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December 31, 1996

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HAND DELIVERED

Mr. David R. Catanach
Hearing Examiner
Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

*Re: NMOCD Case 11678
Application of Burlington Resources Oil & Gas Company
for Compulsory Pooling, Lea County, New Mexico*

*Re: NMOCD Case 11656
Application of Texaco Exploration,
for Compulsory Pooling, Lea County, New Mexico*

Dear Mr. Catanach:

On behalf of Burlington Resources Oil & Gas Company, please find enclosed Burlington's proposed order for these cases.

Very truly yours,



W. Thomas Kellahin

cc: William Fraiser Carr, Esq.
Attorney for Texaco, Inc.
cc: Burlington Resources Oil & Gas Company
Attn: Leslyn Swierc

**STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION**

**IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:**

**CASES NOS. 11656 & 11678
Order No. R-_____**

**APPLICATION OF TEXACO EXPLORATION
AND PRODUCTION, INC. FOR COMPULSORY POOLING,
A HIGH ANGLE/HORIZONTAL WELL PILOT PROJECT,
AND AN UNORTHODOX GAS WELL LOCATION,
LEA COUNTY, NEW MEXICO**

**APPLICATION OF BURLINGTON RESOURCES
OIL & GAS COMPANY FOR COMPULSORY POOLING
AND AN UNORTHODOX GAS WELL LOCATION
LEA COUNTY, NEW MEXICO**

**BURLINGTON RESOURCES OIL AND GAS COMPANY'S
PROPOSED
ORDER OF THE DIVISION**

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on December 20, 1996 at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this _____ day of January, 1997, The Division Director, having considered the testimony, the record and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction over the parties, of this cause and the subject matter thereof.

(2) The applicant in Case 11656, Texaco Exploration and Production, Inc., ("Texaco"), seeks an order pooling all mineral interests with the Rhodes Gas Pool underlying the SW/4 of Section 23, Township 26 South, Range 37 East, NMPM, Lea County, New Mexico ("spacing unit") for purposes of drilling an experimental multi-lateral high angle horizontal wellbore commencing at a surface location 660 feet from the South line and 1100 feet from the West line of said Section 23 with one lateral of approximately 500 feet in length only in the "Sand 4" of the Middle Yates formation and another lateral of approximately 1392 feet only in the "Sand 6" of the Middle Yates formation, both oriented towards the northwest corner of this spacing unit and with the end of the longest lateral being at a projected "bottom hole location" 1980 feet from the South and 660 feet from the West line of said Section 23.

(3) The applicant in Case 11678, Burlington Resources Oil & Gas Company (formerly Meridian Oil Inc. ("Burlington")), seeks an order pooling the same spacing units as described above to be dedicated **but** to be dedicated to a conventional vertical wellbore (its proposed Rhodes "23" Federal Com Well No. 1) to be drilled at a standard gas well location 1100 feet from the West line and 660 feet from the South line (Unit M) of said Section 23.

(4) Each applicant (Burlington and Texaco) has the right to drill and each proposes to drill their respective well to a depth sufficient to test for gas production in the Rhodes Gas Pool.

(5) Cases Nos. 11656 and 11678 were consolidated for the purpose of hearing and should be consolidated for purpose of issuing an order since the cases involve common acreage and the granting of one application would require the denial of the other.

FACTUAL BACKGROUND

(6) The SW/4 of said Section 23 is a standard gas spacing unit for the Rhodes Gas Pool which is a non-prorated gas pool which provides for standard well locations not closer than 660 feet to any side boundary ("the spacing unit").

(7) Texaco has 50% of the working interest and Burlington has 48% of the working interest in the spacing unit.

(8) The spacing unit consists of two separate federal oil and gas leases with the W/2 controlled by Texaco and with the E/2 controlled by Doyle Hartman until July 8, 1996 and then by Burlington after that date.

(9) On _____, 1996, Doyle Hartman filed a compulsory pooling case against Texaco in an attempt to consolidate this spacing unit for the drilling of a single vertical well to be located 1980 feet from the South line and 660 feet from the West line of said Section 23. (See NMOCD Case 11476).

(10) On _____, 1996, Texaco filed a compulsory pooling case against Doyle Hartman in an attempt to consolidate this spacing unit for the drilling of a single vertical well to be located 660 feet from the South line and 660 feet from the West line of said Section 23. (See NMOCD Case 11475).

(11) Between the time Texaco and Hartman filed for competing compulsory pooling cases and on or about April 1, 1996, Texaco contacted Burlington in an attempt to sell its interest to Burlington in the SW/4 of Section 23 and avoid a dispute with Hartman.

(12) On or about April 1, 1996, Texaco settled its dispute with Doyle Hartman, dismissed its compulsory pooling case and agreed to a Joint Operating Agreement which authorized Doyle Hartman to drill a single vertical well in the spacing unit by August 1, 1996.

(13) On July 8, 1996, Burlington acquired its interest in this gas spacing unit from Doyle Hartman.

WELL PROPOSALS AND EFFORTS TO OBTAIN A VOLUNTARY AGREEMENT

(14) Since then, Burlington and Texaco have had numerous discussions concerning the drilling of wells to test this spacing unit for gas production from the Rhodes-Seven Rivers Gas Pool.

(15) Prior to August 14, 1996, Texaco had proposed that the spacing unit be developed with a vertical well and that Burlington operate the spacing unit.

(16) However, on August 14, 1996, Texaco changed its position from a single vertical well and suggested to Burlington that, instead, either two vertical wells or a single horizontal well with one lateral be drilled.

(17) On October 9, 1996, Texaco **again** changed its position and now proposed that the high angle horizontal well be drilled with two laterals instead of one **but** in doing so, Texaco:

- (a) **failed** to provide a wellbore diagram
- (b) **failed** to provide a horizontally oriented plan view for either lateral
- (c) **failed** to provide a vertically oriented plan view for either lateral
- (d) **failed** to provide a well plan or drilling prognosis
- (e) **failed** to provide a type log section
- (f) **failed** to identify location of "Sand 4"
- (f) **failed** to identify the location of "Sand 6"
- (g) **failed** to provide the angle for either lateral.

(18) Both before and after August 14, 1996, Texaco's technical team was composed of the same individuals who first agreed to a single vertical well and now seek a multi lateral high angle horizontal well.

(19) There have been no new wells drilled, nor other data developed since August 14, 1996 to demonstrate a reason to change the type of well plan to be drilled.

(20) During this period, Burlington's technical team responsible for this proposal were fully occupied in budget matters and advised Texaco that Burlington was unable to review the Texaco request during this time.

(21) On October 31, 1996, Texaco filed a compulsory pooling application against Burlington, but **failed** to provide the documentation required in Division Rule 111.

(22) Texaco's compulsory pooling application was docketed as Case 11656 as set for hearing on December 5, 1996.

(23) On November 19, 1996, Burlington, previously unaware of the complexity and expense of Texaco's multilateral horizontal well proposal and in order to fairly complete its evaluation, requested Texaco to transmit by facsimile a drilling prognosis and wellbore schematic so that Burlington would be able to properly and expeditiously review the Texaco request.

(24) On November 19, 1996, Burlington also asked Texaco to return to the original agreement for a single contentional vertical well and submitted to Texaco Burlington's well proposal for a single vertical well and its AFE.

(25) Texaco's well proposal is for a well which is estimated to cost more than twice the cost of two vertical wells.

(26) Texaco ignored Burlington's request.

(27) In order to provide the Division with an opportunity to deny the Texaco pooling case and to approve a vertical well, on November 27, 1996, Burlington filed a competing compulsory pooling application which is docketed as Case 11678.

(28) Because Burlington is unwilling to participate in the drilling of an experimental, expensive multilateral horizontal wellbore, Texaco has filed NMOCD Case 11656 in which Texaco seeks to obtain a compulsory pooling order for its horizontal well project.

(29) In turn, Burlington has proposed to Texaco that the spacing unit can and should be developed utilizing conventional vertical wellbores.

(30) By its conduct, Texaco has rejected Burlington's proposal and has refused to discuss this matter with Burlington.

(31) That all reasonable efforts by Burlington to form a voluntary agreement for this well has failed and it has been unable to obtain the voluntary agreement of Texaco in this matter.

**VERTICAL WELL
-VS-
MULTILATERAL HIGH ANGLE HORIZONTAL WELL**

Geology:

(32) Both Burlington and Texaco each presented a 4-well structural cross section and isopach maps which are virtually identical and demonstrated that the gas productive sands in the Rhodes Gas Pool within this spacing unit are contained within numerous horizontally and vertically separated sand stringers within both the Middle Yates interval and in the Lower Yates interval **but** from which:

(a) Texaco's geologist concluded that the spacing unit can best be developed by:

(i) a high angle horizontal well with two laterals, one located in only the Sand 4 and the other only in the Sand 6 of the Middle Yates interval.

(ii) with each lateral to be drilled away from the offsetting Rhodes B-7 Well which has greater reservoir thickness in both sands, and

(iii) with each lateral to be drilled towards the northwest corner of the spacing unit where both sand's thin and become more discontinuous both vertically and horizontally; **while**

(b) Burlington's geologist concluded that:

(i) Texaco's well proposal would fail to penetrate the productive gas sand intervals in the Lower Yates interval;

(ii) Texaco's well proposal would penetrate only portions of Sand 4 and Sand 6 in the Middle Yates interval;

(iii) Texaco's well proposal would fail to penetrate other productive sands in the Middle Yates interval; and

(iv) because the gas productive sands in both the Middle and Lower Yates intervals are vertically and horizontally isolated, it is essential to hydraulically fracture stimulate them in order to create fractures from the wellbore into these sand stringers.

Petroleum engineering:

(33) Texaco's petroleum engineer contended that the multi-lateral, high angle-horizontal wellbore was necessary to prevent offset drainage and would recover more gas than a single vertical well, **but**

(i) failed to estimate recoverable gas for Burlington's proposed vertical well,

(ii) failed to estimate recoverable gas for Texaco's proposed horizontal well,

(iii) failed to estimate drainage area for Burlington's proposed vertical well,

(iv) failed to estimate drainage area for Texaco's proposed horizontal well,

(v) failed to estimate what, if any, drainage was being caused by any offsetting wells.

(vi) admitted that two vertical wells were just as likely to protect the spacing unit and to produce its gas as one multi-lateral high angle horizontal well

(vii) admitted that the horizontal well could not be hydraulically fractured.

(34) Burlington's petroleum engineer provided exhibits and evidence which demonstrated that:

(i) Texaco's proposed well would be a waste of money and a poor investment because Burlington's proposed vertical wellbore would cost \$235,000 and was estimated to recover 710 MMCF of gas, while Texaco's well would cost \$505,000 and was estimated to recover only 450 MMCF of gas. (Burlington's Exhibits 13 & 17)

(ii) Burlington's single vertical well would recover more gas than Texaco's proposed horizontal well. (Burlington's Exhibits 13 & 17).

(iii) Burlington's single vertical well would contact 60% more of the reservoir than Texaco's proposed horizontal well. (Burlington's Exhibit 15).

(iv) Texaco's proposed horizontal well ignored potentially gas productive sands found in the Lineberry B Federal No. 1 Well and in the Rhodes A No 4 Well with 87 feet of net pay as compared to Texaco's proposed well which would contact only 33 feet of pay in Sand 4 and 6 being only 33% of the total gas potential sand. See Texaco Exhibit (cross-section) and Burlington Exhibit 6).

(v) the spacing unit was not being subject to offset drainage because the offsetting Rhodes B-7 Well was draining only 25 acres. (Burlington's Exhibits 8-12).

(vi) that the Rhodes Gas Pool is a low pressure reservoir consisting of vertically and horizontally discontinuous gas bearing sands with are not connected by natural fractures thereby making horizontal development inappropriate.

(vii) Texaco's plan to complete its horizontal wellbore with openhole method would cause the wellbore to be unstable and substantially increased the risk of failure over that of a cased vertical well.

(viii) Texaco's plan would result in a wellbore that would not be capable of efficient artificial lift.

(ix) a horizontal wellbore is substantially more risky of mechanical failure in this pool than a vertical well

(x) Burlington did not want to substitute proven successful and commercial vertical wellbores with Texaco's expensive, unproven, experimental horizontal wellbore science project.

(xi) there is no need to plan to immediately drill two vertical wells because the spacing until is not subject to any offset drainage.

(xii) Even if two vertical wellbores were to be drilled in this spacing unit, they would cost less than the cost of Texaco's proposed horizontal well. (Burlington's Exhibits 13 & 16).

(xiii) If and when a second vertical well was required in this spacing unit, it could be drilled at suitable surface location offsetting the Rhodes A-4 Well.

(35) The Division **FINDS** that it should decide the compulsory pooling issues in this case based upon its statutory obligation to prevent waste and protect correlative rights utilizing the following criteria and analysis:

(a) Burlington's proposed single vertical well to be drilled, completed and produced for gas production from the Rhodes Gas Pool within this spacing unit will be the most appropriate method by which to maximize gas recovery from this pool;

(b) conventional vertical wells have successfully been drilled, completed and are now producing in this pool while the application of horizontal wellbore technology in this pool has not been attempted and is experimental and very risky.

(c) while Texaco was the first working interest owner in this spacing unit to propose an experimental horizontal well, its well proposal is so unusual that such a wellbore should not be approved by the Division over the objection of any other working interest owner.

(d) Texaco initiated compulsory pooling for a type of well which was substantially different from the well it had originally proposed and agreed upon with Hartman and then with Burlington

(e) Texaco prematurely filed its compulsory pooling application without affording an opportunity to the other working interests owners to reach a voluntarily agreement with Burlington over such a highly unusual wellbore;

(f) by its conduct, Texaco has rejected Burlington's proposal and has refused to provide data to Burlington and thereby compelled Burlington to file a competing compulsory pooling application in order for Burlington to protect its correlative rights.

(g) Division's compulsory pooling authority amounts to the taking of property and in order to be justified must provide a reasonable opportunity for compensation to the party whose property is taken.

(h) approval of Texaco's application would:

violate the correlative rights of the other working interest owners to allow Texaco to obtain a compulsory order which compels the other owners to pay for an experimental science project which Texaco desires to undertake at the risk and expense of those parties.

amount to the taking of Burlington's property without just compensation and therefore should be denied.

amount to causing less gas to be recovered than a vertical well and would cause waste that therefore should be denied.

would interfere with the ability of Burlington to recover its share of gas in this pool thereby violating Burlington's correlative rights and therefore should be denied.

(i) Approval of Burlington's well proposal and AFE represent an accurate and fair estimate of the costs of such a well and therefore should be approved and adopted by the Division;

(36) Texaco's application should be **DENIED**.

(37) Burlington's application should be **GRANTED**.

(38) Approval as set forth above and in the following order will avoid the drilling of unnecessary wells, protect correlative rights, prevent waste and afford the owner of each interest in said unit the opportunity to recover or receive without unnecessary expense his just and fair share of the production in any pool resulting from this order.

IT IS THEREFORE ORDERED THAT:

(1) The application of Burlington Resources Oil and Gas Company ("Burlington") in Case No. 11678 as described in Finding (3) of this order is hereby **GRANTED**.

(2) The application of Texaco Exploration and Production, Inc. ("Texaco") in Case 11656 as described in Finding (2) of this order is hereby **DENIED**.

(3) All mineral interests, **WHATEVER THEY MAY BE**, from the surface to the base of the base of the Rhodes-Yates Seven Rivers Gas Pool underlying the SW/4 of Section 23, Township 26 South, Range 37 East, NMPM, Lea County, New Mexico, are hereby pooled to form a standard 160-acre gas spacing and proration unit for any and all formations and/or pools developed on 160-acre spacing within said vertical extent, which presently includes but is not necessarily limited to the Rhodes- Yates Seven Rivers Gas Pool.

(4) Said unit is to be dedicated to Burlington's proposed Rhodes "23" Federal Com Well No. 1 to be drilled at a standard gas well location within 660 feet of the South line and 1100 feet from the West line of said Section 23 for Rhodes-Yates Seven Rivers Gas Pool production within said wellbore.

(5) Burlington Resources Oil & Gas Company ("Burlington") is hereby designated operator of the subject well and the corresponding spacing unit.

(6) Burlington's proposed drilling-completion program and the corresponding Authority for Expenditures ("AFE") as described in Burlington Exhibit 4 is hereby **APPROVED**.

PROVIDED HOWEVER THAT, the operator of said unit shall commence the drilling of said well on or before the ____th day of _____, 1997, and shall thereafter continue the drilling of said well with due diligence to a depth sufficient to test both the Rhodes-Yates Seven Rivers Gas Pool.

PROVIDED FURTHER THAT, in the event said operator does not commence the drilling of said well on or before the ____th day of _____, 1997, Decretory Paragraph No. (2) of this order shall be null and void and of no effect whatsoever, unless said operator obtains a time extension from the Division for good cause shown.

PROVIDED FURTHER THAT, should said well not be drilled to completion, or abandonment, within 120 days after commencement thereof, said operator shall appear before the Division Director and show cause why Decretory Paragraph No. (2) of this order should not be rescinded.

(7) After the effective date of this order and prior to commencing said well, the operator shall furnish the Division and each known working interest owner in the subject unit an itemized schedule of estimated well costs.

(8) Within 30 days from the date the schedule of estimated well costs is furnished to him, any non-consenting working interest owner shall have the right to pay his share of estimated well costs to the operator in lieu of paying his share of reasonable well costs out of production, and any such owner who pays his share of estimated well costs as provided above shall remain liable for operating costs but shall not be liable for risk charges.

(9) The operator shall furnish the Division and each known working interest owner an itemized schedule of actual well costs within 90 days following completion of the well; if no objection to the actual well cost is received by the Division and the Division has not objected within 45 days following receipt of said schedule, the actual well costs shall be the reasonable well costs; provided however, if there is an objection to actual well costs within said 45-day period the Division will determine reasonable well costs after public notice and hearing.

(10) Within 60 days following determination of reasonable well costs, any non-consenting working interest owner who has paid his share of estimated costs in advance as provided above shall pay to the operator his pro rata share of the amount that reasonable well costs exceed estimated well costs and shall receive from the operator his pro rata share of the amount that estimated well costs exceed reasonable well costs.

(11) The operator is hereby authorized to withhold the following costs and charges from production:

- A. The pro rata share of reasonable well costs attributable to each non-consenting working interest owner who has not paid his share of estimated well costs within 30 days from the date of schedule of estimated well costs is furnished to him; and
- B. As a charge for the risk involved in the drilling of the well, 150 percent of the pro rata share of reasonable well costs attributable to each non-consenting working interest owner who has not paid his share of estimated well costs within 30 days from the date the schedule of estimated costs is furnished to him.

(12) The operator shall distribute said costs and charges withheld from production to the parties who advanced the well costs.

(13) \$3,500.00 per month while drilling and \$ 350.00 per month while producing are hereby fixed as reasonable charges for supervision (combined fixed rates); the operator is hereby authorized to withhold from production the proportionate share of such supervision charges attributable to each non-consenting working interest, and in addition thereto, the operator is hereby authorized to withhold from production the proportionate share of actual expenditures required for operating such well, not in excess of what are reasonable, attributable to each non-consenting working interest.

(14) The operator shall furnish the Division and each known working interest owner an itemized schedule of actual **operating** well costs to be charged on a monthly basis in the form of a joint interest billing within 90 days following completion of the well; if no objection to the actual operating well cost or the joint interest billing is received by the Division and the Division has not objected within 45 days following receipt of said schedule, the actual well costs shall be the reasonable well costs; provided however, if there is an objection to actual well costs within said 45-day period the Division will determine reasonable well costs after public notice and hearing.

(15) Any unleased mineral interest shall be considered a seven-eighths (7/8) working interest and a one-eighth (1/8) royalty interest for the purpose of allocating costs and charges under the terms of this order.

(16) Any well costs or charges which are to be paid out of production shall be withheld only from the working interest's share of production, and no costs or charges shall be withheld from production attributable to royalty interests.

(17) All proceeds from production from the subject well which are not disbursed for any reason shall be placed in escrow in Lea County, New Mexico, to be paid to the true owner thereof upon demand and proof of ownership; the operator shall notify the Division of the name and address of said escrow agent within 30 days from the date of first deposit with said escrow agent.

(18) Should all the parties to this compulsory pooling reach voluntary agreement subsequent to the entry of this order, this order shall thereafter be of no further effect.

(19) The operator of the subject well and units shall notify the Director of the Division in writing of the subsequent voluntary agreement of all parties subject to the compulsory pooling provisions of this order.

(28) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE, at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY,
Director