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NATURAL RESOURCES-OIL AND GAS LAW

JASON KELLAHIN (RETIRED 1991)

April 8, 2002

**HAND DELIVERED**

Ms. Lori Wrotenbery, Director  
Oil Conservation Division  
1220 South Saint Francis Drive  
Santa Fe, New Mexico 87505

Case 12857

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OIL CONSERVATION DIV

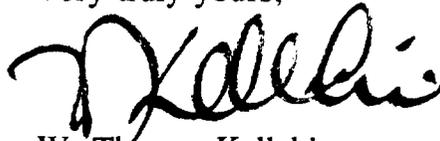
**Re: PICTURE CLIFF INFILL PILOT PROJECT**  
*Application of Burlington Resources Oil & Gas Company LP, BP Amoco and Energen Resources Corp. for approval of a Pilot Project including unorthodox gas well locations and an exception from Division Rule 104.D.3 for purposes of establishing a pilot program in the Pictured Cliffs Formation to determine proper well density requirements for Pictured Cliffs wells, San Juan, Sandoval and Rio Arriba Counties, New Mexico.*

Dear Ms. Wrotenbery:

On behalf of Burlington Resources Oil & Gas Company LP, BP Amoco and Energen Resources Corp. please find enclosed our referenced application which we request be set for hearing on the Examiner's docket now scheduled for May 2, 2002.

Also enclosed is our proposed advertisement of this case for the NMOCD docket.

Very truly yours,



W. Thomas Kellahin

cc: Burlington Oil & Gas Company  
Attn: Alan Alexander

## PROPOSED ADVERTISEMENT

Case 12857: 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 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. Applicants further seeks approval for 30 plot project wells including 4 plot project wells at unorthodox well locations as indicated in Exhibit "A".

**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:**

**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 EXCEPTIONS 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, RIO ARRIBA AND SANDOVAL COUNTIES, NEW MEXICO**

**CASE NO. 12857**

**APPLICATION**

Comes now Burlington Resources Oil & Gas Company LP ("Burlington"), BP Amoco ("Amoco") and Energen Resources Corp. ("Energen") 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 4 pilot project wells at unorthodox well locations as indicated on Exhibit "A."

In support of its application, Burlington, Amoco and Energen state:

(1) 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.

(2) 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 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")

(3) The Pictured Cliffs formation/pools displays the following unique characteristics:

- (a) low reservoir pressure
- (b) low sustained producing rates
- (c) high clay content
- (d) shallow depth
- (e) proximity to Fruitland Coal formation

(4) Analysis of existing data suggests that increasing well density to two wells per 160 acre spacing unit would recover addition reserves.

(5) Based upon a study of current geological and reservoir engineering data, Burlington, BP 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 current well density and ultimate recovery of gas from this formation.

(6) Currently available data is inadequate because:

- (a) The resistivity of the Pictured Cliffs formation is not known and has been accurately measured in the past.
- (b) Current water saturation in the Pictured Cliff are not known.
- (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.

(7) 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.

(8) 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) evaluate success of re-drill wells

(3) evaluate success of re-stimulation programs

(c) determine formation water saturations

(d) estimation of original gas-in-place

(e) estimate of remaining reserves

(9) 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 4 project wells to be located at unorthodox well locations as indicated in **Exhibit "A" attached**.

(10) The wells are also proposed to be located in an attempt to test the concept of 80-acre well density 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 Section with high production rates or cumulative recoveries;

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

(11) Copies of this application have been sent to all operators of any 160-acre spacing unit adjacent to a pilot protect spacing unit and in the absence of a operator to the working interest owners

(12) Approval of this application is in the best interests of conservation, the prevention of waste and the protection of correlative rights.

WHEREFORE Applicant requests that this matter be set for hearing on May 2, 2002 before a duly appointed Examiner of the Oil Conservation Division and that after notice and hearing as required by law, the Division enter its order granting this application.

Respectfully submitted



W/ Thomas Kellahin  
KELLAHIN and KELLAHIN  
P. O. Box 2265  
Santa Fe, New Mexico 87504

## 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)  
\_\_\_\_ feet FNL and \_\_\_\_ feet FWL  
NW/4 Section 14, T26N R3W  
Gavilan Pictured Cliffs Pool  
2003 Project well
  
- (28) Florene Federal Well No. 7B (New Drill)  
\_\_\_\_ feet FNL and \_\_\_\_ 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