

**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:**

**CASE NO. 11656
CASE NO. 11678
Order No. R-10780**

**APPLICATION OF TEXACO
EXPLORATION AND PRODUCTION
INC. FOR COMPULSORY POOLING, A
HIGH ANGLE/HORIZONTAL
DIRECTIONAL DRILLING PILOT
PROJECT, UNORTHODOX LOCATION,
AND SPECIAL OPERATING RULES
THEREFOR, LEA COUNTY, NEW
MEXICO.**

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

ORDER OF THE DIVISION

BY THE DIVISION:

These causes came on for hearing at 8:15 a.m. on December 19, 1996, at Santa Fe, New Mexico, before Examiner David R. Catanach. The cases were reopened and subsequently heard on February 6, 1997, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 17th day of March, 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 of this cause and the subject matter thereof.

(2) Division Case Nos. 11656 and 11678 were consolidated at the time of the hearing for the purpose of testimony, and, inasmuch as approval of one application would necessarily require denial of the other, one order should be entered for both cases.

(3) The applicant in Case No. 11656, Texaco Exploration and Production, Inc. (Texaco), seeks an order pooling all mineral interests within 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, thereby forming a standard 160-acre gas spacing and proration unit for said pool. Said unit is to be dedicated to its proposed Rhodes "23" Federal Com Well No. 1, a multi-lateral horizontal wellbore to be drilled from an unorthodox surface location 660 feet from the South line and 1100 feet from the West line (Unit M) of Section 23 in the following manner:

Drill vertically to a depth of approximately 3200 feet. Run open hole logs to identify the depth and thickness of Sand Nos. 4 and 6 within the Yates formation. Run and cement casing. Set a whipstock at 2775 feet, cut a window in the casing and commence drilling a short radius curve in a northwest direction building angle at a rate of 57.3 degrees/100 feet to a measured depth of approximately 2870 feet. Drill laterally within Sand No. 4 a distance of approximately 500 feet to a terminus at a true vertical depth of approximately 2885 feet. Come back up and low side the curve at a measured depth of 2895 feet and kick off in a northwest direction building angle at a rate of 10 degrees/100 feet starting at 69 degrees to a true vertical depth of 2906 feet. Drill laterally within Sand No. 6 a distance of approximately 1400 feet to a terminus at a true vertical depth of 2935 feet and at a bottomhole location approximately 1980 feet from the South line and 660 feet from the West line (Unit L) of Section 23.

(4) The applicant further seeks the promulgation of special operating rules within the subject spacing unit including a provision whereby the bottomhole location or producing portion of the laterals may be located anywhere within the project area provided that such laterals are located no closer than 660 feet from the outer boundary of the spacing unit.

(5) The applicant in Case No. 11678, Burlington Resources Oil & Gas Company (Burlington), seeks an order pooling all mineral interests from the surface to 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, thereby forming a standard 160-acre gas spacing and proration unit for said pool. Said unit is to be dedicated to its proposed Rhodes "23" Federal Com Well No. 1 to be drilled at an unorthodox gas well location 660 feet from the South line and 1100 feet from the West line (Unit M) of Section 23.

(6) The subject wells and spacing unit are located within the Rhodes Yates-Seven Rivers Gas Pool which is currently governed by Rule No. 104.C.(2) of the Division General Rules and Regulations which require standard 160-acre gas spacing and proration units with wells to be located no closer than 660 feet from the outer boundary of the spacing unit nor closer than 330 feet from any quarter-quarter section line or subdivision inner boundary.

(7) The surface location of both proposed wells is unorthodox only with respect to the interior quarter-quarter section lines.

(8) Both Burlington and Texaco have the right to drill within the SW/4 of Section 23 and both seek to be named operator of its respective well and the subject proration unit.

(9) Burlington and Texaco have conducted limited negotiations prior to the hearing but have been unable to reach a voluntary agreement as to which company will drill and operate a well within the SW/4 of Section 23.

(10) Both companies agree that the primary objective within the proposed well(s) is the Yates formation within the Rhodes Yates-Seven Rivers Gas Pool. There is disagreement between the companies, however, as to the optimum method of recovering the gas reserves underlying the proration unit. Texaco proposes drilling a single horizontal wellbore with multiple laterals while Burlington proposes drilling one or possibly two vertical wellbores within the spacing unit.

(11) The SW/4 of Section 23 consists of two separate Federal oil and gas leases comprising the E/2 and W/2 of the quarter section. The interest ownership within each of these leases is summarized as follows:

<u>Lease</u>	<u>Interest Owner</u>	<u>Interest Ownership</u>
W/2 SW/4	Texaco	100 %
E/2 SW/4	Burlington	96.09375 %
	Larry A. Nermyr	1.56250 %
	James E. Burr	1.56250 %
	Ruth Sutton	.78125 %

(12) Interest ownership within the proposed spacing unit is summarized as follows:

<u>Interest Owner</u>	<u>Ownership</u>
Burlington	48.046875 %
Texaco	50.0 %
Larry A. Nermyr	0.781250 %
James E. Burr	0.781250 %
Ruth Sutton	0.390625 %

(13) According to testimony presented by Texaco, it has received signed AFE's from James E. Burr and Ruth Sutton for the drilling of its proposed well. With the inclusion of these interests, Texaco owns or controls approximately 51.171875 percent of the spacing unit while Burlington owns or controls approximately 48.046875 percent of the spacing unit.

(14) Both companies proposed overhead rates of \$3500.00 while drilling and \$350.00 while producing and both proposed that a risk penalty of 200 percent be assessed against non-consenting working interest owners.

(15) Being that there is not a significant difference in interest ownership within the SW/4 of Section 23, and given the fact that prospect development is not an issue, these factors should not be utilized in deciding these cases.

(16) The method of development and the protection of correlative rights should be the primary issues in deciding these competing compulsory pooling applications.

(17) Texaco presented geologic and engineering evidence and testimony in support of its contention that drilling a horizontal multi-lateral wellbore represents the best method to develop the gas reserves underlying the proposed proration unit. Texaco's evidence and testimony indicates that:

- a) the primary objectives within the proposed Rhodes "23" Federal Com Well No. 1 are what Texaco has identified as "Sand No. 4" and "Sand No. 6" within the Middle Yates sandstone interval. Each of these sand packages is comprised of a number of sand stringers that are not continuous across the spacing unit;

- b) maximum sand thickness within "Sand No. 4" occurs within the SW/4 SW/4 of Section 23, and, maximum sand thickness within "Sand No. 6" occurs within the NW/4 SW/4 of Section 23;
- c) Burlington owns 100 percent of the interest in and currently operates the Rhodes "A" Well No. 4 located in Unit I of Section 22, being a direct west offset to the proposed spacing unit. This well is currently producing from the Yates formation, including "Sand No. 6", Rhodes Yates-Seven Rivers Gas Pool, at a rate of approximately 350 MCF gas per day;
- d) Burlington also owns 100 percent of the interest in and currently operates the Rhodes "B" Federal Well No. 7 located in Unit C of Section 26, being a direct south offset to the proposed spacing unit. This well is currently producing from the Yates formation, including "Sand No. 4", Rhodes Yates-Seven Rivers Oil Pool, at a rate of approximately 500-600 MCF gas per day;
- e) either a multi-lateral horizontal wellbore or two vertical wellbores are necessary to effectively drain and protect the SW/4 of Section 23 from offset drainage which may be occurring from the aforesaid Rhodes "A" Well No. 4 and Rhodes "B" Federal Well No. 7;
- f) a multi-lateral horizontal wellbore has a better chance of intersecting the various discontinuous and stringers within "Sand Nos. 4 and 6" than a single vertical well as proposed by Burlington;
- g) Division Rules and Regulations do not allow the drilling of more than one well on a standard gas proration unit in a non-prorated gas pool;

- h) there are topographic constraints within the N/2 SW/4 of Section 23 which may preclude the drilling of a second vertical well to effectively drain and develop this portion of the proration unit.

(17) Burlington presented geologic and engineering evidence and testimony to support its contention that the drilling of its proposed Rhodes "23" Federal Com Well No. 1 represents the best method of developing the gas reserves underlying the proposed proration unit. Burlington's evidence indicates that:

- a) in terms of geologic considerations and possible topographic constraints within the N/2 SW/4 of Section 23, its proposed vertical well location represents the best location within the proration unit to initially develop the gas reserves within the Yates formation;
- b) its proposed vertical wellbore will access gas reserves within the Lower Yates sandstone interval which will not be accessible through Texaco's proposed horizontal multi-lateral wellbore;
- c) the application of horizontal drilling technology is not appropriate within the Rhodes Yates-Seven Rivers Gas Pool due to low vertical permeability between the various sand lenses within the Yates formation;
- d) the Rhodes "B" Federal Well No. 7 should not be adversely affecting the SW/4 of Section 23 inasmuch as engineering calculations show that the estimated ultimate gas recovery from this well is approximately 585 MMCFG, and its corresponding drainage area is approximately 25 acres.
- e) the Rhodes "A" Well No. 4 should not be adversely affecting the SW/4 of Section 23 inasmuch as engineering calculations show that the estimated ultimate gas recovery from this well is approximately 645 MMCFG;

- f) based upon a drainage area of 25 acres, the proposed vertically drilled Rhodes "23" Federal Com Well No. 1 should ultimately recover approximately 710 MMCFG from the spacing unit at an initial investment of approximately \$235,000;
- g) its engineering calculations indicate that the multi-lateral horizontal wellbore proposed by Texaco will drain an area of approximately 38 acres, and, due to limited sand contact within the reservoir, will ultimately recover approximately 450 MMCFG from the spacing unit at an initial investment of approximately \$515,000.
- h) Burlington plans to monitor production in its Rhodes "23" Federal Com Well No. 1 for a period of approximately six months at which time a determination of whether a second well is necessary will be made;
- i) should a second vertical well be deemed necessary in order to effectively drain the proration unit, Burlington has determined that it is possible to access the NW/4 SW/4 of Section 23 with a directionally drilled vertical wellbore.

(18) The Division finds that:

- a) Burlington presented engineering evidence with regards to offset drainage from the Rhodes "A" Well No. 4 and the Rhodes "B" Federal Well No. 7. Texaco presented no such engineering evidence. Burlington's engineering evidence shows that the SW/4 of Section 23 is not currently subject to offset drainage by the aforesaid Rhodes "A" Well No. 4 and the Rhodes "B" Federal Well No. 7;

- b) Burlington presented engineering evidence with regards to the potential drainage areas and ultimate gas recoveries from its proposed vertical well and Texaco's proposed horizontal multi-lateral well. Texaco presented no such engineering evidence. Burlington's engineering evidence indicates that its proposed vertical well should recover approximately 58 percent more gas from the SW/4 of Section 23 than Texaco's proposed well;
- c) Burlington's proposed vertical well should encounter both "Sand No. 4" and "Sand No. 6" within the Yates formation as well as various producing sands within the Lower Yates interval. Texaco's horizontal multi-lateral wellbore, as proposed, will not access gas reserves in the Lower Yates interval;
- d) a horizontal multi-lateral wellbore entails substantially greater risk in terms of drilling, completing and producing than a well drilled conventionally;
- e) conventional vertical wells have successfully been drilled, completed and are now producing in this pool while the application of horizontal drilling technology in this pool has not been attempted and is experimental in nature;
- f) the cost of drilling two vertical wellbores is projected to be less than the cost of drilling the proposed horizontal multi-lateral wellbore;
- g) Burlington's testimony in this case indicates that it fully intends to protect the correlative rights of the interest owners within the SW/4 of Section 23 by monitoring the production from its proposed well in order to determine whether a second well is necessary to effectively drain and develop the gas reserves underlying the proration unit; and,

- h) topographic obstructions within the N/2 SW/4 of Section 23 should not preclude the drilling of a second well (if necessary) within the proposed spacing unit.

(19) The evidence presented in this case indicates that Burlington's plan of development for the SW/4 of Section 23 represents the best method of developing the gas reserves in the Rhodes Yates-Seven Rivers Gas Pool.

(20) Burlington should be designated operator of its proposed well and the proposed spacing unit.

(21) The application of Texaco for compulsory pooling, a high angle/horizontal directional drilling pilot project and special operating rules therefor in Case No. 11656 should be denied.

(22) To avoid the drilling of unnecessary wells, to protect correlative rights, to avoid waste, and to afford to 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 completion resulting from this order, the application of Burlington Resources Oil & Gas Company in Case No. 11678 should be approved by pooling all mineral interests, whatever they may be, within the SW/4 of Section 23.

(23) Any non-consenting working interest owner should be afforded the opportunity to pay his share of estimated well costs to the operator in lieu of paying his share of reasonable well costs out of production.

(24) Any non-consenting working interest owner who does not pay his share of estimated well costs should have withheld from production his share of the reasonable well costs plus an additional 200 percent thereof as a reasonable charge for the risk involved in the drilling of the well.

(25) Any non-consenting working interest owner should be afforded the opportunity to object to the actual well costs but actual well costs should be adopted as the reasonable well costs in the absence of such objection.

(26) Following determination of reasonable well costs, any non-consenting working interest owner who has paid his share of estimated costs should pay to the operator any amount that reasonable well costs exceed estimated well costs and should receive from the operator any amount that paid estimated well costs exceed reasonable well costs.

(27) \$3500.00 per month while drilling and \$350.00 per month while producing should be fixed as reasonable charges for supervision (combined fixed rates); the operator should be 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 should be authorized to withhold from production the proportionate share of actual expenditures required for operating the subject well, not in excess of what are reasonable, attributable to each non-consenting working interest.

(28) All proceeds from production from the subject well which are not disbursed for any reason should be placed in escrow to be paid to the true owner thereof upon demand and proof of ownership.

(29) Upon the failure of the operator of said pooled unit to commence the drilling of the well to which said unit is dedicated on or before June 15, 1997, the order pooling said unit should become null and void and of no effect whatsoever.

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

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

IT IS THEREFORE ORDERED THAT:

(1) The application of Texaco Exploration and Production, Inc. in Case No. 11656 for an order pooling all mineral interests within 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, thereby forming a standard 160-acre gas spacing and proration unit for said pool, said unit to be dedicated to its proposed Rhodes "23" Federal Com Well No. 1, a multi-lateral horizontal wellbore to be drilled from an unorthodox surface location 660 feet from the South line and 1100 feet from the West line (Unit M) of Section 23, is hereby denied.

(2) The application of Burlington Resources Oil & Gas Company in Case No. 11678 for an order pooling all mineral interests from the surface to 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, thereby forming a standard 160-acre gas spacing and proration unit for said pool, is hereby approved. Said unit shall be dedicated to the Rhodes "23" Federal Com Well No. 1 to be drilled at an unorthodox gas well location, hereby approved, 660 feet from the South line and 1100 feet from the West line (Unit M) of Section 23.

PROVIDED HOWEVER THAT, the operator of said unit shall commence the drilling of said well on or before the 15th day of June, 1997, and shall thereafter continue the drilling of said well with due diligence to a depth sufficient to test 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 15th day of June, 1997, Ordering 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 Director 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 Ordering Paragraph No. (2) of this order should not be rescinded.

(3) Burlington Resources Oil & Gas Company is hereby designated the operator of the subject well and unit.

(4) After the effective date of this order and within 90 days 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.

(5) 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.

(6) 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 costs 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 objection to actual well costs within said 45-day period the Division will determine reasonable well costs after public notice and hearing.

(7) Within 60 days following determination of reasonable well costs, any non-consenting working interest owner who has paid his share of estimated well 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.

(8) 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 the schedule of estimated well costs is furnished to him.
- (B) As a charge for the risk involved in the drilling of the well, 200 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 well costs is furnished to him.

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

(10) \$3500.00 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.

(11) 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.

(12) 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.

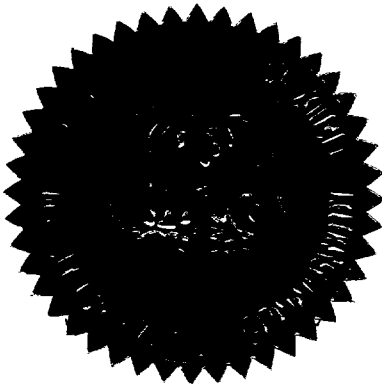
(13) All proceeds from production from the subject well which are not disbursed for any reason shall immediately be placed in escrow in Lea County, New Mexico, to be paid to the true owner thereof upon demand and proof of ownership; the operator shall notify the Division of the name and address of said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

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

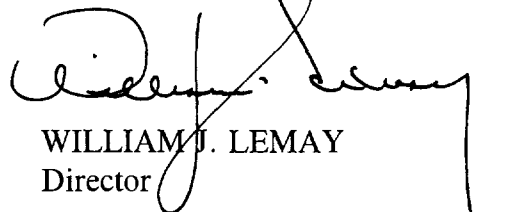
(15) The operator of the well and unit shall notify the Director of the Division in writing of the subsequent voluntary agreement of all parties subject to the forced pooling provisions of this order.

(16) Jurisdiction is hereby 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