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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. 11349
Order No. R-10476

APPLICATION OF CONOCO INC. FOR
DOWNHOLE COMMINGLING AND FOR TWO
UNORTHODOX GAS WELL LOCATIONS, RIO
ARRIBA COUNTY, NEW MEXICO.

RECEIVED
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OIL CON. DIV.
DIST. 3

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on July 27, 1995, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 6th 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, Conoco Inc., seeks approval to commingle gas production from the Basin-Dakota and Blanco-Mesaverde Gas Pools within fourteen (14) existing Basin-Dakota Gas Pool wells, and within seventeen (17) wells to be subsequently drilled as Dakota-Mesaverde commingled completions, all as shown on Exhibit "A" attached hereto, and all located within its San Juan 28-7 Unit located in portions of Townships 27 and 28 North, Range 7 West, NMPM, Rio Arriba County, New Mexico.

- a) the regional dip within both the Dakota and Mesaverde formations is from the southwest to the northeast;
 - b) the Mesaverde formation is continuous and productive throughout the entire unit, with production predominantly originating from the Point Lookout and Cliffhouse intervals. Mesaverde wells located within the north and northeast portion of the unit generally exhibit better producing rates and higher cumulative gas recoveries due to better sand development in the Point Lookout and Cliffhouse intervals;
 - c) the Mesaverde formation is relatively "tight" with low porosities and permeabilities;
 - d) the Dakota formation is continuous and productive throughout the entire unit, and Dakota wells generally exhibit consistent producing rates and cumulative gas recoveries; and,
 - e) there is potential for the recovery of additional gas reserves from both the Mesaverde and Dakota formations from recompletions and infill drilling.
- (9) Applicant's geologic and engineering evidence and testimony indicates that:
- a) 55 MCF gas per day is the current average Dakota producing rate within those fourteen existing wells applicant proposes to recomplete and downhole commingle with Mesaverde production;
 - b) 73 MCF gas per day is the current average producing rate of existing Mesaverde wells located within those Sections in which the fourteen existing Basin-Dakota Gas Pool wells are located;
 - c) current Dakota and Mesaverde production within those sections applicant proposes to drill its seventeen infill wells averages approximately 82 and 88 MCF gas per day, respectively.

(10) In its proposed recompletions and infill wells, the applicant expects to obtain initial stabilized producing rates from each of the proposed commingled formations ranging from 200-600 MCF gas per day.

(17) The applicant further demonstrated through its evidence and testimony that within the wells it proposes to commingle within the unit:

- a) neither commingled zone exposes the other to damage by produced liquids;
- b) the fluids from each zone are compatible with the other;
- c) the value of the commingled production is not less than the sum of the values of the individual production.

(18) Applicant's evidence and testimony indicates that the bottomhole pressures of the Dakota and Mesaverde formations within the San Juan 28-7 Unit are in the range of 1700-2500 psi and 750-950 psi, respectively. These pressures exceed the 50 percent pressure differential requirement as contained within Division Rule No. 303(C).

(19) According to applicant's evidence and testimony, the pressure differentials between the subject reservoirs should not result in crossflow, provided that the wells are not shut-in for an extended period of time, for the following reasons:

- a) the Mesaverde formation, being the lower pressured zone, has relatively low porosity and permeability;
- b) seven day shut-in pressure tests within the unit indicate on average a 45 percent difference in pressures between the Mesaverde and Dakota intervals.

(20) Provided that the subject commingled wells are not shut-in for an extended period of time, the evidence and testimony indicates that crossflow should not occur.

(21) The downhole commingling of the fourteen existing wells and the seventeen proposed infill wells within the San Juan 28-7 Unit will benefit the working, royalty and overriding royalty interest owners within the unit, will result in the recovery of gas reserves which may otherwise not be recovered, thereby preventing waste, and will not violate correlative rights.

- b) a New Mexico Oil & Gas Association/Industry Committee is in the process of formulating revised changes to Division Rule No. 303(C) (Downhole Commingling) which will likely include a provision similar to that proposed by the applicant. Such amendment will be appropriately considered by the Oil Conservation Commission.

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

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Conoco Inc., is hereby authorized to commingle gas production from the Basin-Dakota and Blanco-Mesaverde Gas Pools within fourteen (14) existing Basin-Dakota Gas Pool wells, and within seventeen (17) wells to be subsequently drilled as Dakota-Mesaverde commingled completions, all as shown on Exhibit "A" attached hereto, and all located within its San Juan 28-7 Unit located in portions of Townships 27 and 28 North, Range 7 West, NMPM, Rio Arriba County, New Mexico.

(2) The applicant is further authorized to drill its San Juan 28-7 Unit Well Nos. 125M and 157M, both wells to be downhole commingled Dakota/Mesaverde completions, at unorthodox gas well locations for both the Basin-Dakota and Blanco-Mesaverde Gas Pools 580 feet from the North line and 1140 feet from the West line (Unit D) of Section 12, and 798 feet from the South line and 712 feet from the East line (Unit P) of Section 11, respectively, both in Township 27 North, Range 7 West, NMPM.

(3) The allocation of production between the Dakota and Mesaverde formations within the fourteen existing Dakota wells shall be accomplished by projecting future Dakota production based upon known historical production data and attributing any production over these projections to the Mesaverde interval.

(4) The allocation of production between the Dakota and Mesaverde formations within the seventeen proposed infill wells shall be determined by utilizing the data obtained from a minimum three month production test on each zone.

(5) The applicant shall consult with the supervisor of the Division's Aztec District Office subsequent to the completion of testing operations on the seventeen infill wells in order to arrive at fixed allocation percentages for each well.

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EXHIBIT "A"
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EXISTING WELLS

<u>WELL NAME & NUMBER</u>	<u>WELL LOCATION</u>
San Juan 28-7 Unit No. 242E	900' FSL & 800' FWL (M) 7-28N-7W
San Juan 28-7 Unit No. 233	1460' FNL & 1000' FWL (E) 14-28N-7W
San Juan 28-7 Unit No. 255	1890' FNL & 1130' FWL (E) 15-28N-7W
San Juan 28-7 Unit No. 255E	1540' FSL & 800' FWL (L) 15-28N-7W
San Juan 28-7 Unit No. 234	2150' FSL & 1840' FEL (J) 15-28N-7W
San Juan 28-7 Unit No. 231	1495' FNL & 875' FWL (E) 16-28N-7W
San Juan 28-7 Unit No. 231E	1915' FSL & 1930' FWL (K) 16-28N-7W
San Juan 28-7 Unit No. 195	1550' FSL & 1840' FEL (J) 16-28N-7W
San Juan 28-7 Unit No. 239	2080' FSL & 950' FWL (L) 17-28N-7W
San Juan 28-7 Unit No. 257E	990' FSL & 1850' FEL (O) 19-28N-7W
San Juan 28-7 Unit No. 194E	1670' FSL & 1060' FEL (I) 21-28N-7W
San Juan 28-7 Unit No. 252	79' FNL & 1850' FWL (C) 32-28N-7W
San Juan 28-7 Unit No. 192	736' FNL & 990' FWL (D) 33-28N-7W
San Juan 28-7 Unit No. 191	890' FSL & 1780' FEL (O) 33-28N-7W

WELLS TO BE DRILLED

San Juan 28-7 Unit No. 159M	1550' FSL & 1850' FEL (J) 22-28N-7W
San Juan 28-7 Unit No. 258M	1523' FNL & 933' FWL (E) 23-28N-7W
San Juan 28-7 Unit No. 259M	790' FNL & 960' FWL (D) 24-28N-7W
San Juan 28-7 Unit No. 222M	916' FNL & 813' FWL (D) 25-28N-7W
San Juan 28-7 Unit No. 188M	1640' FNL & 1530' FWL (F) 26-28N-7W
San Juan 28-7 Unit No. 223M	830' FSL & 930' FEL (P) 26-28N-7W
San Juan 28-7 Unit No. 230M	1190' FSL & 870' FEL (P) 29-28N-7W
San Juan 28-7 Unit No. 131M	1150' FNL & 1055' FWL (D) 34-28N-7W
San Juan 28-7 Unit No. 225M	830' FSL & 930' FEL (P) 34-28N-7W
San Juan 28-7 Unit No. 183M	870' FSL & 1480' FEL (O) 1-27N-7W
San Juan 28-7 Unit No. 130M	808' FNL & 1182' FWL (D) 2-27N-7W
San Juan 28-7 Unit No. 182M	1610' FSL & 1674' FEL (J) 3-27N-7W
San Juan 28-7 Unit No. 156M	1028' FSL & 1872' FEL (O) 10-27N-7W
San Juan 28-7 Unit No. 124M	1170' FNL & 1842' FWL (C) 11-27N-7W
San Juan 28-7 Unit No. 157M **	798' FSL & 712' FEL (P) 11-27N-7W
San Juan 28-7 Unit No. 125M **	580' FNL & 1140' FWL (D) 12-27N-7W
San Juan 28-7 Unit No. 132M	1488' FNL & 1100' FWL (E) 15-27N-7W

** - Unorthodox gas well locations as described in Finding No. (3) above.