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. 12508
ORDER NO. R-11503

APPLICATION OF BURLINGTON RESOURCES OIL & GAS COMPANY FOR APPROVAL OF UNORTHODOX WELL LOCATIONS AND AN EXCEPTION FROM THE SPECIAL RULES AND REGULATIONS FOR THE BASIN-DAKOTA GAS POOL FOR PURPOSES OF ESTABLISHING A PILOT INFILL DRILLING PROGRAM WITHIN ITS SAN JUAN 27-5 UNIT, CONSISTING OF TOWNSHIP 27 NORTH, RANGE 5 WEST, WHEREBY UP TO FOUR WELLS MAY BE DRILLED ON A STANDARD GAS PRORATION UNIT TO DETERMINE PROPER WELL DENSITY FOR DAKOTA WELLS, RIO ARRIBA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on October 19, 2000, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 29th day of December, 2000, 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) Cases No. 12508 and 12509 were consolidated at the hearing for the purpose of testimony.

(3) The applicant, Burlington Resources Oil & Gas Company ("Burlington"), seeks approval to conduct a pilot infill drilling program in the Basin-Dakota Gas Pool within its San Juan 27-5 Unit, Rio Arriba County, New Mexico, whereby up to four wells may be drilled on a standard gas proration unit ("GPU") in order to determine proper well density.

(4) The applicant further seeks authority to drill the following-described eight initial infill wells, five of which are located at unorthodox gas well locations, all within Township 27 North, Range 5 West:

Unorthodox Gas Well Locations

Well Name	Well Location
San Juan 27-5 Unit No. 90F	2275' FNL & 200' FEL (Unit H) Section 16
San Juan 27-5 Unit No. 112F	2485' FNL & 2445' FWL (Unit F) Section 8
San Juan 27-5 Unit No. 114F	380' FNL & 2310' FWL (Unit C) Section 17
San Juan 27-5 Unit No. 123F	800' FSL & 2265' FEL (Unit O) Section 17
San Juan 27-5 Unit No. 137F	560' FNL & 305' FEL (Unit A) Section 18

Standard Gas Well Locations

Well Name	Well Location
San Juan 27-5 Unit No. 40F	1175' FSL & 1980' FWL (Unit N) Section 16
San Juan 27-5 Unit No. 70F	1755' FSL & 930' FEL (Unit I) Section 8
San Juan 27-5 Unit No. 138F	835' FNL & 660' FEL (Unit A) Section 19

(5) The applicant further seeks:

(a) authority to expand the pilot infill drilling project by drilling additional infill wells within the San Juan 27-5 Unit at orthodox and unorthodox locations provided that: i) no more than two wells shall be drilled on each quarter section within a standard 320-acre GPU; and ii) such wells are located no closer than 10 feet to the outer boundary of the proration unit nor closer than 10 feet to any quarter-quarter section line or subdivision inner boundary;

(b) to establish a ½ mile "buffer zone" inside the outer boundary of the San Juan 27-5 Unit within which standard well density for the Basin-Dakota Gas Pool shall apply in order to protect the correlative rights of offset operators; and

(c) an exception to the well location requirements for the Basin-Dakota Gas Pool to allow the drilling of Dakota gas wells within the proposed "buffer zone" at locations no closer than 660 feet to the outer boundary of the San Juan 27-5 Unit nor closer than 10 feet to any quarter-quarter section line or subdivision inner boundary.

(6) BP Amoco, Williams Production Company, Conoco Inc, and the United States Bureau of Land Management ("BLM") appeared at the hearing generally in support of the application.

(7) In companion Case No. 12509, Burlington seeks approval for a similar Dakota pilot infill drilling project within its "Culpepper Martin" area located in portions of Township 31 North, Range 12 West, NMPM, San Juan County, New Mexico.

(8) By Order No. R-1670-V issued in Case No. 6533 on May 22, 1979, the Division approved infill drilling within the Basin-Dakota Gas Pool whereby up to two wells may be drilled on a standard 320-acre GPU.

(9) The Basin-Dakota Gas Pool is currently governed by special rules established by Division Order No. R-10987, as amended, that require:

(a) standard 320-acre gas spacing and proration units;

(b) the initial well on a GPU to be located no closer than 660 feet to any outer boundary of the quarter section on which the well is located and no closer than 10 feet to any quarter-quarter section line or subdivision inner boundary; and

(c) the infill well drilled on a GPU to be located in the quarter section of the GPU not containing a Dakota well, and to be located with respect to the GPU boundaries as described in the preceding paragraph.

(10) Burlington is the current operator of the San Juan 27-5 Unit, a Federal exploratory unit encompassing 23,040-acres, more or less, and comprising Sections 1 through 36, Township 27 North, Range 5 West, NMPM, Rio Arriba County, New Mexico.

(11) Burlington testified that, with the exception of a 40-acre tract comprising the SE/4 SW/4 of Section 3, the "Participating Area" for the Dakota formation encompasses the entire San Juan 27-5 Unit area.

(12) The evidence presented indicates that Burlington has undertaken a study to analyze the drainage efficiency of Dakota gas wells in the San Juan 27-5 Unit area and generally in the San Juan Basin.

(13) The applicant presented geologic evidence demonstrating:

(a) the "Two Wells," "Paguate," "Upper Cubero," and "Lower Cubero" are the four distinct producing intervals within the Basin-Dakota Gas Pool. These four intervals vary in their continuity within the pool;

(b) within the San Juan 27-5 Unit, the "Two Wells," "Upper Cubero," and "Lower Cubero" intervals are present with most of the gas production attributed to the "Two Wells" and "Lower Cubero" intervals;

(c) differences in ultimate gas recoveries within the San Juan 27-5 Unit cannot be attributed to differences in reservoir thickness and structure or matrix porosity and permeability;

(d) the presence and density of natural fractures in the Dakota formation appear to account for the differences between areas of high and low gas recoveries; and

(e) the geologic characteristics of the Dakota formation within the San Juan 27-5 Unit area are substantially different from those within the proposed "Culpepper Martin" project area.

(14) Utilizing geologic and engineering data, Burlington has constructed various maps that depict: i) bulk volume hydrocarbon feet for the four producing intervals within the Basin-Dakota Gas Pool; ii) original gas in place ("OGIP") for the Basin-Dakota Gas Pool within the San Juan Basin; iii) estimated ultimate gas recovery ("EUR") for the Basin-Dakota Gas Pool within the San Juan Basin; iv) initial shut-in

pressure ("ISIP") for 160-acre Dakota infill wells; and v) ratio of 160-acre infill well EUR to initial well EUR.

(15) Burlington's geologic/engineering maps demonstrate that:

(a) OGIP varies considerably in the Dakota formation across the San Juan Basin;

(b) the ISIP for 160-acre infill wells varies considerably in the Dakota formation, and, within the San Juan 27-5 Unit area, the ISIP of 160-acre infill wells is approximately 66% of the initial Dakota reservoir pressure. This data demonstrate that the initial or "parent" well was not efficiently draining the GPU;

(c) there are areas in the San Juan Basin where the 160-acre infill well is estimated to recover at least as much gas as the parent well, again demonstrating that in certain areas of the San Juan Basin the Dakota formation exhibits poor drainage characteristics;

(d) within the San Juan 27-5 Unit area, the initial and 160-acre infill well are estimated to recover only 40% of the OGIP underlying the GPU; and

(e) the remaining 60% of the OGIP can only be recovered by increasing the well density.

(16) Burlington has conducted a reservoir simulation study on that area within the San Juan 27-5 Unit where it proposes to drill the eight initial infill wells. This area encompasses 4,800-acres and contains 31 existing producing Dakota wells. The results of this reservoir simulation study demonstrate that:

(a) drilling the proposed eight wells will result in the recovery of 6.8 BCF of new gas reserves that would otherwise not be recovered by the existing wells;

(b) these additional gas reserves can be economically recovered by drilling new "stand alone" Dakota wells; and

(c) the pilot wells are necessary in order to obtain pressure data that will be used to further refine the simulation model. The additional data obtained from the pilot project will allow Burlington to more accurately predict the proper well density and well location requirements for this area of the Basin-Dakota Gas Pool.

(17) The proposed unorthodox gas well locations are necessitated by a combination of topographic, engineering and geologic factors.

(18) The proposed unorthodox infill well locations should be approved.

(19) The applicant notified all working interest owners in the San Juan 27-5 Unit area and all offset operators of its application in this case.

(20) No offset operator or interest owner appeared at the hearing in opposition to the application.

(21) Preliminary geologic and engineering data indicate that the proposed pilot infill drilling project within the San Juan 27-5 Unit will allow the applicant the opportunity to gather additional geologic and engineering data to determine proper well density in this portion of the Basin-Dakota Gas Pool, will allow the recovery of additional gas reserves from the San Juan 27-5 Unit that may otherwise not be recovered, thereby preventing waste, and will not violate correlative rights.

(22) Expansion of the pilot project by drilling additional infill wells may be approved by the Division Director only after notice and hearing.

(23) A ½-mile "buffer zone" should be established inside the outer boundary of the San Juan 27-5 Unit. Within the "buffer zone," standard well density for the Basin-Dakota Gas Pool should apply.

(24) The applicant's request to amend the well location requirements for the Basin-Dakota Gas Pool within the "buffer-zone" is irrelevant to this case, was not justified by the evidence presented and should therefore be **denied**.

IT IS THEREFORE ORDERED THAT:

(1) Burlington is hereby authorized to conduct a pilot infill drilling project in the Basin-Dakota Gas Pool within its San Juan 27-5 Unit, Rio Arriba County, New

Mexico, whereby up to four wells may be drilled on a standard GPU in order to determine proper well density.

(2) The applicant is further authorized to drill the following-described eight initial infill wells, five of which are located at unorthodox gas well locations, all within Township 27 North, Range 5 West:

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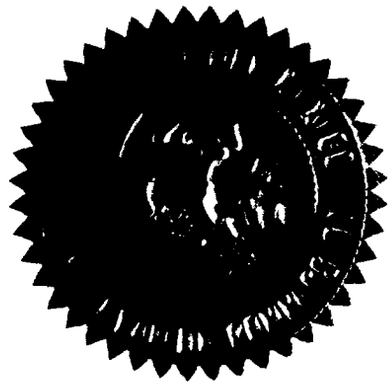
San Juan 27-5 Unit No. 138F	835' FNL & 660' FEL (Unit A) Section 19

(3) Expansion of the pilot project by drilling additional infill wells may be approved by the Division Director only after notice and hearing.

(4) A ½-mile "buffer zone" inside the outer boundary of the San Juan 27-5 Unit is hereby established. Within the "buffer zone" standard well density and standard well setback requirements for the Basin-Dakota Gas Pool shall apply.

(5) 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.



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STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

LORI WROTENBERY
Director