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. 10393
ORDER NO. R-9604

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 3, 1991, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 23rd day of October, 1991, 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., is the owner and operator of the Gordon Well No. 5, located 920 feet from the South line and 1060 feet from the West line (Unit M) of Section 22, Township 27 North, Range 10 West, NMPM, San Juan County, New Mexico.

(3) Said well was originally drilled and completed in early 1955 as a Fulcher Kutz-Pictured Cliffs Pool gas well. In October 1990 the Basin-Fruitland Coal Gas Pool was perforated and the well was dually completed in a conventional manner. The SW/4 of said Section 22 was dedicated to the Pictured Cliffs interval forming a standard 160-acre gas spacing and proration unit for said Fulcher Kutz pool and the W/2 was dedicated to the Fruitland Coal zone forming a standard 320-acre gas spacing and proration unit in the Basin-Fruitland Coal Gas Pool.

(4) In November 1990 the subject well failed a packer leakage test and has been shut-in since that time.

(5) The applicant now seeks authorization to remove the down-hole separation equipment and to commingle the production from both pools in the wellbore.

(6) At the time of the hearing the applicant presented adequate testimony and evidence to show:

a) that commingling is necessary to permit the Pictured Cliffs interval to be produced because it is not otherwise economic to attempt to restore separate production in the wellbore from these two pools;

b) there will be no crossflow between the two commingled pools;

c) neither commingled zone exposes the other to damage by produced liquids;

d) the fluids from each zone are compatible with the other;

e) while ownership is not common between the two pools, no correlative rights violations will occur;

f) the bottom-hole pressure of the lower pressure zone is not less than 50 percent of the bottom hole pressure of the higher pressure zone adjusted to a common datum; and,

g) the value of the commingled production is not less than the sum of the values of the individual production.

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

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

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

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

(11) Water production should be reported in a manner acceptable to the supervisor of the Aztec District Office of the Division.

(12) No offsetting operators or interested parties appeared at the hearing or objected to the subject application.

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

(14) To afford the Division an opportunity to assess the potential for 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 commingle Fulcher Kutz-Pictured Cliffs Pool and Basin-Fruitland Coal Gas Pool production within the wellbore of the Gordon Well No. 5, located 920 feet from the South line and 1060 feet from the West line (Unit M) of Section 22, Township 27 North, Range 10 West, NMPM, San Juan County, New Mexico.

(2) The allocation of gas from both zones shall be subject to the monthly allocation formula hereby adopted for this well as further described in Exhibit "A" attached hereto and made a part hereof.

(3) The operator is responsible in reporting the monthly gas production from the subject well to the Division by utilizing the allocation formula herein adopted. An annual report shall be submitted by the operator to both the Aztec District Office and Santa Fe Office of the Division showing the complete computations for the previous twelve month period. Said annual report must be submitted no later than April 1, 1992.

(4) Condensate production from the subject well shall be allocated entirely to the Fulcher Kutz-Pictured Cliffs Pool. Water production shall be reported in a manner acceptable to the supervisor of the Aztec District Office of the Division.

(5) Any variance from the allocation method herein approved by this order shall be made only after due notice and hearing.

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

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

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY
Director

SEAL

EXHIBIT "A"
CASE NO. 10393
ORDER NO. R-9604

MONTHLY GAS PRODUCTION ALLOCATION FORMULA

Gordon Well No. 5

Equation Derivation

Given the exponential decline curve analysis formula*

$$De = 1-(Q_2/Q_1)^{(1/yr)}$$

Where: De = Effective Rate of Decline in %/yr
Q_2 = Rate two (at some future date) MCFD
Q_1 = Rate one (current rate) MCFD
Yr = years into the future from current date

Rearranging the equation to solve for $Q/_2$

$$Q_2 = Q_1 (1-De)\ yr\ MCFD$$

Any production rate over what is calculated using the above formula on any specific date is Fruitland Coal.

Curtailment Situations

If any curtailment occurs, both streams will be affected the same and go to -0- MCFD.

When production resumes the rates will equate to those when the well was shut in:

Where: Non-FTC = Zone/Formation to be commingled with the Fruitland Coal formation.

FTC = Fruitland Coal formation

$$Q_{2Non\text{-}FTC} = Q_1 (1-De)^{(yr\ -\ cumulative\ curtailment\ time)}$$

$$Q_{FTC} = Q_{TOT} - Q_{Non\text{-}FTC}$$

$$Q_{TOT} = Q_{FTC} + Q_{Non\text{-}FTC}$$

The total amount of Non-FTC produced will be the EUR calculated through decline curve and P-Cum analysis (reference plots are PRODUCTION DATE vs TIME and PRESSURE vs CUMULATIVE PRODUCTION)

*Reference: pg. 5-46 Oil Property Evaluation by R.S. Thompson & J.D. Wright