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W. THOMAS KELLAHIN*

*NEW MEXICO BOARD OF LEGAL SPECIALIZATION
RECOGNIZED SPECIALIST IN THE AREA OF
NATURAL RESOURCES-OIL AND GAS LAW

JASON KELLAHIN (RETIRED 991)

TELEPHONE (505) 982-4285
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March 20, 1995

HAND DELIVERED

Mr. David R. Catanach
Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87504

RECEIVED

MAR 20 1995

Re: NMOCD Case 10556 (Reopened)
Old Millman Ranch Pool Rule Case
Eddy County, New Mexico

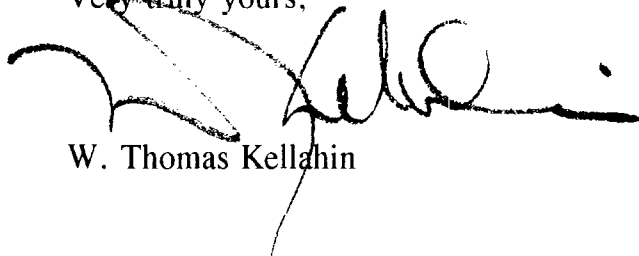
Oil Conservation Division

Dear Mr. Catanach:

On behalf of Chi Energy Inc. and OXY USA Inc., Mr. Carr and I are submitting for your consideration the enclosed Proposed Order in the referenced case which was heard by you at the hearing held on March 2, 1995.

I have enclosed a copy of this draft order on the enclosed 5.25" diskette which is formatted to Wordperfect 5.1 under file "10556.ord."

Very truly yours,



W. Thomas Kellahin

cc: William F. Carr, Esq.
Attorney for OXY USA Inc.

cc: Chi Energy Inc. (Midland)

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. 10556 (Reopened)
ORDER NO. R-5353-M

IN THE MATTER OF CASE 10556 BEING REOPENED
PURSUANT TO THE PROVISIONS OF DIVISION ORDER NO.
R-5353-M, WHICH ORDER RECLASSIFIED THE OLD MILLMAN
RANCH-BONE SPRINGS POOLS AS AN " ASSOCIATED POOL" AND
PROMULGATED SPECIAL POOL RULES THEREFORE,
EDDY COUNTY, NEW MEXICO

CHI ENERGY INC. AND OXY USA INC.'S
PROPOSED
ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on March 2, 1995, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this _____ day of March, 1995, 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) By Order No. R-9545 issued in Case No. 10343 on July 1, 1991, the Division created and defined the Old Millman Ranch-Bone Spring Pool. The discovery well for the pool was the Strata Production Company Aguila Federal Well No. 1 located in Unit L of Section 4, Township 20 South, Range 28 East, NMPM, Eddy County, New Mexico.

(3) By Order R-9759 issued in Case 10556 on November 4, 1992, the Division granted the application of Chi Energy Inc. to establish a special limiting gas-oil ratio of 20,000 cubic feet of gas per barrel of oil and required that this case be reopened in February, 1993 so operators could appear and present evidence and testimony as to the nature of the reservoir with regards to the proper classification of the pool as either oil or gas.

(4) By Order No. R-5353-M issued in Case 10556 (Reopened) on August 31, 1993, the Division granted the application of Chi Energy Inc. to have the subject pool reclassified as an "associated oil and gas pool" pursuant to Division Order R-5353 including reducing the special gas oil ratio to 5,000 cubic feet of gas per barrel of oil and 80-acre spacing for oil wells and 160-acre spacing for gas wells.

(5) Pursuant to the provisions of Order R-5353-M, this case was reopened to allow the operators in the subject pool the opportunity to appear and present evidence and testimony as to the propriety of its classification as an associated pool, its current status of development, and appropriate special rules for continued operations.

(6) The Old Millman Ranch-Bone Spring Pool currently contains 5 gas wells and 14 oil wells and comprises all of the Section 3, S/2, NE/4 of Section 4, the NE/4 of Section 8, and the N/2 of Section 10, Township 20 South, Range 28 East, and the SE/4 and S/2SW/4 of Section 34, Township 19 South, Range 28 East, NMPM.

(7) At the time of the hearing, three operators in the pool (Chi Energy Inc., OXY USA Inc. and Mewbourne Oil Corporation) supported the following recommendations:

- (a) that the pool rules be made permanent;
- (b) that the pool continue to be classified as an Associated pool;
- (c) oil well spacing should be reduced from 80-acre to 40-acre spacing;
- (d) gas well spacing should be reduced from 160-acre to 80-acre spacing; and
- (e) the pool GOR should remain at 5000 cubic feet of gas per barrel of oil.

(8) Chi Energy Inc. and OXY USA Inc. appeared at the hearing and provided technical geologic and engineering testimony concerning the reservoir, its classification and the most efficient method for operations of both gas and oil wells in the pool.

(9) Chi Energy Inc.'s geologic evidence demonstrates that:

(a) the reservoir is an elongated sand body draped over a southeast trending nose, is of limited extent and is positioned near the updip limit of the First Bone Springs Sand along the northwest edge of the Delaware Basin;

(b) the trap of the reservoir is formed by a stratigraphic pinchout of effective porosity within the First Bone Spring Sand; and

(c) the First Bone Springs has a net pay with porosity greater than 12 % ranging from 50 feet to 185 feet in thickness.

(10) Chi Energy Inc. engineering evidence demonstrated that:

(a) the pool is a solution gas drive reservoir with an original initial reservoir pressure of 2345 psi;

(b) while all three gas wells are located upstructure from the oil wells, based upon available pressure data, there is a reasonable engineering probability that because of very low permeability in the reservoir (0.5 MD) the gas wells are having very little affect upon the oil wells;

(c) while a gas cap may be forming upstructure of the oil production in the reservoir it is not expanding to the detriment of any oil production;

(d) cumulative GOR v. cum oil production plotted for the pool shows no significant increase in GOR indicating no need to reduce the current 5000 to 1 GOR for the pool;

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(e) the results of the PVT analysis indicate that the subject Bone Spring reservoir is likely a gas-condensate reservoir. Under these conditions, the reservoir is best managed and ultimate recovery maximized by making the pool subject to the General Rules and Regulations for the "associated" oil and gas pools pursuant to Order R-5353, as modified herein.

(f) based upon production decline curve analysis and volumetric calculations the drainage area for a typical oil well in the pool ranges from 5-14 acres for a Recovery Factor of 22-32 %

(g) based upon production decline curve analysis and volumetric calculations the drainage area for a typical gas well in the pool ranges from 32-50 acres

(11) Oxy USA Inc.'s geologic evidence demonstrates that:

(a) although the pool contains as many as nine different discrete intervals which produce hydrocarbons, some of these intervals are not present in all wells and are often discontinuous between wells only 40-acre apart; and

(b) the original gas-oil contact in the reservoir was at -2945 feet subsea.

(12) Oxy USA Inc. presented a computer generated reservoir simulation based upon a three dimensional, three phase model on a 50'x 50' grid which utilized reservoir conditions and properties for all wells in the pool and was validated by matching simulated production and bottomhole pressure to historical measurements of production and pressure;

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(13) Oxy USA Inc.'s reservoir simulation revealed the following:

(a) at existing 80-acre oil and 160-gas spacing and maintain a 5000 to 1 GOR with no additional wells drilled, then ultimate recovery will be 3.142 million barrels of oil and 36.950 BCF of gas;

(b) at existing 80-acre oil and 160- gas spacing and maintaining the 5000 to 1 GOR but with five additional wells drilled, then ultimate recovery will be 3.437 million barrels of oil and 39.543 BCF of gas;

(c) by reducing spacing to 40-acre oil and 80-acre gas and maintaining the 5000 to 1 GOR and adding 4 more wells then ultimate recovery will be increased to 3.441 million barrels of oil and 42.763 BCF of gas;

(d) under existing spacing if the GOR is reduced from 5000 to 1 to 2000 to 1, then total recovery from the pool is reduced by an estimated 107 MSTB of barrels of oil equivalent; and

(e) under the proposed reduced spacing if the GOR also is reduced to 2000 to 1 GOR, then total recovery from the pool is reduced by an estimated 69 MSTB of barrels of oil equivalent.

(14) That the evidence indicates that 40-acre oil well spacing and 80-acre gas well spacing is now the appropriate spacing patterns to adopt for this pool.

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(15) The evidence presented further indicates that the continuation of the current gas-oil ratio of 5,000 cubic feet of gas per barrel of oil is having no adverse affect on the ultimate hydrocarbon recovery from the reservoir or on the correlative rights of the various operators and interest owners in the pool.

(16) The various ownership interests in the pool are arranged such that all interest owners (working, royalty and overriding royalty) will be identical with the same percentage interest should existing oil spacing be reduced from 80-acres to 40-acre and gas spacing be reduced from 160-acre to 80-acres.

(17) No other operator and/or interest owner appeared at the hearing in opposition to the application.

(18) Approval of Chi Energy Inc's and OXY USA Inc.'s joint request will allow the operators the opportunity to economically recover their share of the oil and gas in the subject pool, will not reduce ultimate recovery from the subject pool, and will not violate correlative rights.

(19) The Old Millman Ranch-Bone Spring Pool, as modified herein, should be made permanent.

IT IS THEREFORE ORDERED THAT:

(1) The General Rules and Regulations for Associated Oil and Gas Pools in Northwest and Southeast, New Mexico are hereby made permanent for the Old Millman Ranch-Bone Springs Pool, Eddy County, New Mexico subject to the following special rules:

- (a) the limiting gas-oil ratio for the Pool is 5,000 cubic feet of gas per barrel of oil;
- (b) gas well spacing shall be 80-acre per well; and
- (c) oil well spacing shall be 40-acres per well.

(2) The special rules and regulations for this pool established herein, as amended, including a gas/oil ratio limitation of 5,000 cubic feet of gas per barrel of oil, 40-acre oil spacing and 80-acre gas spacing, are hereby permanently established and shall remain in effect until further order of the Division.

(3) Within 60-days from the date of this order, all operators shall file a new Form C-102 with the Division dedicating 40-acre per oil well and 80-acres per gas well. Failure to file a new Form C-102 with the Division as required shall subject the well to being shut in.

(4) 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

S E A L

KELLAHIN AND KELLAHIN

ATTORNEYS AT LAW

EL PATIO BUILDING

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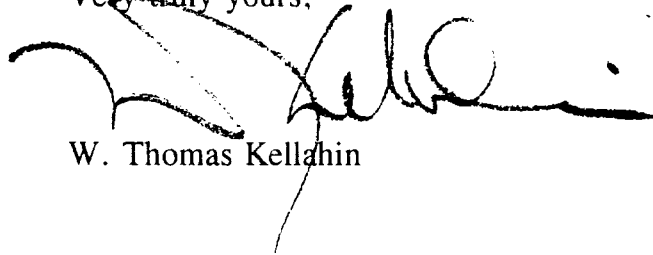
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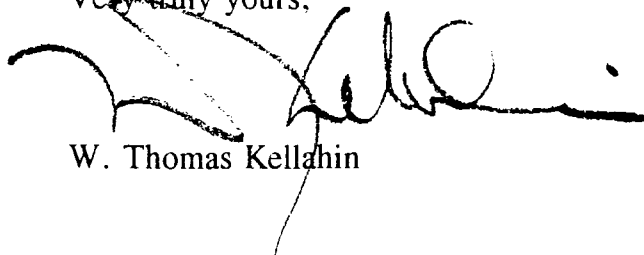
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(g) based upon production decline curve analysis and volumetric calculations the drainage area for a typical gas well in the pool ranges from 32-50 acres

(11) Oxy USA Inc.'s geologic evidence demonstrates that:

(a) although the pool contains as many as nine different discrete intervals which produce hydrocarbons, some of these intervals are not present in all wells and are often discontinuous between wells only 40-acre apart; and

(b) the original gas-oil contact in the reservoir was at -2945 feet subsea.

(12) Oxy USA Inc. presented a computer generated reservoir simulation based upon a three dimensional, three phase model on a 50'x 50' grid which utilized reservoir conditions and properties for all wells in the pool and was validated by matching simulated production and bottomhole pressure to historical measurements of production and pressure;

Case No. 10556 (Reopened)

Order No. R-5353-___

Page No. 6

(13) Oxy USA Inc.'s reservoir simulation revealed the following:

(a) at existing 80-acre oil and 160-gas spacing and maintain a 5000 to 1 GOR with no additional wells drilled, then ultimate recovery will be 3.142 million barrels of oil and 36.950 BCF of gas;

(b) at existing 80-acre oil and 160- gas spacing and maintaining the 5000 to 1 GOR but with five additional wells drilled, then ultimate recovery will be 3.437 million barrels of oil and 39.543 BCF of gas;

(c) by reducing spacing to 40-acre oil and 80-acre gas and maintaining the 5000 to 1 GOR and adding 4 more wells then ultimate recovery will be increased to 3.441 million barrels of oil and 42.763 BCF of gas;

(d) under existing spacing if the GOR is reduced from 5000 to 1 to 2000 to 1, then total recovery from the pool is reduced by an estimated 107 MSTB of barrels of oil equivalent; and

(e) under the proposed reduced spacing if the GOR also is reduced to 2000 to 1 GOR, then total recovery from the pool is reduced by an estimated 69 MSTB of barrels of oil equivalent.

(14) That the evidence indicates that 40-acre oil well spacing and 80-acre gas well spacing is now the appropriate spacing patterns to adopt for this pool.

Case No. 10556 (Reopened)

Order No. R-5353-__

Page No. 7

(15) The evidence presented further indicates that the continuation of the current gas-oil ratio of 5,000 cubic feet of gas per barrel of oil is having no adverse affect on the ultimate hydrocarbon recovery from the reservoir or on the correlative rights of the various operators and interest owners in the pool.

(16) The various ownership interests in the pool are arranged such that all interest owners (working, royalty and overriding royalty) will be identical with the same percentage interest should existing oil spacing be reduced from 80-acres to 40-acre and gas spacing be reduced from 160-acre to 80-acres.

(17) No other operator and/or interest owner appeared at the hearing in opposition to the application.

(18) Approval of Chi Energy Inc.'s and OXY USA Inc.'s joint request will allow the operators the opportunity to economically recover their share of the oil and gas in the subject pool, will not reduce ultimate recovery from the subject pool, and will not violate correlative rights.

(19) The Old Millman Ranch-Bone Spring Pool, as modified herein, should be made permanent.

IT IS THEREFORE ORDERED THAT:

(1) The General Rules and Regulations for Associated Oil and Gas Pools in Northwest and Southeast, New Mexico are hereby made permanent for the Old Millman Ranch-Bone Springs Pool, Eddy County, New Mexico subject to the following special rules:

Case No. 10556 (Reopened)

Order No. R-5353-____

Page No. 8

- (a) the limiting gas-oil ratio for the Pool is 5,000 cubic feet of gas per barrel of oil;
- (b) gas well spacing shall be 80-acre per well; and
- (c) oil well spacing shall be 40-acres per well.

(2) The special rules and regulations for this pool established herein, as amended, including a gas/oil ratio limitation of 5,000 cubic feet of gas per barrel of oil, 40-acre oil spacing and 80-acre gas spacing, are hereby permanently established and shall remain in effect until further order of the Division.

(3) Within 60-days from the date of this order, all operators shall file a new Form C-102 with the Division dedicating 40-acre per oil well and 80-acres per gas well. Failure to file a new Form C-102 with the Division as required shall subject the well to being shut in.

(4) 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

S E A L

State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505



February 8, 1995

Chi Operating, Inc.
P. O. Box 1799
Midland, Texas 79702

Gentlemen:

In accordance with the provisions of Division Order No. R-5353-M entered on August 31, 1993, the Oil Conservation Division is reopening Case No. 10556 in order to give all operators in the Old Millman Ranch-Bone Spring Associated Pool in Eddy County, New Mexico, the opportunity to appear and show cause why the Temporary Special Rules and Regulations for said Old Millman Ranch-Bone Spring Associated Pool should not be rescinded and the pool reclassified.

This case will be heard before an examiner on February 16, 1995, in the Oil Conservation Division Conference Room, 2040 S. Pacheco, Santa Fe, New Mexico, at 8:15 a.m. A copy of the docket for this hearing is enclosed.

Sincerely,

A handwritten signature in cursive script that reads "Florene Davidson".

Florene Davidson
OC Staff Specialist

enc.

VILLAGRA BUILDING - 408 Galisteo

Forestry and Resources Conservation Division
P.O. Box 1948 87504-1948
827-5830

Park and Recreation Division
P.O. Box 1147 87504-1147
827-7465

2040 South Pacheco

Office of the Secretary
827-5950

Administrative Services
827-5925

Energy Conservation & Management
827-5900

Mining and Minerals
827-5970

Oil Conservation
827-7131

State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505



February 8, 1995

Mewbourne Oil Company
P. O. Box 7698
Tyler, Texas 75711

Gentlemen:

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State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505



February 8, 1995

Reeves County Systems Inc.
P. O. Box 152
Odessa, Texas 79760

Gentlemen:

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Sincerely,

Florene Davidson

Florene Davidson
OC Staff Specialist

enc.

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ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505



February 8, 1995

OXY USA, Inc.
P. O. Box 50250
Midland, Texas 79710

Gentlemen:

In accordance with the provisions of Division Order No. R-5353-M entered on August 31, 1993, the Oil Conservation Division is reopening Case No. 10556 in order to give all operators in the Old Millman Ranch-Bone Spring Associated Pool in Eddy County, New Mexico, the opportunity to appear and show cause why the Temporary Special Rules and Regulations for said Old Millman Ranch-Bone Spring Associated Pool should not be rescinded and the pool reclassified.

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