

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work DRILL	5. Lease Number NMSF-079210 Unit Reporting Number
1b. Type of Well GAS	6. If Indian, All. or Tribe
2. Operator <b>BURLINGTON RESOURCES</b> Oil & Gas Company	7. Unit Agreement Name
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499 (505) 326-9700	8. Farm or Lease Name Reuter 9. Well Number 2E
4. Location of Well 1450' FNL, 1600' FWL, Latitude 36° 32.1, Longitude 107° 27.5	10. Field, Pool, Wildcat Blanco MV/Basin DK 11. Sec., Twn, Rge, Mer. (NMPM) F Sec. 34, T-27-N, R-6-W API # 30-038-27028
14. Distance in Miles from Nearest Town 41 miles from Blanco	12. County Rio Arriba 13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 1450'	17. Acres Assigned to Well 320 W/2
16. Acres in Lease	
18. Distance from Proposed Location to Nearest Well, Drig, Cornpl, or Applied for on this Lease 2223'	
19. Proposed Depth 7617'	20. Rotary or Cable Tools Rotary
21. Elevations (DF, FT, GR, Etc.) 6601' GR	22. Approx. Date Work will Start
23. Proposed Casing and Cementing Program See Operations Plan attached	This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4
24. Authorized by: <u>[Signature]</u> Regulatory/Compliance Supervisor	Date <u>5-20-02</u>

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_  
APPROVED BY /s/ David J. Mankiewicz TITLE \_\_\_\_\_ DATE OCT - 1

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.

NMOCD

DISTRICT IV  
2040 South Pocheco, Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102  
Revised August 15, 2000

Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

**OIL CONSERVATION DIVISION**

2040 South Pacheco  
Santa Fe, NM 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-039- 27028		2 Pool Code 72319/71599	3 Pool Name Blanco Mesaverde/Basin Dakota
4 Property Code 7419	5 Property Name REUTER		6 Well Number 2E
7 OGRID No. 14538	8 Operator Name BURLINGTON RESOURCES OIL & GAS INC.		9 Elevation 6601

### <sup>10</sup> Surface Location

Surface Location									
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	34	27-N	6-W		1450	NORTH	1600	WEST	RIO ARRIBA

11 Bottom Hole	Location If Different From Surface

21 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
22 Dedicated Acres			23 Joint or Infill		24 Consolidation Code		25 Order No.		
MV-W/320 DK-W/320									

26 PRIOR TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED

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

OR A NON-STANDARD UNIT HAS BEEN USED

FD 3 1/4" N 88°42'29" E  
BLM 1955  
BRASS CAP 2634.41'(M)

FD 3 1/4" BLM 1955  
BRASS CAP

S 00°30'04" E  
2619.18'(M)

141'

1450'

1600'

283'

1034'

1169'

LAT: 36°32.1' N.  
LONG: 107°27.5' W.

34

USA SF-079210

FD 3 1/4" BLM 1955  
BRASS CAP

17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

**Signature**

Peggy Cole

Printed Name \_\_\_\_\_

Regulatory Supervisor

**THE**

**Dates:**

## 18 SURVEYOR CERTIFICATION

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 knowledge.

Date of Survey: \_\_\_\_\_

Signature and Seal of Prosecutorial Representative

**Certificate Number**

**BURLINGTON RESOURCES OIL & GAS INC.**

REUTER NO. 2E

NW/4 SEC. 34, T-27-N, R-6-W, N.M.P.M.

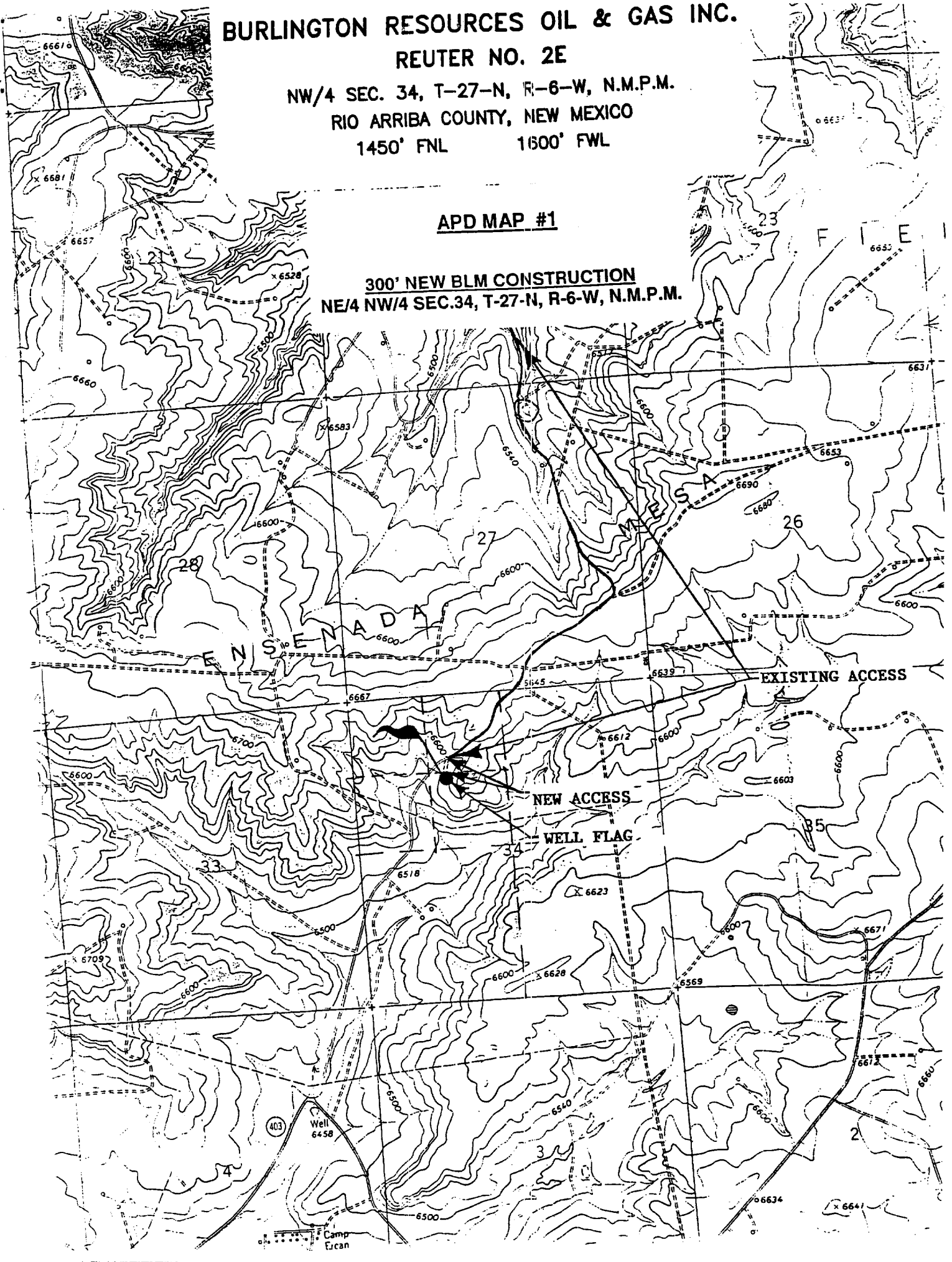
RIO ARRIBA COUNTY, NEW MEXICO

1450' FNL

1600' FWL

APD MAP #1

**300' NEW BLM CONSTRUCTION**  
**NE/4 NW/4 SEC.34, T-27-N, R-6-W, N.M.P.M.**



## OPERATIONS PLAN

**Well Name:** Reuter #2E  
1450' FNL, 1600' FWL, Section 34, T-27-N, R-6-W  
Rio Arriba County, New Mexico  
Latitude 36° 32.1, Longitude 107° 27.5  
**Formation:** Blanco Mesa Verde/Basin Dakota  
**Elevation:** 6601' GL

<u>Formation Tops:</u>	<u>Top</u>	<u>Bottom</u>	<u>Contents</u>
Surface	San Jose	2463'	
Ojo Alamo	2463'	2613'	aquifer
Kirtland	2613'	2948'	gas
Fruitland	2948'	3138'	
Pictured Cliffs	3138'	3238'	gas
Lewis	3238'	3643'	gas
Intermediate TD	3338'		
Huerfano Bentonite	3643'	4053'	gas
Chacra	4053'	4843'	gas
Cliff House	4843'	4878'	
Menefee	4878'	5363'	gas
Point Lookout	5363'	5743'	gas
Mancos	5743'	6503'	gas
Gallup	6503'	7288'	gas
Greenhorn	7288'	7350'	gas
Graneros	7350'	7380'	gas
Dakota	7380'		gas
TD	7617'		

### Logging Program:

Mud logs - none  
Cased hole - CBL-CCL-GR - TD to surface  
Cores - none

### 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- 3338'	LSND	8.4-9.0	30-60	no control
3338- 7617'	Air/N2	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' - 3338'	7"	20.0#	J-55
6 1/4"	3238' - 7617'	4 1/2"	10.5#	K-55

### Tubing Program:

0' - 7617'

### BOP Specifications, Wellhead and Tests:

#### Surface to Intermediate TD -

11" 3000 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" 3000 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, 3000 psi minimum choke manifold (Reference Figure #2).

**Completion Operations -**

7 1/16" 3000 psi double gate BOP stack (Reference Figure #3). 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 134 sx Type III cement with 0.25 pps Celloflake and 2% calcium chloride (183 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/295 sx Premium Lite cement with 3% calcium chloride, 0.25 pps Flocele, 5 pps LCM-1, 0.4% fluid loss, 0.4% SMS. Tail w/90 sx Type III cmt w/1% calcium chloride, 0.25 pps Flocele, 0.2% fluid loss (752 cu.ft. of slurry, 50% excess to circulate to surface.) WOC minimum of 8 hours before drilling out intermediate casing. If cement does not circulate to surface, a CBL or a temperature survey will be run during completion operations to determine TOC. Test casing to 1500 psi for 30 minutes.

See attached alternative intermediate lead slurry.

7" intermediate casing alternative two stage: Stage collar 2848'. First stage: cement with 90 sx Type III cmt w/1% calcium chloride, 0.25 pps Flocele, 0.2% fluid loss. Second stage: 301 sx Premium Lite cmt with 3% calcium chloride, 0.25 pps Flocele, 5 ps LCM-1, 0.4% fluid loss, 0.4% SMS (764 cu.ft., 50% 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 2613'. Two turbolating centralizers at the base of the Ojo Alamo at 2613'. 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 318 sx Premium Lite cmt w/0.25 pps Celloflake, 0.3% CD-32, 6.25 pps LCM-1, 1% fluid loss (629 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 float shoe.

Note: If open hole logs are run, cement volumes will be based on 25% excess over caliper volumes.

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

Fruitland Coal	300 psi
Pictured Cliffs	600 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 west half of Section 34 is dedicated to the Mesaverde and the Dakota in this well.
- This gas is dedicated.

Brennan D. Short  
Drilling Engineer

5/21/2002  
Date