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. 11134
Order No. R-10260

APPLICATION OF MERIDIAN OIL INC. FOR DOWNHOLE COMMINGLING AND AN UNORTHODOX COAL GAS WELL LOCATION, SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on November 10, 1994, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 28th day of November, 1994, 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 existing Payne Well No. 2 located at a standard gas well location for the Aztec-Pictured Cliffs Gas Pool 1180 feet from the South line and 1750 feet from the East line (Lot 11/Unit O) of Section 35, Township 30 North, Range 11 West, NMPM, San Juan County, New Mexico.

(3) The subject well is located within the Basin-Fruitland Coal Gas Pool which is governed by Special Rules and Regulations as promulgated by Division Order No. R-8768, as amended, which require standard 320-acre gas spacing and proration units with wells to be located within the NE/4 or SW/4 of the section no closer than 790 feet from any outer boundary of the spacing unit nor closer than 130 feet from any quarter section line nor closer than 10 feet from any quarter-quarter section line or subdivision inner boundary.

(4) The applicant further seeks approval of an unorthodox coal gas well location for the Payne Well No. 2 which is standard with respect to the setback footage requirements for the Basin-Fruitland Coal Gas Pool but is unorthodox with respect to the quarter section location.

(5) The Payne Well No. 2 is currently dedicated to a standard 157.77-acre gas spacing and proration unit in the Aztec-Pictured Cliffs Gas Pool comprising Lots 6, 11, and 12 and the NE/4 SE/4 (SE/4 equivalent) of Section 35, and the applicant proposes to dedicate the Payne Well No. 2 to a standard 316.83-acre gas spacing and proration unit in the Basin-Fruitland Coal Gas Pool comprising Lots 9 through 13, the SE/4 SW/4, and the W/2 SE/4 (S/2 equivalent) of Section 35.

(6) The evidence presented indicates that within Section 35, there are currently four wells producing from the Aztec-Pictured Cliffs Gas Pool, these being the Wood Well No. 2 located in the NE/4, the Forrest Well No. 1 located in the NW/4, the Forrest Well No. 4 located in the SW/4 and the aforesaid Payne Well No. 2 located in the SE/4.

(7) Applicant's evidence and testimony indicates that Basin-Fruitland Coal Gas Pool reserves underlying the S/2 of Section 35 are insufficient to economically justify the drilling of a stand alone Fruitland Coal well at a standard well location within the SW/4.

(8) The evidence further indicates that the Forrest Well No. 4, which would normally be considered as a candidate for the downhole commingling of Fruitland Coal and Pictured Cliffs formations, is cased and completed in such a manner that precludes a downhole commingled completion.

(9) In companion Case No. 11135, the applicant is seeking authority to downhole commingle Aztec-Pictured Cliffs and Basin-Fruitland Coal Gas Pool production within the Wood Well No. 2.

(10) The Payne Well No. 2 is the only other wellbore within the S/2 of Section 35 available for downhole commingling.

(11) The Payne Well No. 2 was drilled in 1959 and completed in the Aztec-Pictured Cliffs Gas Pool at an initial producing rate of approximately 3,749 MCF gas per day.

(12) The subject well is currently a marginal producer in the Aztec-Pictured Cliffs Gas Pool.

(13) 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.

(14) The proposed downhole commingling and unorthodox coal gas well location are necessary in order for the applicant to economically recover Basin-Fruitland Coal Gas Pool reserves underlying the S/2 of Section 35 as well as remaining gas reserves in the Aztec-Pictured Cliffs Gas Pool underlying the SE/4 of Section 35.

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

(16) 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 and unorthodox coal gas well location.

(17) No offset operator and/or interest owner appeared at the hearing in opposition to the proposed downhole commingling and/or unorthodox coal gas well location.

(18) 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.

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

(20) 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.

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

(22) 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.

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

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

(25) 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 existing Payne Well No. 2 located at a standard gas well location for the Aztec-Pictured Cliffs Gas Pool and an unorthodox gas well location for the Basin-Fruitland Coal Gas Pool, also hereby approved, 1180 feet from the South line and 1750 feet from the East line (Lot 11/Unit O) of Section 35, Township 30 North, Range 11 West, NMPM, San Juan County, New Mexico.

(2) The Payne Well No. 2 shall be dedicated to a standard 157.77-acre gas spacing and proration unit in the Aztec-Pictured Cliffs Gas Pool comprising Lots 6, 11, and 12 and the NE/4 SE/4 (SE/4 equivalent) of Section 35, and to a standard 316.83-acre gas spacing and proration unit in the Basin-Fruitland Coal Gas Pool comprising Lots 9 through 13, the SE/4 SW/4, and the W/2 SE/4 (S/2 equivalent) of Section 35.

(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. 11134
DIVISION ORDER NO. R-10260

PAYNE WELL NO. 2

MONTHLY GAS PRODUCTION ALLOCATION FORMULA

GENERAL EQUATION:

QT = Qftc + Qpc

WHERE: QT = TOTAL MONTHLY PRODUCTION (MCF/MONTH)
Qftc = FRUITLAND COAL (FTC) MONTHLY PRODUCTION (MCF/MONTH)
Qpc = PICTURED CLIFFS (PC) MONTHLY PRODUCTION (MCF/MONTH)

REARRANGING THE EQUATION TO SOLVE FOR Qftc:

Qftc = Qt - Qpc

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:

$$Qpc = Qpci * e ^ \{-(Dpc)*(t)\}$$

WHERE: Qpci = INITIAL PC MONTHLY FLOW RATE (687 MCF/M) DETERMINED FROM DECLINE CURVE
Dpc = PICTURED CLIFFS MONTHLY DECLINE RATE CALCULATED FROM DECLINE
CURVE AND MATERIAL BALANCE ANALYSIS:

Dpc = (0.0023/M)

THUS:

$$Qftc = Qt - Qpci * e ^ \{-(0.0023)*(t)\}$$

WHERE: (t) IS TIME IN MONTHS