

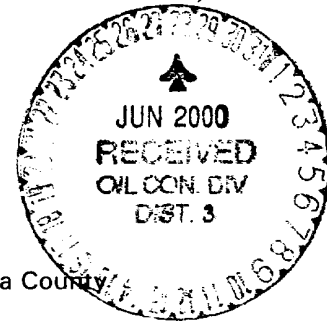
cf

# BURLINGTON RESOURCES

SAN JUAN DIVISION

Sent Federal Express

Mr. Michael Stogner  
New Mexico Oil Conservation Division  
2040 South Pacheco  
Santa Fe, New Mexico 87505



Re: San Juan 28-5 Unit #56M  
1650'FSL, 661'FEL Section 32, T-28-N, R-5-W, Rio Arriba County  
30-039-26255

Dear Mr. Stogner:

SH

Burlington Resources is applying for administrative approval of an unorthodox gas well location for the Basin Dakota. This well is planned as a Blanco Mesaverde/Basin Dakota commingled well, and is a standard location for the Mesaverde by Order R-10987A dated February 3, 1999.

This application for the referenced location is for geologic reasons for placement of the increased density Mesaverde due to the interpreted gas drainage pattern of offset Mesaverde producers as explained on the attachment and map. The presence of Munoz Creek Wash is also a factor in the placement of the well. The well was not proposed further east due to the steep terrain.

Production from both the Dakota and Mesaverde pools is to be included in a 318.72 acre gas spacing and proration unit for the south half (S/2) in Section 32. Production from the Mesaverde and Dakota will be commingled under Order DHC-2577 issued January 4, 2000.

The following attachments are for your review:

- Application for Permit to Drill
- Completed C-102 at referenced location.
- Offset operators/owners plat
- Topographic map
- Geologic explanation and map

Burlington Resources believes there are no correlative rights issues because the encroachment is toward federal unit property. The San Juan 28-5 Unit #56M well is offset by San Juan 28-5 Unit acreage and Burlington is the operator of the San Juan 28-5 Unit.

Sincerely,

Peggy Cole  
Regulatory Supervisor

xc: NMOCD - Aztec District Office  
Bureau of Land Management

OK  
HV  
7-11-2000

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1000 DEC -2 RI 1:22  
GFC FARMINGTON, NM

1a. Type of Work  
DRILL

5. Lease Number  
SF-079521  
Unit Reporting Number

1b. Type of Well  
GAS

6. If Indian, All. or Tribe

2. Operator  
**BURLINGTON  
RESOURCES** Oil & Gas Company

7. Unit Agreement Name  
San Juan 28-5 Unit

3. Address & Phone No. of Operator  
PO Box 4289, Farmington, NM 87499  
  
(505) 326-9700

8. Farm or Lease Name  
San Juan 28-5 Unit  
9. Well Number  
56M

4. Location of Well  
1650' FSL, 661' FEL  
  
Latitude 36° 36.9, Longitude 107° 22.5

10. Field, Pool, Wildcat  
Blanco MV/Basin DK  
11. Sec., Twn, Rge, Mer. (NMPM)  
Sec. 32, T-28-N, R-5-W  
API # 30-039-26255

14. Distance in Miles from Nearest Town  
40 miles from Blanco

12. County  
Rio Arriba  
13. State  
NM

15. Distance from Proposed Location to Nearest Property or Lease Line  
661'

16. Acres in Lease

17. Acres Assigned to Well  
318.72 S/2

18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease  
1500'

19. Proposed Depth  
7728' This action is subject to technical and  
procedural review pursuant to 43 CFR 3165.3  
and appeal pursuant to 43 CFR 3165.4.

20. Rotary or Cable Tools  
Rotary

21. Elevations (DF, FT, GR, Etc.)  
6475' GR

22. Approx. Date Work will Start  
**DRILLING OPERATIONS AUTHORIZED ARE  
SUBJECT TO COMPLIANCE WITH ATTACHED  
"GENERAL REQUIREMENTS"**

23. Proposed Casing and Cementing Program  
See Operations Plan attached

24. Authorized by: *Peggy Cole*  
Regulatory/Compliance Administrator

10-19-99  
Date

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

Archaeological Report to be submitted

Threatened and Endangered Species Report to be submitted

NOTE: This format is issued in lieu of U.S. BLM Form 3160-3

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or presentations as to any matter within its jurisdiction.

OPERATOR

DISTRICT II  
P.O. Drawer DD, Artesia, N.M. 88211-0719

DISTRICT III  
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV  
PO Box 2088, Santa Fe, NM 87504-2088

OIL CONSERVATION DIVISION

P.O. Box 2088  
Santa Fe, NM 87504-2088

DEC -2 PM 1:22

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-039-	<sup>2</sup> Pool Code 72319/71599	<sup>3</sup> Pool Name Blanco Mesaverde/Basin Dakota
<sup>4</sup> Property Code 7460	<sup>5</sup> Property Name SAN JUAN 28-5 UNIT	<sup>6</sup> Well Number 56M
<sup>7</sup> OGRID No. 14538	<sup>8</sup> Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY	<sup>9</sup> Elevation 6475'

<sup>10</sup>Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	32	28-N	5-W		1650	SOUTH	661	EAST	RIO ARriba

<sup>11</sup>Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

<sup>12</sup> Dedicated Acres S/318.72	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
---	-------------------------------	----------------------------------	-------------------------

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<p>16</p> <p>FD. 1914 U.S.G.L.O. BC.</p> <p>32</p> <p>NMSF-079521</p> <p>FD. 1914 U.S.G.L.O. BC.</p> <p>N 89-59-01 E 2640.28'</p>	<p>17</p> <p>OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p><i>Peggy Cole</i></p> <p>Signature Peggy Cole</p> <p>Printed Name Regulatory Administrator</p> <p>Title 10-19-99</p> <p>Date</p>		
		<p>18</p> <p>SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>9-20-99</p> <p>Date of Survey</p> <p>Signature and Seal of Professional Surveyor</p> <p>8894</p> <p>Certificate Number</p>	
			<p>5271.06' (RECORD)</p> <p>N 00-09-08 W</p> <p>2635.5'</p> <p>661'</p> <p>1650'</p>
			<p>LAT. = 36° 36.9' N.</p> <p>LONG. = 107° 22.5' W.</p>

## OPERATIONS PLAN

Well Name: San Juan 28-5 Unit #56M  
Location: 1650' FSL, 661' FEL, Sec 32, T-28-N, R-5-W  
Rio Arriba County, NM  
Latitude 36° 36.9, Longitude 107° 22.5  
Formation: Blanco Mesa Verde/Basin Dakota  
Elevation: 6475' GL

<u>Formation Tops:</u>	<u>Top</u>	<u>Bottom</u>	<u>Contents</u>
Surface	San Jose	2610'	
Ojo Alamo	2610'	2787'	aquifer
Kirtland	2787'	2918'	gas
Fruitland	2918'	3300'	gas
Pictured Cliffs	3300'	3402'	gas
Lewis	3402'	3886'	gas
Intermediate TD	3502'		
Mesa Verde	3886'	4252'	gas
Chacra	4252'	4976'	gas
Massive Cliff House	4976'	5140'	gas
Menefee	5140'	5468'	gas
Massive Point Lookout	5468'	5971'	gas
Mancos	5971'	6637'	gas
Gallup	6637'	7388'	gas
Greenhorn	7388'	7450'	gas
Graneros	7450'	7490'	gas
Dakota	7490'		gas
TD (4 1/2" liner)	7728'		

### Logging Program:

Cased hole - CBL-CCL-GR - TD to surface

### Mud Program:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Vis.</u>	<u>Fluid Loss</u>
0- 200'	Spud	8.4-9.0	40-50	no control
200- 3502'	LSND	8.4-9.0	30-60	no control
3502- 7728'	Gas	n/a	n/a	n/a

Pit levels will be visually monitored to detect gain or loss of fluid control.

### Casing Program (as listed, the equivalent, or better):

<u>Hole Size</u>	<u>Depth Interval</u>	<u>Csg. Size</u>	<u>Wt.</u>	<u>Grade</u>
12 1/4"	0' - 200'	9 5/8"	32.3#	WC-50
8 3/4"	0' - 3502'	7"	20.0#	J-55
6 1/4"	3402' - 7728'	4 1/2"	10.5#	K-55

### Tubing Program:

0' - 7728'      2 3/8"      4.7#      J-55

### BOP Specifications, Wellhead and Tests:

#### Surface to Intermediate TD -

11" 2000 psi minimum double gate BOP stack (Reference Figure #1).  
After nipple-up prior to drilling out surface casing, rams and casing will be tested to 600 psi for 30 minutes.

#### Intermediate TD to Total Depth -

11" 2000 psi minimum double gate BOP stack (Reference Figure #1).  
After nipple-up prior to drilling out intermediate casing, rams and casing will be tested to 1500 psi for 30 minutes.

**Surface to Total Depth -**

2" nominal, 2000 psi minimum choke manifold (Reference Figure #3).

**Completion Operations -**

7 1/16" 2000 psi double gate BOP stack (Reference Figure #2). After nipple-up prior to completion, pipe rams, casing and liner top will be tested to 2000 psi for 15 minutes.

**Wellhead -**

9 5/8" x 7" x 2 3/8" x 3000 psi tree assembly.

**General -**

- Pipe rams will be actuated once each day and blind rams will be actuated once each trip to test proper functioning.
- An upper kelly cock valve with handle available and drill string valves to fit each drill string will be available on the rig floors at all times.
- BOP pit level drill will be conducted weekly for each drilling crew.
- All BOP tests and drills will be recorded in daily drilling reports.
- Blind and pipe rams will be equipped with extension hand wheels.

**Cementing:**

9 5/8" surface casing - cement with 159 sx Class "B" cement with 1/4# flocele/sx and 3% calcium chloride (188 cu.ft. of slurry, 200% excess to circulate to surface). WOC 8 hrs. Test casing to 600 psi for 30 minutes.

Saw tooth guide shoe on bottom. Bowspring centralizers will be run in accordance with Onshore Order #2.

**7" intermediate casing -**

Lead w/319 sx Class "B" w/3% sodium metasilicate, 7# gilsonite/sx and 1/2# flocele/sx. Tail w/90 sx 50/50 Class "B" Poz w/2% calcium chloride, 2% gel (1035 cu.ft. of slurry, 100% excess to circulate to surface.) WOC minimum of 8 hours before drilling out intermediate casing. If cement does not circulate to surface, a CBL will be run during completion operations to determine TOC. Test casing to 1500 psi for 30 minutes.

7" intermediate casing alternative two stage: Stage collar at 2818'. First stage: cement with w/106 sx Class "B" 50/50 poz w/2% gel, 2% calcium chloride, 0.5 pps Cellophane. Second stage: 291 sx Class "B" with 3% sodium metasilicate, 1/2 pps Cellophane, 10 pps Gilsonite (1035 cu.ft., 100% excess to circulate to surface).

Cement nose guide shoe on bottom with float collar spaced on top of shoe joint. Bowspring centralizers spaced every other joint off bottom, to the base of the Ojo Alamo at 2787'. Two turbolating centralizers at the base of the Ojo Alamo at 2787'. Bowspring centralizers spaced every fourth joint from the base of the Ojo Alamo to the base of the surface casing.

**4 1/2" Production Liner -**

Cement to cover minimum of 100' of 4 1/2" x 7" overlap. Lead with 474 sx 50/50 Class "H" Poz with 2% gel, 0.25# flocele/sx, 5# gilsonite/sx, 0.2% retardant and 0.4% fluid loss additive (622 cu.ft.), 40% excess to cement 4 1/2" x 7" overlap). WOC a minimum of 18 hrs prior to completing.

Cement float shoe on bottom with float collar spaced on top of shoe joint.

Note: To facilitate higher hydraulic stimulation completion work, no liner hanger will be used. In its place, a long string of 4 1/2" casing will be run and cemented with a minimum of 100' of cement overlap between the 4 1/2" x 7" casing strings. After completion of the well, a 4 1/2" retrievable bridge plug will be set below the top of cement in the 4 1/2" x 7" overlap. The 4 1/2" casing will then be backed off above the top of cement in the 4 1/2" x 7" overlap and laid down. The 4 1/2" bridge plug will then be retrieved and the production tubing will be run to produce the well.

- If hole conditions permit, an adequate water spacer will be pumped ahead of each cement job to prevent cement/ mud contamination or cement hydration.

Special Drilling Operations (Gas/Mist Drilling):

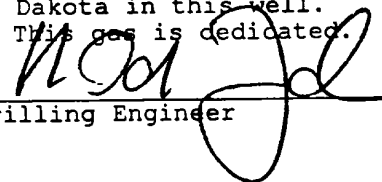
The following equipment will be operational while gas/mist drilling:

- An anchored blooie line will be utilized to discharge all cuttings and circulating medium to the blow pit a minimum of 100' from the wellhead.
- The blooie line will be equipped with an automatic igniter or pilot light.
- Compressors will be located a minimum of 100' from the wellhead in the opposite direction from the blooie line.
- Engines will have spark arresters or water cooled exhaust.
- Deduster equipment will be utilized.
- The rotating head will be properly lubricated and maintained.
- A float valve will be utilized above the bit.
- Mud circulating equipment, water, and mud materials will be sufficient to maintain control of the well.

Additional Information:

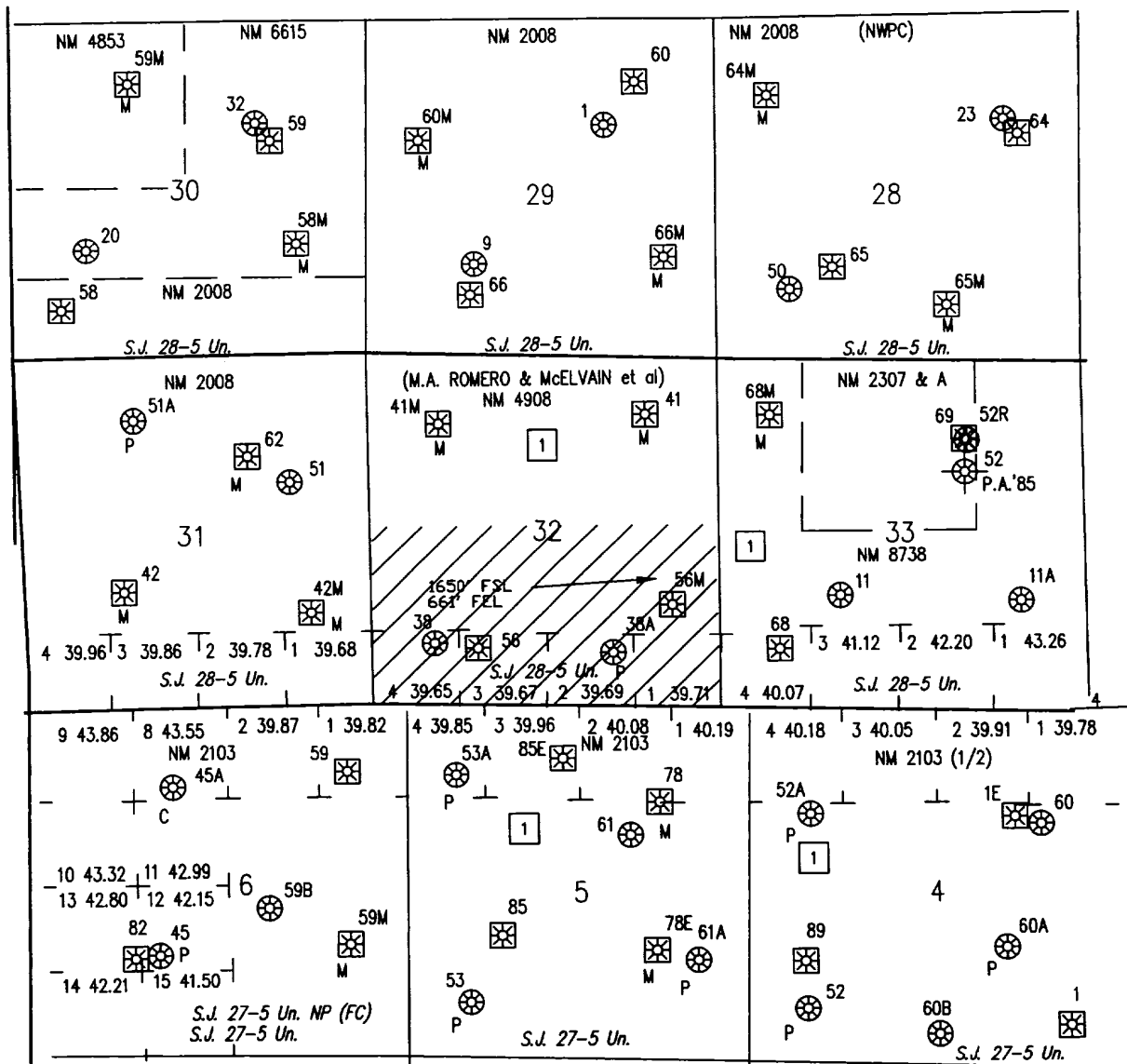
- The Dakota and Mesa Verde formations will be completed and commingled.
- No abnormal temperatures or hazards are anticipated.
- Anticipated pore pressures are as follows:

Fruitland Coal	800 psi
Pictured Cliffs	800 psi
Mesa Verde	700 psi
Dakota	2500 psi
- Sufficient LCM will be added to the mud system to maintain well control, if lost circulation is encountered.
- The south half of Section 32 is dedicated to the Mesaverde and the Dakota in this well.
- This gas is dedicated.

  
Drilling Engineer

10/20/99  
Date

## Dakota Formation Well



Proposed Well

**BURLINGTON RESOURCES OIL AND GAS COMPANY****SAN JUAN 28-5 UNIT No. 56M**

SE/4 SEC. 32, T-28-N, R-5-W, N.M.P.M.

RIO ARriba COUNTY, NEW MEXICO

1650' FSL 661' FEL

**NO NEW CONSTRUCTION**



Proposed San Juan 28-5 Unit Well Number 56M  
1650' FSL & 661' FEL  
Section 32, T28N, R5W  
Rio Arriba County, New Mexico  
Blanco Mesaverde/Basin Dakota Pool  
Estimated TD 7728'

The location of the proposed test was selected to optimize recovery from the Mesaverde Group. The primary control on productivity in the Mesaverde is the density of natural fractures. Fracture orientation ranges from due north to north 30 degrees east. Gas drainage areas are elliptical in shape with the long axis parallel to the direction of fracture orientation. A drainage ellipse map of the project vicinity indicates that undeveloped gas reserves remain to be exploited in the E/2SE/4 of Section 32, T28N, R5W. The drainage ellipse map is based upon data derived from a larger study of the entire Blanco Mesaverde Pool (estimated ultimate recovery calculated for all wells in the Blanco Mesaverde Pool, original gas in place values calculated for entire Blanco Mesaverde Pool, etc.). Gross recoverable reserves of 1.5 BCFG are projected from the Mesaverde producing interval for the proposed test.

The San Juan 28-5 Unit 56M is staked near the eastern limit of the orthodox Mesaverde window in the E/2SE/4 of Section 32 to avoid drainage area overlap with the San Juan 28-5 Unit 38A located in the SW/4SE/4 of Section 32, T28N, R5W. Staking the San Juan 28-5 Unit 56M as far east as it is in an orthodox Mesaverde location causes the test to be non standard in the Dakota. A test located at the proposed footages is expected to be geologically comparable in the Dakota with a test located at any standard Dakota location in the E/2SE/4 of Section 32.

**San Juan 28-5 Unit #56M**  
**28N-5W-32**  
**Blanco Mesaverde / Basin Dakota**

