR dismissing Rio's appeal for lack of standing and remanded the case to BLM for adjudication on the merits, finding that a lessee which had committed its working interests to the unit agreement had standing to appeal a decision approving revision of a PA which adversely affected its interests. Chevron U.S.A. Production Company, 149 IBLA 374 (1999). <sup>1/</sup>

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<sup>1/</sup> As a lessee in the First Revision of the PA, appellant is subject to a potential dilution of its interest upon the expansion of the PA to include additional acreage. In addition, pursuant to the Supplemental Unit Operating Agreement, § 10.3, each consenting party to a development well deeper than 19,000 feet shall be entitled to recover from each nonconsenting party

The Madden Deep Unit encompasses approximately 70,023 acres in Fremont and Natrona Counties, Wyoming. On April 27, 1987, BHP Petroleum Company, Inc. (BHP), the unit operator at that time, submitted an application for approval of the Initial Sour Gas Paleozoic Interval PA "A" based on information obtained by the completion of the Bighorn No. 1-5 unit well on August 20, 1985. (SDR Ex. 11, attached to Statement of Reasons (SOR).) The engineering report prepared in support of the application relied on the four-point flow test conducted on August 22, 1985, and projected production data for the well, which had been shut-in pending evaluation of permitting and design considerations associated with the removal of hydrogen sulfide from the raw gas stream. The paying well analysis portion of the report included an estimated \$20 million in costs associated with a gas treatment facility to remove the hydrogen sulfide from the raw gas stream, in addition to the total actual cost of the well, in its payout evaluation. The Initial PA was approved by BLM effective August 20, 1985.

By letter dated June 24, 1988, BHP applied for approval of the First Revision of the PA predicated on information acquired in the completion of the Bighorn No. 2-3 unit well on May 6, 1988. See SDR Ex. 12, attached to SOR. The engineering report included with this application rested on the four-point flow test conducted on May 17, 1988, and projected production data for the well, which had also been shut-in pending design of the treatment facility required to remove hydrogen sulfide and carbon dioxide from the raw gas stream. In addition to the actual cost of drilling the well, the payout analysis for this well included an estimated \$20.2 million for gas treatment facilities and tubulars required to process a marketable gas. The First Revision was approved by BLM effective May 1, 1988. It was subsequent to the time of approval of these first two PA's that the Lost Cabin Gas Plant, which was completed in 1995, was constructed to remove the hydrogen sulfide and carbon dioxide from the raw gas stream.

By letter dated August 31, 1998, LL&E sought BLM approval of the Second Revision of the PA based on the knowledge and information first obtained from the June 22, 1997, testing of the Bighorn No. 4-36 unit well. 2/ The paying well determination component of the applicant's economic analysis did not include the capital costs associated with construction of the Lost Cabin Gas Plant or pipelines from the well to the

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fn. 1 (continued)

to such a development well that share of the production the nonconsenting party would have been entitled to until 1,000 percent of the costs of drilling, testing, and completing the well, including the cost of newly acquired equipment in the well and wellhead connections which would have been chargeable to the nonconsenting party if it had participated in the well, are recouped. (Ex. E to appellant's Memorandum in Support of Motion for Expedited Consideration.)

2/ Various documents in the case file also identify this well as the "Big Horn No. 4-36" and the "Bighorn #4-36" well. For consistency, we will refer to this well as the "Bighorn No. 4-36" well.

plant. <sup>3/</sup> The analysis did, however, factor in the actual \$0.63/mcf cost of treating the gas at the plant. While recognizing that, under section 11 of the Madden Deep Unit Agreement, the effective date of the revision would be June 1, 1997, LL&E requested that the effective date be modified to coincide with the date of the well's first production in order to avoid creating an inequitable situation for owners of interests within the First Revision.

In the October 30, 1998, Engineering Analysis prepared by BLM for the second PA revision application, RMG determined that the Bighorn No. 4-36 well was capable of producing unitized substances in paying quantities. It based this determination on the well test data, finding no need for requiring an actual production history since the well test pressure data compared favorably with the data from the Bighorn Nos. 1-5 and 2-3 wells and adequately demonstrated the sufficiency of the Bighorn No. 4-36 well's recoverable reserves. Further, RMG denied LL&E's request to modify the effective date of the revision, concluding that convincing evidence had not been presented justifying such modification, and recommended that June 1, 1997, be set as the effective date of the Second Revision of the PA.

On November 4, 1999, RMG issued its decision approving the Second Revision of the Sour Gas Paleozoic Interval PA "A." (SOR at Ex. 8.) The decision addressed two primary issues: whether the capital costs of building the new gas processing plant and the pipeline tie-in from the Bighorn No. 4-36 well to the gas plant should have been included in the paying well determination and, assuming a paying well is established, what effective date should apply to the revised PA. Recognizing that the term "production of unitized substances in paying quantities" is defined in the model unit agreement to require quantities sufficient to repay the costs of drilling, completing, and producing operations with a reasonable profit, BLM analyzed the costs properly included under the term "producing operations." Finding that the Interim Guidance on Oil and Gas Units Administration (Draft BLM Manual 3180-1) <sup>4/</sup> defines "producing operations" to include the cost of

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<sup>3/</sup> In its Oct. 30, 1998, Engineering Analysis for the Second Revision of the PA, BLM stated that it had advised LL&E in a letter dated June 5, 1998, "that the paying well determination for the Bighorn No. 4-36 well should not incorporate capital costs to build the new gas plant, expand the existing gas plant, or tie-in the pipeline from the well to the plant." (Engineering Analysis at 2.)

<sup>4/</sup> It appears from the record that the Draft Manual provisions on exploratory units and the associated Draft Manual Handbook provisions were implemented by BLM as interim guidance on administration of oil and gas units. (Instruction Memorandum No. 93-66 (Nov. 20, 1992).) By its own terms, that Instruction Memorandum expired Sept. 30, 1994, and it does not appear that the Draft Manual provisions or the Draft Manual Handbook were ever incorporated in the BLM Manual.

"marketing the product," BLM noted that the definition of the cost of "marketing the product" in the Draft Manual includes normal or usual handling, treating, measurement, and transportation cost which a responsible lessee could be expected to pay to market leasehold production, but specifically excluded "abnormal or extraordinary charges."

Given the extreme heat and the high hydrogen sulfide concentration in the Madden Deep Unit's Paleozoic gas play, RMG found the costs associated with constructing the gas plant, which was the only plant in the country designed to operate without producing any liquids, could only be considered "abnormal and extraordinary." (RMG decision of Nov. 4, 1999, at 2.) Further, BLM found that the cost of the associated tie-in to the Bighorn No. 4-36 well, using extremely expensive tubular goods, was not normal and usual, but rather abnormal and extraordinary. Id. This approach was asserted to be consistent with exclusion of the capital costs (\$1.5 billion) associated with the Shute Creek Gas Plant and Dehydration Facility constructed by Exxon in the 1980's to process gas with a substantial carbon dioxide and hydrogen sulfide content from three Federal units in southwestern Wyoming when making paying well determinations. Id. at 3. It was noted by RMG that if the capital cost of the Shute Creek plant had been included in the paying well determination, all producing wells in the unit would have been nonunit wells which would have caused, among other things, the drilling of unnecessary wells and inefficient reservoir development. Id. Finally, RMG pointed out that it had included the actual costs of handling and treating the gas in its paying well determination.

The RMG decision also concluded that the appropriate effective date for the Second Revision was June 1, 1997. According to RMG, the four-point back-pressure flow test performed on the Bighorn No. 4-36 between June 18-22, 1997, coupled with earlier pressure surveys, sufficed to support approval of the Second Revision of the PA. Since the applicable guidelines recognized that recoverable reserve estimates could be based on well test data where there was little opportunity for near-term pipeline hookup to obtain a production history, RMG determined that reliance on the back pressure well test data conformed to the guidelines, especially given the safety concerns associated with well testing and the need for additional gas plant construction before pipeline hook-up of the well. Additionally, RMG noted that subsequent pressure surveys confirmed the validity of its recoverable reserves estimate further validating its conclusion that the well test data provided an adequate foundation for the paying well determination. Because the Second Revision was predicated on knowledge or information obtained in June 1997, RMG found that the June 1, 1997, effective date accorded with the Unit Agreement's provisions.

Rio requested SDR of RMG's decision. Rio argued that the economic calculations upon which the paying well determination had been based were flawed because they excluded the costs associated with the Lost Cabin Gas Plant and the necessary gathering system; that there was insufficient production history to support a paying well determination for the Bighorn

No. 4-36 well; and that the effective date of the Second Revision did not conform to law or practice and should have been modified to a more appropriate date.

In his December 22, 1999, decision, the Deputy State Director rejected all of Rio's arguments and affirmed the RMG decision. He determined that RMG's inclusion of the actual costs of gas handling and treatment and its exclusion of the capital costs associated with construction of the gas plant conformed to the BLM Manual guidance, observing that the Manual did not specifically direct the inclusion of such capital costs in the paying well determination but did expressly exclude consideration of abnormal or extraordinary charges. He found the evidence inconclusive as to whether BLM had actually considered gas plant capital costs in the paying well determinations for the Bighorn Nos. 1-5 and 2-3 wells and, accordingly, rejected Rio's contention that RMG had improperly changed its policy. The Deputy State Director further concluded that, contrary to Rio's assertion, the guidelines did not require 6 to 12 months of continuous production to support a paying well determination, but, rather, provided RMG flexibility in acquiring sufficient production history for that determination. He indicated that RMG had presented a reasoned and adequate explanation for using the flow test data, adding that actual production from the well had verified RMG's projections based on that data. He also noted that BLM had similarly based its paying well determinations for the Bighorn Nos. 1-5 and 2-3 wells on well test data. Finally, the Deputy State Director affirmed the June 1, 1997, effective date of the Second Revision of the PA, finding that the data gleaned from the June 1997 well tests, in conjunction with earlier pressure surveys, constituted sufficient information and knowledge upon which to base the PA revision.

On appeal to the Board, Rio attacks the Deputy State Director's decision on three issues, arguing that RMG erroneously failed to include the capital costs of the Lost Cabin Gas Plant in the paying well determination; that the well test data provided insufficient support for the paying well determination; and that the effective date of the PA revision should be the first month following the accumulation of sufficient production to project recoverable reserves, but no sooner than September 1, 1998.

Rio argues that Departmental regulations and guidance direct the inclusion of production costs, including relevant capital costs, in paying well determinations. Specifically, Rio maintains that sections 9 and 11 of the Model Unit Agreement found at 43 C.F.R. § 3186.1 limit PA expansions to lands reasonably proven to be productive of unitized substances in paying quantities, *i.e.*, quantities sufficient to repay the costs of drilling, completing, and producing operations with a reasonable profit. Rio asserts that the draft BLM Manual expressly authorizes the inclusion of normal marketing and processing costs, including normal handling, treating, measurement, and transportation costs incurred to market leasehold production, in paying well determinations, citing section H-3180-1, ILE of the draft Manual Handbook. Since the sour gas produced from the Bighorn No. 4-36 well is unmarketable without processing, Rio contends that the paying well determination must include the costs of the Lost Cabin Gas Plant and

related gathering system. According to Rio, such costs are not "abnormal and extraordinary" costs excludable from the paying well determination, but must be considered normal marketing costs in the context of what is normal for an extraordinary reservoir. Rio asserts that BLM included gas plant capital costs in the paying well determinations for the Bighorn Nos. 1-5 and 2-3 wells and suggests that RMG's exclusion of those costs here is not only arbitrary, capricious, and an abuse of discretion, but also violates the equal protection requirements of the Due Process Clause of the Fifth Amendment because BLM has presented no rational basis for its change in policy.

Rio also argues that BLM should have based its paying well determination on a 12-month production history from the Bighorn No. 4-36 well instead of a 3-day production test. Rio claims that Departmental policy requires the recording of 6 to 12 months of continuous monthly production to support paying well determinations involving flank wells on the Madden structure, citing a February 5, 1981, letter from the Deputy Conservation Manager, North Central Region, U.S. Geological Survey (USGS), discussed in Monsanto Oil Co., 95 IBLA 112 (1987). Further, Rio contends RMG's own Unit Participating Area Application Guidelines also prescribe 6 to 12 months of production history before making paying-well determinations, dismissing as unsubstantiated RMG's claim that reliance on a 3-day test was sufficient due to the little opportunity for a near-term pipeline hookup. Rio maintains that RMG's acceptance of the 3-day test ignored Departmental policy and practices for the Madden anticline and failed to provide adequate foundation for the paying well determination.

Finally, citing the reasoning and procedures upheld in Monsanto Oil Co., *supra*, Rio asserts that the proper effective date for the Second Revision of the PA should be the first day of the month following an adequate production period of 6 to 12 months, *i.e.*, between June 1 and December 1, 1999.

In response, 5/ intervenor notes that the Madden Deep Unit Agreement is a binding contract between the United States and the participating parties and controls the outcome of this case. 6/ Intervenor also denies that the draft BLM Manual requires the inclusion of capital costs of the Lost

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5/ In the Mar. 28, 2000, cover letter transmitting its answer, intervenor requested that certain specified information contained in the answer and exhibits be kept confidential in accordance with 43 C.F.R. § 4.31. Intervenor asserted that the identified information was confidential commercial and financial information exempt from disclosure under 5 U.S.C. § 552(b)(4) (1994), and objected only to disclosure of the information to third parties not involved in this appeal. We grant intervenor's request and direct the parties not to disclose the information.

6/ W.A. Moncrief, Jr., and North Central Oil Corporation, nonoperating working interest owners, filed a statement dated Apr. 5, 2000, supporting and joining intervenor's Answer to Rio's SOR.

Cabin Gas Plant in determining whether the Bighorn No. 4-36 well is a paying well. Noting that the draft Manual provisions expired by their own terms on September 30, 1994, and were never adopted as part of the BLM Manual, intervenor contends the provisions do not mandate the inclusion of the capital costs of the Lost Cabin Gas Plant and associated gathering system in the paying well determination for the Bighorn No. 4-36. Intervenor emphasizes that, as the Deputy State Director noted, the Manual Handbook excludes abnormal or extraordinary charges from the paying well determination and submits that BLM properly found that the capital costs associated with treating the unique gas from the Paleozoic Interval are extraordinary and abnormal.

Intervenor disputes Rio's reliance on BLM's alleged consideration of gas plant capital costs in the paying well determinations for the Bighorn Nos. 1-5 and 2-3 wells. Intervenor states that the figures included in the applications for the initial PA and First Revision of the PA were grossly understated estimates of the then-unknown actual capital cost of the plant and did not represent anything approximating the actual cost of the plant. Further, intervenor notes that BLM had previously ruled that the plant costs should not be included in the paying well determinations for the Bighorn Nos. 1-5 and 2-3 wells, citing the Deputy State Director's May 8, 1992, decision in Aberdeen Petroleum (USA) Inc., SDR No. WY-92-08, a challenge by one of the working interest owners to BLM's approval of an amendment to the First Revision of the PA, which expressly found that the gas plant costs were extraordinary costs not included in the paying well determination. (Answer, Ex. F.) Thus, contrary to Rio's contention, intervenor avers that BLM has been consistent in its policy on included and excluded costs in paying well determinations, a consistency bolstered by BLM's exclusion of the cost of the Shute Creek gas treatment plant in the paying well determinations for other units. In any event, intervenor emphasizes that BLM did factor in the actual cost of gathering and processing operations involving the Paleozoic gas in the paying well determination, deducting \$0.63/mcf from the revenues in the discounted cash flow analysis.

Intervenor also contests Rio's claim that RMG should have required 12 months of production history before making the paying well determination for the Bighorn No. 4-36 well, pointing out that actual production from the well for over a year confirms the projections BLM made based on the 3-day well test and refutes Rio's unsupported speculation that the well is a flank well which will not produce as much as crest wells. <sup>7/</sup> Intervenor notes that both the Bighorn No. 1-5 and No. 2-3 wells were found to be paying unit wells based only on the initial production tests, and that the Deputy State Director rejected a similar argument in the Aberdeen Petroleum case. Intervenor denies that Departmental policy requires 6 to

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<sup>7/</sup> Intervenor denies that the Bighorn No. 4-36 well is a flank well or that its structural position affects its production capacity as compared to the Bighorn Nos. 1-5 and 2-3 wells.

12 months of continuous production to support a paying well determination for a well located on the flank of the Madden structure, arguing that the 1981 USGS letter cited by Rio cannot plausibly be considered Departmental policy, and that, in any event, the letter does not pertain to production from the Paleozoic Interval since the first well drilled to that interval, the Bighorn No. 1-5, was not completed until 1985. Intervenor observes that BLM did not require 6 to 12 months production for that well or the Bighorn No. 2-3 well before determining that those wells were paying wells.

Intervenor contends that the June 1, 1997, effective date for the Second Revision of the PA approved by BLM fully conforms to the terms of section 11 of the Madden Deep Unit Agreement. Intervenor denies that Monsanto Oil Co., *supra*, directs that the effective date be no sooner than the first of the month following 6 months of continuous production, pointing out that the Board in that case affirmed BLM's establishment of an effective date based on the date the subject well was completed and thus cannot fairly be read as requiring that a PA revision be effective on a date subsequent to 6 to 12 months of continuous production.

Section 17 of the Mineral Leasing Act, as amended, 30 U.S.C. § 226(m) (1994), authorizes lessees to unite for the purpose of conserving the natural resources of any oil or gas field by collectively adopting and operating under a unit plan of development or operation "whenever determined and certified by the Secretary of the Interior to be necessary or advisable in the public interest." The Federal regulations governing unit agreements are found at 43 C.F.R. Subpart 3180. A unit agreement is a contract between participating parties for joint development and operation of an oil or gas field. Orvin Froholm, 132 IBLA 301, 305 (1995). The unit agreement is essentially a contract between private parties, approved by the Department when Federal mineral estates are present, setting forth the rights and liabilities of the parties to the agreement. Id.; see Burlington Resources Oil & Gas Co., 150 IBLA 178, 185-186 (1999). A unit agreement submitted to BLM "shall be approved by the authorized officer upon a determination that such agreement is necessary or advisable in the public interest and is for the purpose of more properly conserving natural resources." 43 C.F.R. § 3183.4(a). Thus, one of the purposes of a unit agreement is the conservation of oil or gas resources to be developed. Chesapeake Operating, Inc., 149 IBLA 188, 202 (1999).

The Madden Deep Unit Agreement, entered into on May 1, 1967, and approved by the Department of the Interior on July 31, 1967, governs the operation of the Madden Deep Unit including revision of the Sour Gas Paleozoic Interval PA "A." Section 11 of the Unit Agreement sets out the standards for revising participating areas:

The participating area or areas so established shall be revised from time to time \* \* \* whenever such action appears proper as a result of further drilling operations or otherwise to include additional land then regarded as reasonably proved to be productive in paying quantities. \* \* \* The effective date of any

revision shall be the first of the month in which is obtained the knowledge or information on which such revision is predicated, provided, however, that a more appropriate effective date may be used if justified by the Unit Operator and approved by [BLM].

Although section 11 of the Madden Deep Unit Agreement authorizes PA revisions "whenever such action appears proper as a result of further drilling operations or otherwise to include additional land then regarded as reasonably proved to be productive in paying quantities" (emphasis added), in this case BLM approved the Second Revision based on "further drilling operations," *i.e.*, the completion and testing of the Bighorn No. 4-36 well. Thus, resolution of this appeal centers on whether BLM properly concluded that the Bighorn No. 4-36 well is a paying well. Rio, as the party challenging BLM's decision, has the burden of establishing by a preponderance of the evidence that BLM erred in its paying well determination. See Monsanto Oil Co., 95 IBLA at 119. We find that Rio has failed to meet its burden and affirm the Deputy State Director's decision.

[1] Section 9 of the Madden Deep Unit Agreement defines paying quantities as "quantities sufficient to repay the cost of drilling, and producing operations, with a reasonable profit." The Draft BLM Manual Handbook identifies the cost of "producing operations" as:

"the cost of maintaining the lease and producing the wells, including the cost of marketing the products." The phrase "cost of marketing the products" is further defined as "the normal or usual handling, treating, measurement, and transportation costs which a responsible lessee could be expected to pay to market his leasehold production. Such costs would not include abnormal or extraordinary charges, such as construction of a lengthy pipeline."

(Answer, Ex. B, Draft Handbook, H-3180-1, II.F.) This appears to be consistent with prior practice in the Department. Thus, the Conservation Division Manual, published by the USGS, <sup>8/</sup> as quoted in Yates Petroleum Corp., 67 IBLA 246, 252, 89 I.D. 480, 483 (1982), noted that to be considered a unit well, a well "must be capable of production in such quantity as will pay a profit to the lessee over and above the normal costs of

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<sup>8/</sup> The Conservation Division, USGS, was responsible for regulating onshore oil and gas operations until February 1982, when these responsibilities were transferred to the Minerals Management Service by Secretarial Order No. 3071, 47 Fed. Reg. 4751 (Feb. 2, 1982). Subsequently, by Secretarial Order No. 3087 and Amendment No. 1, dated Dec. 3, 1982, and Feb. 7, 1983, 48 Fed. Reg. 8983 (Mar. 2, 1983), all onshore minerals management functions not relating to royalty collection were transferred to BLM.

drilling, completing and equipping the well, maintaining the lease, operating the well, and marketing the product" (Emphasis added.) Both Rio and intervenor agree that costs of treating the sour gas produced from the Bighorn No. 4-36 well to make the gas marketable should be included in the paying well determination. The parties disagree, however, on what those costs encompass: Rio insists that the capital costs associated with the Lost Cabin Gas Plant and the related gathering system must be included while intervenor avers that only the actual \$0.63/mcf gas gathering, handling, and treating cost should be considered.

[2] Both RMG and the Deputy State Director concluded that the gas plant and associated capital costs were excludable abnormal and extraordinary costs because the deep gas, high temperatures, and elevated hydrogen sulfide concentrations found in the Paleozoic interval were unparalleled in the Rocky Mountains, and the Lost Cabin Gas Plant was uniquely designed to operate without producing any liquids. In its decision, RMG noted that: "Temperatures greater than 400 [degrees] F[ahrenheit] and [hydrogen sulfide] concentrations in excess of 10 percent create a hostile environment requiring extremely expensive heat and [hydrogen sulfide] resistant tubular goods." (Decision at 2.) The record supports the finding that the costs of the Lost Cabin Gas Plant and the associated well pipe line are abnormal and extraordinary costs, which are properly excluded from a paying well determination. Rio has not established that these costs should be considered normal in the context of an extraordinary and abnormal reservoir, and we find that Rio's difference of opinion with BLM over what constitute abnormal and extraordinary costs does not suffice to show error in BLM's decision. See, e.g., Larry Thompson, 151 IBLA 208, 217, 218 (1999).

This BLM interpretation of the term paying quantities to exclude abnormal and extraordinary costs appears to be consistent with the intent of the statutory and regulatory provisions regarding unitization, *i.e.*, conservation of natural resources including this very unusual gas deposit. It is not clear from the record before us that any one of the three productive wells completed in this formation could support repayment of the extraordinary capital cost of either the initial construction or the expansion of the Lost Cabin Gas Plant, which costs far exceed the amounts allocated for gas treatment facilities and tubing in the paying well determination for the Bighorn No. 1-5 (\$20 million) and the Bighorn No. 2-3 (\$20.2 million). A finding that the well was not capable of producing in paying quantities because of the extraordinary costs of the gas processing plant would deprive the producing Bighorn No. 4-36 well (and arguably should deprive the producing Bighorn Nos. 1-5 and 2-3 wells) of the status of a unit well. Regarding the effects of such a finding, BLM found that production on a lease basis would result which would encourage the drilling of unnecessary wells and inefficient reservoir development which would not be in the interest of conservation of natural resources. (RMG decision of November 4, 1999, at 3.)

Rio has not established that BLM has arbitrarily departed from a past practice of including gas plant capital costs in paying well determinations

for the Bighorn Nos. 1-5 and 2-3 wells. The fact that the unit operator included an estimated cost for a gas plant in the applications for approval of the initial and First Revision to the PA does not demonstrate that BLM considered the capital costs of the plant in its decisions, especially given the fact that the initial PA and the First Revision were approved by BLM on June 19, 1987, and March 26, 1992, respectively, long before the plant was completed in 1995. (Answer at Ex. F.) Further, BLM's policy of excluding those costs is evidenced by BLM's treatment of Exxon's Shute Creek Gas Plant and Dehydration Facility and the Deputy State Director's May 8, 1992, decision in the Aberdeen Petroleum case. Id. In any event, those applications were made several years before the design and construction of the Lost Cabin Gas Plant and, therefore, did not and could not contain actual gas treating costs as did the application for the Second Revision. Accordingly, we find no error in BLM's exclusion of the capital costs associated with the Lost Cabin Gas Plant and related gathering system in its paying well determination for the Bighorn No. 4-36 well.

We similarly reject Rio's claim that BLM should have required 6 to 12 months of continuous monthly production to support the paying well determination for the Bighorn No. 4-36 well. Rio's assertions to the contrary notwithstanding, there is no Departmental policy mandating 6 to 12 months of continuous production before determining the paying status of a unit well. Without more information about its genesis and purpose, the 1981 USGS letter cited in Monsanto Oil Co., 95 IBLA at 121, and relied upon by Rio, cannot reasonably be construed as establishing such a policy, especially since the letter was written years before any drilling into the gas reservoir at issue here. Nor do the RMG guidelines mandate 6 to 12 months of production to sustain a paying well determination. Those guidelines, which address the ultimate recoverable reserves and reserves in place estimates included in applications for initial PA's, state:

Six months of continuous production is preferred prior to submission of reserves determinations for oil or gas wells. In special situations, up to 12 months of production history may be required in support of the projected well performance and reserves estimates. Also, where there is little opportunity for near term pipeline hookup and obtaining production history, the reserves estimates may have to be made based on well test data.

(SDR Ex. 15 attached to SOR at 2.) Thus, rather than rigidly prescribing a fixed production period, the guidelines allow flexibility in the amount of production history sufficient to support reserves estimates. As it did for the Bighorn Nos. 1-5 and 2-3 wells, BLM based its reserves estimates and the paying well determination for the Bighorn No. 4-36 well on well test data. The subsequent actual production from the well has validated the estimates derived from the test information. Under these circumstances, we find no error in BLM's reliance on the well test data as the predicate for its paying well determination.

We further reject Rio's challenge to the effective date of the Second Revision of the PA established by BLM. Section 11 of the Madden Deep Unit Agreement provides that "[t]he effective date of any revision shall be the first of the month in which is obtained the knowledge or information on which such revision is predicated, provided, however, that a more appropriate effective date may be used if justified by the Unit Operator and approved by [BLM]." The well tests forming the predicate for the Second Revision were performed in June 1997; BLM therefore established June 1, 1997, as the effective date for the revision. In light of our approval of BLM's use of the well tests as the predicate for its paying well determination, we find that the effective date set by BLM fully conforms to the Unit Agreement and is properly affirmed. The Board's decision in Monsanto Oil Co. does not dictate a different result.

To the extent not specifically addressed herein, Rio's other arguments have been considered and rejected.

Therefore, pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior, 43 C.F.R. § 4.1, the decision appealed from is affirmed and the stay previously entered in this case is vacated.

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C. Randall Grant, Jr.  
Administrative Judge

I concur:

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Will A. Irwin  
Administrative Judge

