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POOL Hare - San Andres Gas COUNTY Lea TOWNSHIP 21 South RANGE 37 East NMPM 2. 1 3. 6 5 Δ - 11 -8 9 12 14 13. -18 -17 20 19 24 23 30 29 26-25 31-32 33 -34-35 36 -Description: SW Sec. 22 (R-4423, 11-1-71) Ext: W/2 Sec 27, 5/2 Sec 28 (R-4809, 6-18-74) Ext: 5/2 Sec 21 (R-6698, 6-2-81) Ext: NW/4 sec 22 (R-8946, 7-1-89) Ext: Sw/4 sec 15 (R-9741, 9-1-89) Ext: SW/4 Sec. 10, NW/4 Sec. 15 (R-10091, 3-28-94) Ext: 5E/4 Sec. 10, NE/4 Sec. 22 (R-10588, 4-26-96) Ext: 5/2 Seg 16 (R-11116,1-7-98) Delete \$2 Sec. 10 (R-12190, 8-12-04) 2.40

# 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. 13256 ORDER NO. R-12190

# APPLICATION OF APACHE CORPORATION FOR CONTRACTION OF THE HARE-SAN ANDRES GAS POOL, EXPANSION OF THE EAST HARE-SAN ANDRES POOL, AND SPECIAL POOL RULES FOR THE EAST HARE-SAN ANDRES POOL, LEA COUNTY, NEW MEXICO.

#### **ORDER OF THE DIVISION**

#### **BY THE DIVISION:**

This case came on for hearing at 8:15 a.m. on April 29, 2004, at Santa Fe, New Mexico, before Examiner William V. Jones.

NOW, on this 12<sup>th</sup> day of August, 2004, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner,

## FINDS THAT:

(1) Due public notice has been given, and the Division has jurisdiction of this case and its subject matter.

(2) Apache Corporation ("applicant"), seeks an order:

(a) Contracting the horizontal boundaries of the Hare-San Andres Gas Pool (78080) by deleting the following acreage;

Township 21 South, Range 37 East, NMPM Section 10: S/2

(b) Expanding the horizontal boundaries of the East Hare-San Andres Pool (96601) by adding thereto the following acreage; and Case No. 13256 Order No. R-12190 Page 2 of 5

Township 21 South,	Range 37 East, NMPM
Section 9:	S/2
Section 10:	SW/4
Section 16:	NW/4

(c) Creating Special Pool Rules for the East Hare-San Andres Pool, providing for; (i) a gas-oil ratio of 5000 cubic feet of gas for each barrel of oil produced, and (ii) all other rules to comply with statewide rules.

(3) The Hare-San Andres Gas Pool was created by Division order No. R-4423 in Case No. 4848, issued on November 1, 1972, and currently covers the following acreage:

#### Township 21 South, Range 37 East, NMPM

Section 10:	S/2
Section 15:	W/2
Section 21:	S/2
Section 22:	NE/4 and $W/2$
Section 27:	W/2
Section 28:	S/2

The Hare-San Andres Gas Pool was discovered by the Shell Oil Company Turner Well No. 16, located in Unit M of Section 22, Township 21 South, Range 37 East, NMPM. It was completed in the San Andres formation on June 2, 1972, with the top perforation at 4004 feet. The pool has no special pool rules and is therefore being developed on statewide rules with 160-acre gas spacing units and only one well allowed per unit.

(4) The East Hare-San Andres Pool was created by Division order No. R-10776 in Case No. 11737 issued on February 28, 1997, and currently covers the following acreage:

> Township 21 South, Range 37 East, NMPM Section 10: SE/4

## Case No. 13256 Order No. R-12190 Page 3 of 5

The East Hare-San Andres Pool was discovered by the Exxon Corporation New Mexico "PO" State Well No. 1 located in Unit O of Section 10, Township 21 South, Range 37 East, NMPM. It was completed in the San Andres formation on October 13, 1996, with the top perforation at 4,022 feet. The pool has no special pool rules and is therefore being developed on statewide rules with 40-acre oil proration units, 40-acre depth bracket oil discovery allowable, and a 2,000:1 gas-oil ratio.

(5) Notice was provided to operators within the East Hare-San Andres Pool and within one mile surrounding the pool. No one appeared at the hearing or otherwise opposed this application.

(6) Exxon Mobil Corporation ("ExxonMobil") operates a San Andres gas well located within the SW/4 of Section 10 and within the current boundaries of the Hare-San Andres Gas Pool. The applicant provided testimony that the entire S/2 of Section 10 is a single State of New Mexico lease with identical ownership and Exxon would therefore not be affected by switching the SW/4 of Section 10 from the Hare-San Andres Gas Pool to the East Hare-San Andres Pool. Division records indicate that ExxonMobil's well has not in the past produced enough gas, on the average, to be restricted in the future by the applicant's proposed 5,000:1 gas-oil ratio limitation.

(7) The applicant provided geological and engineering testimony as follows:

(a) The productive portion of the San Andres reservoir in this area does not behave in a conventional manner, with gas over oil, and oil over water. Some wells will produce primarily gas even though they are lower in structure than offsetting oil producers.

(b) The San Andres reservoir provides water supply wells for the deeper Drinkard formation waterflood in this area. Some of these water supply wells actually flow gas at the same time as water is being pumped and are classified as gas wells.

(c) Oil wells in this area producing from the Grayburg formation, which is stratigraphically higher than the San Andres, are spaced on 40-acres. If this application is approved, these existing Grayburg wells can be deepened without obtaining Division approval for rule exceptions, the San Andres formation can be developed, and the wells possibly downhole commingled.

## Case No. 13256 Order No. R-12190 Page 4 of 5

(d) The producing lenses in the San Andres formation are at various stages of pressure depletion. Original reservoir pressure was approximately 1,700-psi and the pressure in some wells is still above the bubble point.

(e) Ultimate primary oil and gas production from this reservoir will not be decreased as a result of allowing a 5,000:1 or higher producing gas-oil ratio. The applied for 5,000:1 gas-oil ratio limit is consistent with the special pool rules existing on other San Andres oil pools in this area.

(f) To aid in determining the limits of the East Hare-San Andres Pool as applied for herein, the applicant has drilled three delineation wells, each in the center of a possible 160-acre San Andres gas spacing unit. One well is in the NW/4 of Section 16, one is in the SW/4 of Section 9, and one is in the SE/4 of Section 9. Each of these wells is an infill location Grayburg well as well as standard location gas wells. If these had tested as gas wells in the San Andres, they would have been the only San Andres wells allowed within each of these 160-acre units.

(8) Implementation of the proposed gas pool contraction, oil pool expansion, and 5,000:1 gas-oil ratio limit for the oil pool, will allow the operators of wells completed in the San Andres formation in this area the opportunity to recover additional hydrocarbons, prevent waste, and will protect correlative rights.

#### **IT IS THEREFORE ORDERED THAT:**

(1) The application of Apache Corporation for the following three items is hereby approved:

(a) The following acreage is deleted from the boundaries of the Hare-San Andres Gas Pool (78080):

> Township 21 South, Range 37 East, NMPM Section 10: S/2

Case No. 13256 Order No. R-12190 Page 5 of 5

> (b) The following acreage is added to the boundaries of the East Hare-San Andres Pool (96601):

> > Township 21 South, Range 37 East, NMPMSection 9:S/2Section 10:SW/4Section 16:NW/4

(c) The "Special Pool Rules for the East Hare-San Andres Pool," are hereby established and shall read in their entirety as follows:

## SPECIAL POOL RULES FOR THE EAST HARE-SAN ANDRES POOL

<u>RULE 1</u>. Each well completed in or recompleted in the East Hare-San Andres Pool, or in the San Andres formation within one mile thereof and not nearer to or within the limits of another designated San Andres pool, shall be spaced, drilled, operated, and produced in accordance with the special rules hereinafter set forth.

<u>RULE 2</u>. The limiting gas-oil ratio shall be 5,000 cubic feet of gas per barrel of oil.

<u>RULE 3.</u> Statewide rules shall govern this pool except as stated in <u>RULE 2</u> above.

(2) Jurisdiction is hereby retained for the entry of such further orders as the Division may deem necessary.

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



STATE OF NEW MEXICO OIL CONSERVATION DIVISION

2.Z-

MARK E. FESMIRE, P.E. Director

30-125-36618



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON Governor Joanna Prukop Cabinet Secretary

March 1, 2004

Lori Wrotenbery Director Oil Conservation Division

Apache Corporation c/o James Bruce P. O. Box 1056 Santa Fe, New Mexico 87504

Administrative Order NSL-5007 (SD)

Dear Mr. Bruce:

Reference is made to the following: (i) your application (*administrative application reference* No. pMES0-06146825) dated February 6, 2004 filed on behalf of the operator, Apache Corporation ("Apache"); (ii) your telephone conversation with Mr. Stogner late Monday afternoon, February 23, 2004; (iii) your e-mail response to Mr. Stogner on February 23, 2004; (iv) Ms. Cindy McGee's e-mail with attachments on Tuesday, February 24, 2004; (v) your e-mail correspondence with Mr. Stogner on Wednesday, February 25, 2004; (vii) your telephone conversation with Mr. Stogner on Thursday, February 26, 2004 concerning Occidential Permian Partnership's interest in this application; (viii) your e-mail and telefax responses Friday morning, February 27, 2004; and (ix) the Division's records in Santa Fe: all concerning Apache Corporation's request for an unorthodox "infill" oil well location within an existing standard 40-acre oil spacing and proration unit comprising the NW/4 NW/4 (Unit D) of Section 16, Township 21 South, Range 37 East, NMPM, Penrose Skelly (Grayburg) Pool (50350), Lea County, New Mexico.

## The Division Director Finds That:

(1) All of Section 16 is within the Penrose Skelly (Grayburg) Pool; an oil pool governed under Division Rule 104.B (1), which provides for 40-acre oil spacing and proration units and requires wells be located no closer than 330 feet to the outer boundary of such unit.

(2) The NW/4 of Section 16 is a single state lease issued by the New Mexico State Land Office (State Lease No. B-01557-1) with common ownership in which Apache is the lessee of record and leasehold operator.

(3) The standard 40-acre oil spacing and proration unit in the Penrose Skelly (Grayburg) Pool comprising the NW/4 NW/4 (Unit D) of Section 16 within this lease is currently dedicated to Apache's State "C" Tract 12 Well No. 8 (API No. 30-025-35515), located at a standard oil well location 660 feet from the North line and 810 feet from the West line of Section 16.

(4) Apache now seeks to drill its State "C" Tract 12 Well No. 16 within this 40-acre Grayburg unit at an unorthodox infill oil well location 110 feet from the North line and 1310 feet from the West line of Section 16.

#### **Division Administrative Order NSL-5007 (SD)**

Apache Corporation March 1, 2004 Page 2

(5) The 958.25-acre area in Lea County, New Mexico comprising the SW/4 NE/4 and NW/4 SW/4 of Section 13, Township 20 South, Range 37 East, NMPM; Lot 1 of Section 30, Township 20 South, Range 38 East, NMPM; and Lots 3 and 6 of Section 4, the NE/4 SE/4 and S/2 SE/4 of Section 6; the E/2 SW/4 and SE/4 of Section 8; and the E/2 NW/4 and S/2 of Section 9, all in Township 21 South, Range 37 East, NMPM, is a single federal lease (Hawk "B-1") issued by the U. S. Bureau of Land Management (U. S. government lease No. NM-90161) with common ownership in which: (i) Apache, BP America Production Company ("BP"), and Chevron U.S.A., Inc. ("Chevron") each own undivided operating rights; and (ii) Apache is the leasehold operator. The two-affected standard 40-acre Grayburg oil spacing and proration units to the north in Section 9, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico, which the proposed State "C" Tract 12 Well No. 16 is encroaching are:

(a) the SW/4 SW/4 (Unit M) of Section 9, which is currently dedicated to Apache's: (i) existing Hawk "B-1" Well No. 19 (API No. **30-025-35796**), located at a standard oil well location 660 feet from the South line and 425 feet from the West line of Section 9; and (ii) proposed Hawk "B-1" Well No. 40 (API No. **30-025-36533**), to be located at an unorthodox infill oil well location [approved by Division Administrative Order NSL-4956 (SD), dated October 31, 2003, as corrected by order dated March 1, 2004) 1310 feet from the South line and 1280 feet from the West line of Section 9; and

(b) the SE/4 SW/4 (Unit N) of Section 9, which is currently dedicated to Apache's Hawk "B-1" Well No. 31 (API No. 30-025-35882), located at a standard oil well location 700 feet from the South line and 1850 feet from the West line of Section 9.

(6) This request is based on geologic and engineering reasons in that this location is approximately equidistance to other offsetting Penrose Skelly (Grayburg) oil producers within the immediate area.

(7) Apache, BP, Chevron, the New Mexico State Land Office, and the U. S. Bureau of Land Management have entered into a "cooperative lease/well agreement" providing for the allocation of proceeds of Penrose Skelly (Grayburg) oil production from Apache's proposed State "C" Tract 12 Well No. 16 in the following manner:

(a) 60.14% to be attributed to the subject State "C" Tract 12 lease (State lease No. B-01557-1); and

(b) 39.86% to be attributed to the offsetting Hawk "B-1" federal lease (U. S. government lease No. NM-90161).

(8) This allocation formula for the proceeds from Apache's proposed State "C" Tract 12 Well No. 16 serves to benefit all mineral interests within the Penrose Skelly (Grayburg) Pool to be impacted by this well's drainage.

(9) Approval of this application is in the best interest of conservation, will serve to prevent waste, protects correlative rights, exhibits sound engineering practices, and allows for the recovery of additional reserves that might not otherwise be produced.

#### It Is Therefore Ordered That:

(1) Pursuant to Division Rule 104.F (2), of the New Mexico Oil Conservation Division's ("Division") Rules and Regulations, the administrative application of Apache Corporation ("Apache") (*administrative application reference No. pMES0-406146825*) for its proposed State "C" Tract 12 Well No. 16 to be drilled at an unorthodox infill oil well location 110 feet from the North line and 1310 feet from the West line (Unit D) of Section 16, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico, and completed in the Penrose Skelly (Grayburg) Pool (50350), is hereby approved.

(2) For the Division's production reporting, prorationing, and well spacing purposes, Grayburg oil production from the above-described State "C" Tract 12 Well No. 16 is to be simultaneously dedicated, with Apache's existing State "C" Tract 12 Well No. 8 (API No. 30-025-35515), located at a standard oil well location 660 feet from the North line and 810 feet from the West line of Section 16, to the NW/4 NW/4 (Unit D) of Section 16, being a standard 40-acre oil spacing and proration unit in the Penrose Skelly (Grayburg) Pool.

(3) The distribution of proceeds from Penrose Skelly (Grayburg) oil production from Apache's proposed State "C" Tract 12 Well No. 16 are to be allocated in the following manner:

(a) 60.14% to be attributed to the subject State "C" Tract 12 lease (State lease No. B-01557-1) located in Section 16; and

(b) 39.86% to be attributed to the offsetting Hawk "B-1" federal lease (U. S. government lease No. NM-90161) located in Section 9, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico.

Apache Corporation March 1, 2004 Page 4

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

STATE OF NEW MEXICO OIL CONSERVATION DIVISION

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cc: New Mexico Oil Conservation Division - Hobbs New Mexico State Land Office - Santa Fe U. S. Bureau of Land Management - Roswell