Case 8397

1984

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December 17, 1984

HAND-DELIVERED

Mr. Richard L. Stamets
Director
Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

RECEIVED
DEC 1984
OIL CONSERVATION DIVISION

Re: Eunice Monument South Unit Hearing
NMOCC Case No. 8397
Response to Commission Inquiry

Dear Mr. Stamets:

Exxon has been furnished a copy of Gulf Oil Corporation's response to your requested comparison of profitability of the four tracts previously identified by Exxon on its Exhibit Number 5.

The main issue, which Gulf brings out in the second paragraph of Gulf's reply, is whether the participation formula allocates profits from Unit operations proportionately to the relative value that each tract contributes to the Unit. Gulf points out that in the allocation of profits, consideration must be given to the value and risk of the reserves contributed by each tract and the reserves allocated to the tract by unitized operations. Exxon agrees with Gulf that such considerations are appropriate. However, Exxon disagrees with Gulf's assessment of the value and the risk of the reserves involved.

In Gulf's reply, the erroneous conclusion is made that remaining primary reserves for the four tracts have much greater value than the secondary reserves, and that there is more risk associated with the secondary reserves. Also, in its methodology, Gulf has improperly burdened the royalty owner's interest with a share of the financial risks which should be borne solely by the working interest owners.

In regard to Gulf's contentions, please consider the following information from the testimony and exhibits presented at the Eunice Monument South Unit Hearing:

VALUE

With regard to relative value of remaining primary reserves and secondary reserves, Attachments 1 and 2 show that in fact the estimated time for primary depletion for the four tracts in question range from 87 to 156 years, as testified to by W. E. Nolan. In Attachment 2, area (A) is the full Unit flowstream for these tracts under Formula 2A, area (B) is that portion of the flowstream that is allocated to the tracts by weighting primary parameters 50% in Formula 2A, and area (C) is the remaining primary of the four tracts combined. Gulf, in the first paragraph of page 2, incorrectly concludes that the four tracts in question are credited with only 56% of the remaining primary they are contributing. Area "B" of Exxon's Attachment No. 2 shows these tracts are credited under the formula with 7.85 million barrels (50% Formula Credit x 76.2 million barrels reserve x 20.579% participation). The four tracts in question are in fact being credited with 160% of their contribution of reserves. [(7.85 ÷ 4.9)100]. These estimates were taken directly from Exhibit 22, the Technical Committee Report. The specific tracts in question are shown in Attachment 3.

Contrasting the primary recovery depletion times of 87 to 156 years to the estimated secondary depletion time of 30 years leads to the conclusion that, on a time basis, secondary reserves have a much greater value for these four particular tracts than primary reserves. Gulf's conclusion that primary reserves have more value would be true _if_ primary depletion would be achieved before secondary depletion. However, the long depletion times required for these tracts to produce their remaining primary reserves far exceed their secondary depletion times and as such decrease significantly the value of the remaining primary reserves. Obviously, Gulf's erroneous assumption significantly distorts value determinations.

Another significant impact of the long primary depletion times of the four tracts is greater expense and additional capital investment, which have not been recognized by Gulf. Since primary depletion time is between 57 and 126 years longer than secondary depletion, increased expenses would be realized in the primary phase due simply to extended operating time. Additionally, equipment replacement costs for pumping units, tubulars, flow lines, tank batteries, etc., over the extended 57 to 126 year period would be substantial. Gulf's failure to consider these added costs for recovery of remaining primary reserves has contributed to their incorrect conclusion that the value of primary reserves is greater than the value of secondary reserves.

A third error in Gulf's assessment, as contained in Gulf's Table I, is that Gulf has chosen to use the average remaining primary flowstream for all tracts rather than the actual flowstream developed by the Technical Committee for the four tracts in question. The economics presented in Exhibit 26 support the basic soundness of the project as a whole, but do not provide an equitable basis for allocation between tracts. Gulf's project economics assumes primary depletion at an economic limit of one barrel per producing well at unitization, or 217 barrels per day. This assumption results in an average depletion time of 49 years for the Unit. (The average primary depletion time of 49 years actually exceeds the expected secondary depletion time of 30 years.) Because the actual remaining primary flowstream for these four tracts extends much farther into the future than the Unit average, it is necessary to use the actual tract flowstream when evaluating the equity of a particular formula for that tract.

In order to present a more realistic monetary impact to the Commission, Exxon has prepared an economic model using the same simplifying assumptions Gulf alluded to in its testimony. The main difference is that this model uses the actual remaining primary flowstreams rather than simply applying the tracts' total remaining primary fraction to the total Unit remaining primary reserves. Results of Exxon's economic model are shown in Attachment 4. Under this model, the time effect of the remaining primary reserves is apparent. A barrel of oil under Unit operations has a larger present value than a barrel of oil under continued primary operations. The same assessment for royalty owners, which excludes expenses and investments (none of which they share), shows an even greater difference.

RESERVE RISK

Exxon maintains that the Technical Committee estimate of secondary reserves of 64.2 million barrels is a valid estimate that has properly taken risk into account. Mr. Tom Wheeler, of Gulf, testified that the probable range of recovery of this type of waterflood could be from 25% of the ultimate primary recovery to 100% of the ultimate primary recovery. The Technical Committee estimate of 64.2 million barrels is 48% of the ultimate primary recovery which is less than halfway between the range mentioned.

In considering the Committee reserve estimate, it is important to realize that the ongoing technology for tertiary recovery should apply to this field, and that no credit for these reserves has been given. Thus all indications are that the Committee is quite conservative, and that there is considerable upside potential for future recovery increases.

Finally, the risk in assessing primary reserves in this particular instance should be considered. As mentioned previously, the lengthy time period for remaining primary recovery (87 to 156 years) is such that some of the potential problems that could increase costs also increase the risk of recovering those primary reserves. The shallow declines placed on these tracts which results in depletion times of 87 to over 156 years imply that the remaining primary reserves estimates are extremely optimistic and that these tracts have no upside primary reserve potential.

FINANCIAL RISK

Tract allocation necessarily affects both working interest owners and royalty owners. As a matter of law, the royalty interest owners do not bear any of the financial risks of production. If financial risk is made a substantial element of the allocation formula, as implied by Gulf, some of the royalty interest owners would be forced to bear a substantial risk penalty. The allocation of financial risks by shifting reserves from one tract to another tract would violate the correlative rights of those royalty owners and their right to a cost free share of production. (Attachment 4 shows reserve valuations with financial risks excluded.)

SUMMARY

Exxon supports unitization of the Eunice Monument South Unit. However, because of the undue benefits realized by the owners of the four tracts, participation unduly favors those owners who have large remaining primary reserves. The owners of the four tracts, Amoco, Arco, Chevron, Conoco, and Shell, alongwith Gulf, have ownership of over 80% of the Unit. Weighting the participation formula for this secondary unit 50% upon primary parameters when the remaining primary reserves comprise only 16% of the average future reserves of the Unit is totally unreasonable. Additionally, we believe that we have adequately shown that:

1. Gulf's conclusion that primary reserves have greater value than secondary reserves in this Unit is in error. In fact, the primary reserves have less value than secondary reserves for the four tracts in question, as shown on Attachment 4.

2. The risking of reserves was adequately handled by the Technical Committee and it is inappropriate for Gulf to question the Committee's conclusion at this time. In fact, the evidence presented indicates that there is considerable upside potential for secondary reserves and that no such potential exists for the primary reserves of these four tracts.

Taking these last two conclusions into consideration, the current Formula 2A does not allocate unitized hydrocarbons in a fair, reasonable, and equitable basis.

Exxon contends that of all of the one-phase formulas presented at the August 25, 1983 Working Interest Owners Meeting, Formula 3 most nearly allocates unitized hydrocarbons on a fair, reasonable, and equitable basis.

We respectfully request your review of the information contained herein and a ruling in favor of unitization, but conditioned on the adoption of a specified participation formula that allocates unitized hydrocarbons on a fair, reasonable, and equitable basis, as provided for under Section 70-7-6(B) of the New Mexico Statutory Unitization Act.

Very truly yours,

James E. Sperling

James E. Sperling

JES/jev
Attach.

cc: Mr. W. Thomas Kellahin, w/attach.
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December 5, 1984

RECEIVED
1984
OIL CONSERVATION DIVISION

Mr. Richard L. Stamets
Director
Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: Gulf Oil Company
NMOCC Case 8397

Dear Mr. Stamets:

On November 26, 1984, you requested Gulf Oil Corporation to direct your attention to those portions of the evidence at the hearing of the referenced case from which you could make a comparison of the profitability of the four quality tracts identified by Exxon on its Exhibit Number 5.

In assessing equity among tracts it is necessary to determine if the participation formula results in the allocation of profits from Unit operations proportionately to the relative value that each tract contributes to the Unit. As you have recognized, it is not sufficient to say, as Exxon has testified, that reserves alone can be the measure of such proportionality. We must consider the value and risk of the reserves contributed by each tract in relation to the value and risk of production allocated under unitized operation.

Please consider the following information from the testimony in regard to your request:

First:

On page 41 of Gulf Exhibit 22 is a tabulation of the total remaining primary reserves for the unit of 14.521 million barrels of oil. The four quality tracts have a total remaining primary reserve as determined by the Technical Committee of 5.337758 million barrels of oil (see Gulf Exhibit 22: Figures 24, 38, 42, and 56). That represents 36.758% of the Units total remaining primary reserves.

These same four tracts, however, have a combined Unit participation of only 20.579% which means they will be allocated 2.988 million barrels of primary oil under Unit operations (.20579 x 14.521 mm bbls) or only 56% of the actual remaining primary reserves they are contributing to the unit.

In other words, the four quality tracts will be giving up to the other tracts 44% of their proven, low risk, low cost, primary reserves in exchange for speculative, high cost, secondary reserves. Such an exchange would not be equitable to the four quality tracts simply on a one-for-one barrel basis.

Second:

The relative value of primary reserves as compared to secondary reserves on a net present value dollar basis can be derived from the testimony and exhibits of record in the hearing. The enclosed Table 1 is presented so that you will not have to search through the record and make the mathematical calculations.

The table shows in the fourth column from the right, the dollar value without unitization for the remaining reserves in the tracts listed. NPV means net present value. Gulf has used its economics in calculating that value. The actual value will vary between companies, but it is still useful for a comparison. That value is the amount of dollars each tract owner will receive in the absence of unitization, if it continued to produce its remaining primary reserves.

The table shows in the third column from the right, the dollar value with unitization for the remaining reserves in the tracts listed.

Assuming you can allocate secondary reserves on a tract by tract basis, the table shows in the second column from the right the dollar value of secondary reserves that each tract owner would receive using the unit participation formula.

For your reference I have enclosed a copy of Gulf Exhibit 26 upon which the economic calculations are based.

We must go one step further in the calculations however, and take risk into account. Mr. Berlin testified that the risk associated with secondary reserves is considerably greater than with primary reserves. The secondary reserve values presented in Table 1 must be reduced by at least 50% to account for the risk.

The Technical Committee also considered the risk associated with the secondary recovery forecast by presenting a distinctly lower secondary recovery projection called the minimum recovery case on Figure 96 of Exhibit 22.

You will also note in the minutes of the Working Interest Owner Committee meeting at page 41 of (Exhibit 21) that some owners felt the Secondary Recovery projection was overly optimistic.

The question is whether the four quality tracts receive a disproportionate share of the secondary reserves because of the unit participation formula.

When discounted for risk, Table 1 clearly shows that the four quality tracts will not receive more than their respective fair share of the secondary reserves. The relative value of the secondary reserves is not nearly as great for the four quality tracts as compared to the Exxon tracts and therefore those secondary reserves have been reasonably allocated.

<u>Third</u>:

An examination of Mr. Berlin's testimony at the hearing provides further justification for reasonableness of the unit participation formula. Mr. Berlin states that the Technical Committee estimated the Unit would recover 0.5 bbls of secondary reserves for each barrel of cumulative production. Each barrel of remaining primary, however, represents 1.5 bbls of Unit reserve: the barrel of primary yet to be recovered + 0.50 bbls of secondary. On this basis alone a bbl of remaining primary is worth three times a bbl of cumulative production, and the respective parameters in the participation formula should be weighted accordingly.

Summary:

The remaining primary reserves have a greater present worth value than the secondary because they will be the first produced and are considerably less expensive to produce than the secondary oil. The risk associated with the primary reserves is also much less than the secondary reserves. Remaining primary reserves, therefore, must be weighted more heavily than secondary.

In Exxon's case, for example, they will have a Unit Participation of 4.86% under the formula. This participation means they will receive over twice as much remaining primary production than the technical committee estimated they would recover under the continued operations, and the four quality tracts will receive only half as much as they were projected to recover.

An equitable participation formula should strike a balance between the long term benefits of a project and the near term benefits. The unit participation formula does just that.

Considering the time-value of money and the relative low risk associated with recovering primary reserves as opposed to secondary reserves, the participation formula which has been effectively ratified by more than 93% of the ownership is equitable for everyone, including Exxon.

Very truly yours,

W. Thomas Kellahin

W. Thomas Kellahin

WTK:ca
Enc.

cc: James E. Sperling, Esq.
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November 27, 1984

Mr. Richard L. Stamets
Director
Oil Conservation Commission
Post Office Box 2088
Santa Fe, New Mexico 87501

Re: Case No. 8397, Application of Gulf Oil Corporation for Statutory Unitization

Dear Mr. Stamets:

Regarding the proposed order of Gulf Oil Corporation in the above referenced case, I would like to point out an apparent misunderstanding in Finding 23.

All of the working interest owners of Tract 55 oppose statutory unitization of Tract 55 in the proposed unit agreement. In addition, because the testimony at the hearing also included discussion of the trade-out of Tract 55 for other lands, we would object to the proposed finding in that the Commission does not have jurisdiction to decide the issue of whether or not Bruce Wilbanks or any other interest owner in the proposed unit area has agreed to sell his or her interest.

Very truly yours,

Ernest L. Padilla

Ernest L. Padilla

ELP/dd
cc: W. Thomas Kellahin, Esquire
James E. Sperling, Esquire
Working Interest Owners of Tract 55

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November 20, 1984

RECEIVED
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OIL CONSERVATION DIVISION

Mr. Richard L. Stamets
Director
Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

"Hand Delivered"

Re: Gulf Oil Corporation
Eunice Monument South Unit
OCC Cases 8397, 8398, 8399

Dear Mr. Stamets:

In accordance with your directions at the hearing of the referenced cases held on November 5, 1984, please find enclosed for your consideration proposed orders on behalf of Gulf Oil Corporation.

Very truly yours,

W. T. Kellahin

W. Thomas Kellahin

WTK:ca
Enc.

cc: James E. Sperling, Esq.
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Permian District
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Midland, Texas 79702
Telephone 915 684 0149

Joe R. Hastings
District Engineer — West

8397

November 6, 1984

Mr. Richard L. Stamets
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Stamets:

Applications for NMOCD Hearing for
Eunice Monument South Unit
Lea County, New Mexico

ARCO Oil and Gas Company is in agreement with Gulf Oil Corporation's applications for Statutory Unitization, Authority to Institute a Waterflood Project, and the Extension of the Vertical Limits of the Eunice-Monument Oil Pool for the proposed Eunice Monument South Unit.

Your approval of the above applications concerning the proposed Eunice Monument South Unit will be greatly appreciated.

Yours very truly,

J. R. Hastings

J. R. Hastings

JRH:JTL:sc

State of New Mexico

Commissioner of Public Lands

JIM BACA
COMMISSIONER

P.O. BOX 1148
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Express Mail Delivery Use:
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

November 6, 1984

#8397

Gulf Oil Exploration and Production Co.
P. O. Box 1150
Midland, Texas 79702

Re: Eunice Monument South Unit
Lea County, New Mexico

ATTENTION: Mr. Ray M. Vaden

Gentlemen:

The Commissioner of Public Lands has this date granted final approval to the Eunice Monument South Unit Area, Lea County, New Mexico, along with your Initial Plan of Operation. Our approval is subject to like approval by the Bureau of Land Management and the New Mexico Oil Conservation Division.

Our approval is given with the understanding that you will obtain the New Mexico Oil Conservation Division's approval of Statuatory Unitization within a reasonable time.

Enclosed are Five (5) Certificates of Approval.

Your filing fee in the amount of $720.00 has been received.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY: Ray D. Graham
RAY D. GRAHAM, Director
Oil and Gas Division
AC 505/827-5744

JB/RDG/pm
encls.
cc: OCD-Santa Fe, New Mexico
BLM-Albuquerque, New Mexico
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