

**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. 11405  
Order No. R-10503**

**APPLICATION OF MERIDIAN OIL INC.  
FOR DOWNHOLE COMMINGLING, SAN  
JUAN COUNTY, NEW MEXICO.**

**ORDER OF THE DIVISION**

**BY THE DIVISION:**

This cause came on for hearing at 8:15 a.m. on October 19, 1995, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 24th day of October, 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) The applicant, Meridian Oil Inc., seeks approval to downhole commingle Aztec-Pictured Cliffs and Basin-Fruitland Coal Gas Pool production within the wellbore of its Sanchez "A" Com Well No. 2 located at a standard gas well location for both intervals 1600 feet from the North line and 990 feet from the West line (Unit E) of Section 16, Township 28 North, Range 9 West, NMPM, San Juan County, New Mexico.

(3) The above-described well is dedicated to a standard 160-acre gas spacing and proration unit comprising the NW/4 of Section 16 in the Aztec-Pictured Cliffs Gas Pool, and the applicant proposes to dedicate a standard 320-acre gas spacing and proration unit comprising the W/2 of Section 16 to the subject well in the Basin-Fruitland Coal Gas Pool.

(4) The subject well was drilled in 1955 and completed in the Aztec-Pictured Cliffs Gas Pool at an initial producing rate of approximately 1803 MCF gas per day.

(5) The subject well is currently a marginal producer in the Aztec-Pictured Cliffs Gas Pool, and has been inactive since August, 1994.

(6) Applicant's evidence indicates that the current producing rate from the Aztec-Pictured Cliffs Gas Pool is such that a dual completion of the well is not economic.

(7) The proposed downhole commingling is necessary in order for the applicant to economically recover Basin-Fruitland Coal Gas Pool reserves as well as remaining gas reserves in the Aztec-Pictured Cliffs Gas Pool.

(8) The ownership within the Basin-Fruitland Coal Gas Pool and the Aztec-Pictured Cliffs Gas Pool underlying each respective proration unit is not common.

(9) The applicant has notified all interest owners owning an interest in either the Pictured Cliffs or Fruitland formation within the subject proration units of its proposed downhole commingling.

(10) No offset operator and/or interest owner appeared at the hearing in opposition to the proposed downhole commingling.

(11) The applicant further demonstrated through its evidence that:

- a) there will be no crossflow between the two commingled pools;
- b) neither commingled zone exposes the other to damage by produced liquids;
- c) the fluids from each zone are compatible with the other;
- d) the bottomhole pressure of the lower pressure zone should not be less than 50 percent of the bottomhole pressure of the higher pressure zone adjusted to a common datum; and,
- e) the value of the commingled production is not less than the sum of the values of the individual production.

(12) In the interest of prevention of waste and protection of correlative rights, the subject application should be approved.

(13) Due to the nature of the Basin-Fruitland Coal Gas production, straight allocation of gas volumes from both zones is not appropriate. The applicant therefore seeks the adoption of a monthly allocation formula, as shown on Exhibit "A" attached hereto and made a part hereof.

(14) The operator should be responsible for reporting the monthly gas production from said well by utilizing the proposed allocation formula.

(15) An annual report should be submitted by the operator to both the Aztec and Santa Fe offices of the Division showing the complete computations for each month.

(16) Any condensate production from the subject well should be allocated entirely to the Pictured Cliffs interval.

(17) Any change in the method of gas allocation between the two pools should be made only after due notice and hearing.

(18) To afford the Division an opportunity to assess the potential of waste and to expeditiously order the appropriate remedial action, the operator should notify the Aztec district office of the Division any time the subject well is shut-in for seven consecutive days.

**IT IS THEREFORE ORDERED THAT:**

(1) The applicant, Meridian Oil Inc., is hereby authorized to downhole commingle Aztec-Pictured Cliffs and Basin-Fruitland Coal Gas Pool production within the wellbore of its Sanchez "A" Com Well No. 2 located at a standard gas well location for both intervals 1600 feet from the North line and 990 feet from the West line (Unit E) of Section 16, Township 28 North, Range 9 West, NMPM, San Juan County, New Mexico.

(2) The above-described well shall be dedicated to a standard 160-acre gas spacing and proration unit comprising the NW/4 of Section 16 in the Aztec-Pictured Cliffs Gas Pool, and a standard 320-acre gas spacing and proration unit comprising the W/2 of Section 16 in the Basin-Fruitland Coal Gas Pool.

(3) The allocation of gas produced from both zones shall be in accordance with the allocation formula adopted for this well as further described in Exhibit "A" attached hereto and made a part hereof.

(4) The operator is responsible for reporting the monthly gas production from the subject well to the Division utilizing the allocation formula adopted herein. An annual report shall be submitted by the operator to both the Aztec and Santa Fe offices of the Division showing the complete computations for the previous twelve month period.

(5) Condensate production from the subject well shall be allocated entirely to the Aztec-Pictured Cliffs Gas Pool. Water production shall be reported in a manner acceptable to the supervisor of the Aztec district office of the Division.

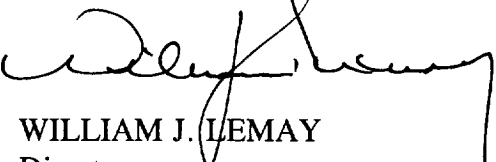
(6) Any variance in the method of gas allocation between the two pools shall be made only after due notice and hearing.

(7) The operator shall immediately notify the supervisor of the Aztec district office of the Division any time the subject well has been shut-in for seven consecutive days and shall concurrently present, to the Division, a plan for remedial action.

(8) 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

S E A L

EXHIBIT "A"  
CASE NO. 11405  
DIVISION ORDER NO. R-10503  
**SANCHEZ "A" COM WELL NO. 2**  
MONTHLY GAS PRODUCTION ALLOCATION FORMULA

GENERAL EQUATION:  
 $QT = Q_{ftc} + Q_{pc}$

WHERE: QT = TOTAL MONTHLY PRODUCTION (MCF/MONTH)  
Q<sub>ftc</sub> = FRUITLAND COAL (FTC) MONTHLY PRODUCTION (MCF/MONTH)  
Q<sub>pc</sub> = PICTURED CLIFFS (PC) MONTHLY PRODUCTION (MCF/MONTH)

REARRANGING THE EQUATION TO SOLVE FOR Q<sub>ftc</sub>:

$$Q_{ftc} = Q_t - Q_{pc}$$

ANY PRODUCTION RATE OVER WHAT IS CALCULATED FOR THE PICTURED CLIFFS (PC) USING THE APPLIED FORMULA IS FRUITLAND COAL (FTC) PRODUCTION.

PICTURED CLIFFS (PC) FORMATION PRODUCTION FORMULA IS:

$$Q_{pc} = Q_{pci} * e^{-(D_{pc}) * (t)}$$

WHERE: Q<sub>pci</sub> = INITIAL PC MONTHLY FLOW RATE (DETERMINED FROM LAST MONTH OF PC ONLY PRODUCTION, PRIOR TO RECOMPLETION AND COMMINGLE)

$$Q_{pci} = 100 \text{ MCFD} \times 30.4 = 3040 \text{ MCF/M}$$

D<sub>pc</sub> = PICTURED CLIFFS MONTHLY DECLINE RATE CALCULATED FROM DECLINE

CURVE AND MATERIAL BALANCE ANALYSIS:

$$D_{pc} = (7.170/\text{YR}) \text{ PER YEAR} = (0.59750/\text{M})$$

THUS:

$$Q_{ftc} = Q_t - 3040 * e^{-(0.59750) * (t)}$$

WHERE: (t) IS TIME IN MONTHS