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JASON KELLAHIN (RETIRED 1991)

Jane 14, 2002

HAND DELIVERED

Mr. Michael E. Stogner
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

02 JUN 14 PM 2:05

Re: **Draft Order**
NMOCD Case 12857
Application of Burligton, Amoco and Energen
for a 30 well Pictured Cliffs Pilot Project

Dear Mr. Stogner:

On behalf of the applicants, please find enclosed a proposed order for consideration in this case which was heard on May 2, 2001. I also have enclosed a wordperfect 5.1 diskette containing this draft order.

Very truly yours,

W. Thomas Kellahin

cc: Burlington Resources Oil & Gas LP
Attn: Alan Alexander

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. 12857
Order No. _____

APPLICATION OF BURLINGTON RESOURCES OIL & GAS COMPANY LP, BP AMOCO AND ENERGEN RESOURCES CORP. FOR APPROVAL OF A PILOT PROJECT INCLUDING UNORTHODOX WELL LOCATIONS AND AN EXCEPTION FROM DIVISION RULE 104.D.3 FOR PURPOSES OF ESTABLISHING A PILOT PROJECT IN THE PICTURED CLIFFS FORMATION TO DETERMINE PROPER WELL DENSITY REQUIREMENTS FOR PICTURED CLIFFS WELLS IN SAN JUAN, SANDOVAL AND RIO ARRIBA COUNTIES, NEW MEXICO

DRAFT
June 14, 2002

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on May 2, 2002, at Santa Fe, New Mexico, before Examiner Michael E. Stogner

NOW, on this ___ day of June, 2002, 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) Burlington Resources Oil & Gas Company LP ("Burlington"), BP Amoco ("Amoco") and Energen Resources Corp. ("Energen") request for approval of a pilot project including unorthodox well locations and an exception from Division Rule 104.D.3 for purposes of establishing a pilot program in the Pictured Cliffs Formation to determine proper well density requirements for Pictured Cliffs wells in San Juan, Sandoval and Rio Arriba Counties, New Mexico. Applicants seek approval for a 30 well pilot program in the Pictured Cliffs formation to gather data to determine the appropriate well density in the Pictured Cliffs formation for wells in pools governed by Division Rule 104.D.3 which currently limits well density to one well per 160 acre gas spacing unit. Applicant further seeks approval for 30 pilot project wells including 6 pilot project wells at unorthodox well locations.

(3) Burlington is the current operator of the approximately 1,413 active Pictured Cliff wells, Amoco is the current operator of approximately 814 Pictured Cliffs wells, and Energen is the current operator of approximately 514 Pictured Cliff wells in the San Juan Basin of New Mexico.

(4) Burlington, Amoco and Energen want to conduct a pilot project in the Pictured Cliffs Formation to study the feasibility of "infill drilling" for all of the Pictured Cliffs pools currently governed by Division Rule 104.C.3 and D.3 which provides for 160-acre Pictured Cliffs spacing units and precludes drilling and production of a second gas well within a 160-acre gas spacing unit ("GPU")

(5) The Pictured Cliffs Pilot Wells will provide applicants with data for describing the geologic characteristics throughout the Pictured Cliffs pools/formations which are currently described as follows:. **See Exhibit Tab 3**

(a) low reservoir pressure
(b) low sustained producing rates
(c) high clay content
(d) shallow depth
(e) 60-110 feet of gross sandstone thickness
(e) proximity to Fruitland Coal formation

(6) Volumetric analysis of existing data from 559 wells within a Four Township Study Area (T27N- T28N and R9W-R10W) suggests that the current well density of one well per 160-acre spacing unit may result in a low percentage of the gas in place being produced.

(7) Burlington has studied 49 well pairs of existing Pictured Cliffs wells where two Pictured Cliffs Wells were drilled and produced at the same time on the same 160-acre spacing unit. None of those spacing units currently has both wells producing.

(8) Burlington's study of the 49 Well Pairs represents an analysis of wells on 80-acre density is inconclusive and can not be used to determine appropriate well density for all areas of the Pictured Cliffs formations/pools.

(9) Burlington's study of the pressure data for 16 wells appears to demonstrate a pressure relationship between the original well and the redrill well which shows pressure affect depending upon the distance betweens wells but is not sufficient to determine well density. Generally higher pressures were observed in the redrill wells with increasing distance from the original well. However, this relationship is not sufficient to determine the appropriate well density in pools/formation.

(10) The applicants presented their results of Pictured Cliff redrill and restimulation programs involving 374 restimulations between 1995 and 2001, 52 redrills from 1995 to 1999. Preliminary analysis of these results are inconclusive as to the appropriate well density for the Pictured Cliffs formations/pools. Additional data and further analysis are required for reach a conclusion.

(11) Based upon a study of current geological and reservoir engineering data, Burlington, Amoco and Energen have concluded that in order to determine the ultimate recovery of gas from the Pictured Cliffs formation/pools there is a need for a pilot project to study the relationship between well density and ultimate gas recovery.

(12) Currently available data is inadequate because:

(a) The resistivity of the Pictured Cliffs formation water is not known and may not have been accurately measured in the past;

(b) Current water saturation in the Pictured Cliffs is not known with any degree of accuracy;

(c) Productive potential of the lower Pictured Cliffs formation is not known.

(d) Electrical rock properties of the lower Pictured Cliffs are not known.

(e) Oil and gas in place (OGIP) is not known with any degree of accuracy.

(13) Accordingly, Burlington, Amoco and Energen desire to initiate a pilot program for the drilling of additional "infill wells" in the Pictured Cliffs formation/pools to obtain data for reservoir engineering and geologic studies for the purposes of determining the proper well density and the ultimate recoverable reserves.

(14) The pilot project is intended to accomplish the following:

(a) Acquisition of layer pressure measurements

(b) provide data for reservoir simulation to study:

(1) interference between wells
(2) degree of reserve increase versus rate acceleration with second well on a 160-acre spacing unit
(3) degree of reserve increase in on and off-trend areas with second wells on a 160-acre spacing unit

(c) determine formation water saturations

(d) estimation of original gas-in-place

(e) estimating of remaining reserves

(15) The initial 30 pilot project wells are to be drilled or recompleted in calendar years 2002 and 2003 and will be located at standard gas well locations except for 6 project wells to be located at unorthodox well locations.

(16) The pilot wells were chosen using the following criteria:

(a) Pilot wells are located 900 feet or more from an existing Pictured Cliffs well;

(b) Existing PC wells must be in good producing condition;

(c) No Basin Fruitland Coal Gas Well in the quarter-section with high production rates or cumulative recoveries;

(d) Existing nearby PC wells cumulative recoveries should be between 0.7 and 1.5 BCF

(e) Pictured Cliffs pilot wells in as many pools as possible;

(f) pilot wells located in both high and low permeability areas.

(17) criteria used for selecting the wellbores to be recompleted:

(a) current well production is less than 50 MCFD

(b) casing and cementing are in good mechanical condition

(c) current producing formation can be commingled with Pictured Cliffs formation.

(18) Six of the initial 30 pilot project wells are to be located at unorthodox gas well locations because of topographical reasons, and becuase the recompletion wellbores are non-standard for the Pictured Cliffs formation.

(19) No interested person has appeared in opposition to approval of this application.

(20) Granting the well location exceptions and relaxing the footage setbacks will not impair correlative rights due to the low reservoir permeability, low reservoir pressure and low rates of production. Due to the very low reservoir permeability, reservoir drainage is unlikely to exceed 80 acres.

(22) The Division finds that granting this application will afford the applicants the opportunity to gather additional data and examine various geologic and engineering factors to determine proper well density and well locations in this portion of the Pictured Cliffs Gas Pools and formations. The application of the analysis results of the collected data will allow the recovery of additional gas reserves that may not otherwise be recovered, thereby preventing waste and will not violate correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) As an exception to Division Rule 104.C.3 and 104.D.3 the applicants, Burlington Resources Oil & Gas Company LP, BP Amoco and Energen Resources Corp. are hereby authorized to conduct an 80-acre pilot infill drilling program (the drilling schedule may be adjusted by applicants) within Rio Arriba, San Juan and Sandoval Counties, New Mexico with 30 pilot wells as described on Exhibit "A"

(2) Jurisdiction of this cause is 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 hereinafter designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

LORI WROTENBERY, DIRECTOR

EXHIBIT "A"

Burlington:

(1) Huerfano Unit Well 209 (Recompletion)
1500 feet FSL and 1840 feet FEL
SE/4 Section 23, T26N R9W
Ballard Pictured Cliffs Pool
2003 Project well

(2) Canyon Largo Unit Well No. 278 (Recompletion)
1960 feet FSL and 1820 feet FWL
SW/4 Section 11, T25N R6W
Ballard Pictured Cliffs Pool
2003 Project well

(3) Luthy A Well No. 4 (Recompletion) Unorthodox well location
2250 feet FNL and 1610 feet FEL
NE/4 Section 1, T26N R8W
South Blanco Pictured Cliffs Pool
2003 Project well

(4) Filan Well No. 6 (Recompletion)
1850 feet FNL and 1650 feet FEL
NE/4 Section 5, T27N R8W
South Blanco Pictured Cliffs Pool
2003 Project well

(5) State 16 Well No. 2 (Recompletion)
1717 feet FNL and 1850 feet FEL
NE/4 Section 16, T28N R9W
Aztec Pictured Cliffs Pool
2003 Project well

(6) San Juan Well No. 24 E (Recompletion)
1050 feet FNL and 1640 feet FWL
NW/4 Section 33, T29N R9W
Aztec Pictured Cliffs Pool
2003 Project well

(7) Zachry Well No. 45 (Recompletion)
825 feet FSL and 1980 feet FEL
SE/4 Section 33, T29N R10W
Aztec Pictured Cliffs Pool
2002 Project well

(8) Angel Peak B Well No. 26 E (Recompletion)
790 feet FSL and 790 feet FEL
SE/4 Section 25, T28N R11W
Fulcher Kutz Pictured Cliffs Pool
2003 Project well

(9) Congress Well No. 18 (Recompletion) Unorthodox Well Location
2127 feet FSL and 1931 feet FWL
SW/4 Section 27, T29N R11W
Fulcher Kutz Pictured Cliffs Pool
2003 Project well

(10) Huerfano Unit Well No. 227 (Recompletion)
1070 feet FSL and 1840 feet FEL
SE/4 Section 32, T27N R10W
West Kutz Pictured Cliffs Pool
2002 Project well

(11) Turner Hughes Well No. 16 (Recompletion)
1840 feet FNL and 1050 feet FEL
NE/4 Section 11, T27N R9W
South Blanco Pictured Cliffs Pool
2002 Project well

(12) Huerfanito Unit Well No. 77 (Recompletion)
1850 feet FSL and 1850 feet FWL
SW/4 Section 24, T27N R9W
South Blanco Pictured Cliffs Pool
2002 Project well

(13) Zachry Well No. 29 (Recompletion)
937 feet FNL and 1785 feet FWL
NW/4 Section 33, T29N R10W
Aztec Pictured Cliffs Pool
2003 Project well

(14) Angel Peak B Well No. 34 (Recompletion)
660 feet FNL and 660 feet FEL
NE/4 Section 13, T28N R11W
Fulcher Kutz Pictured Cliffs Pool
2002 Project well

(15) Mangum Well No. 6 (Recompletion) Unorthodox Well Location
411 feet FSL and 1650 feet FEL
SE/4 Section 28, T29N R11W
Fulcher Kutz Pictured Cliffs Pool
2002 Project well

(16) Huerfanito Unit Well No. 15 J (New Drill)
1970 feet FNL and 1870 feet FEL
NE/4 Section 2, T26N R9W
Ballard Pictured Cliffs Pool
2002 Project well

(17) San Juan 27-5 Unit Well No. 152 J (New Drill)
1530 feet FNL and 1970 feet FWL
NW/4 Section 16, T27N R5W
Tapacito Pictured Cliffs Pool
2002 Project well

(18) San Juan 32-9 Unit Well No. 98 J (New Drill)
1730 feet FSL and 1530 feet FWL
SW/4 Section 2, T31N R10W
Blanco Pictured Cliffs Pool
2002 Project well

(19) Aztec Well No. 3 R (Existing)
1800 feet FNL and 660 feet FWL
NW/4 Section 14, T28N, R11W
Fulcher Kutz Pictured Cliffs Pool

BP Amoco:

(20) Tapps LS Well No. 1 (Recompletion)
1715 feet FNL and 1100 feet FEL
NE/4 Section 22, T28N R8W
South Blanco Pictured Cliffs Pool
2003 Project well

(21) Warren A LS Well No. 1 A (Recompletion)
790 feet FNL and 1710 feet FWL
NW/4 Section 25, T28N R9W
South Blanco Pictured Cliffs Pool
2003 Project well

(22) Story B LS Well No. 1 A (Recompletion)
1775 feet FSL and 1850 feet FEL
SE/4 Section 11, T30N R11W
Aztec Pictured Cliffs Pool
2003 Project well

(23) Gallegos Canyon Unit Well No. 204 E (Recompletion)Unorthodox Well Location
1710 feet FSL and 425 feet FEL
SE/4 Section 34, T28N R12W
West Kutz Pictured Cliffs Pool
2003 Project well

(24) Gallegos Canyon Unit Com Well No. 160 (Recompletion)
1850 feet FSL and 1190 feet FEL
SE/4 Section 27, T29N R12W
West Kutz Pictured Cliffs Pool
2003 Project well

Energen:

(25) Jicarilla 98 Well No. 12-A (New Drill) Unorthodox Well Location
1160 feet FSL and 1920 feet FWL
SW/4 Section 18, T26N R3W
Tapacito Pictured Cliffs Pool
2003 Project well

(26) Jicarilla West Well No. 8-B (New Drill)
1305 feet FNL and 1940 feet FEL
NE/4 Section 6, T26N R5W
South Blanco Pictured Cliffs Pool
2003 Project well

(27) Jicarilla 99 Well No. 18 (New Drill)
1965 feet FNL and 1980 feet FWL
NW/4 Section 14, T26N R3W
Gavilan Pictured Cliffs Pool
2003 Project well

(28) Florene Federal Well No. 7B (New Drill)
1470 feet FNL and 1980 feet FSL
NE/4 Section 4, T25N R3W
Tapacita Pictured Cliffs Pool
2003 Project well

(29) Jicarilla 95 Well No. 8B (Recompletion)
1950 feet FSL and 1890 feet FEL
SE/4 Section 26, T27N R3W
Gavilan Pictured Cliffs Pool
2003 Project well

(30) Jicarilla 96 Well No. 2B (Recompletion) Unorthodox Well Location
2430 feet FSL and 1265 feet FEL
SE/4 Section 2, T26N R3W
Gavilan Pictured Cliffs Pool
2003 Project well