

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK 13 PM 3:52

1a. Type of Work DRILL	5. Lease Number SF-078415-A 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 29226
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499 (505) 326-9700	8. Farm or Lease Name Roelofs 9. Well Number 2N
4. Location of Well 730' FSL, 1910' FWL Latitude 36° 44.1' N, Longitude 107° 39.9' W	10. Field, Pool, Wildcat Blanco MV/Basin DK 11. Sec., Twn, Rge, Mer. (NMPM) N Sec. 10, T-29-N, R-8-W API # 30-045-30828
14. Distance in Miles from Nearest Town 9 miles from Blanco	12. County San Juan 13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 730'	
16. Acres in Lease	17. Acres Assigned to Well 320 W/2
18. Distance from Proposed Location to Nearest Well, Drig, Compl, or Applied for on this Lease 200'	
19. Proposed Depth 7558'	20. Rotary or Cable Tools Rotary
21. Elevations (DF, FT, GR, Etc.) 6323' GR	22. Approx. Date Work will Start
23. Proposed Casing and Cementing Program See Operations Plan attached	
24. Authorized by: <u>Randy Case</u> Regulatory/Compliance Supervisor	Date <u>7-28-01</u>

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.

Was Roelofs A #1B

Blanco MV/Basin Dakota in-fill (80 Ac)

District I
PO Box 1980, Hobbs, NM 88241-1980

District II
PO Drawer DD, Artesia, NM 88211-0719

District III
1000 Rio Brazos Rd., Aztec, NM 87410

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

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045- 30828		*Pool Code 72319/71599	*Pool Name Blanco Mesaverde/Basin Dakota
*Property Code 7431 29226	*Property Name ROELOFS		*Well Number 2N
*GRID No. 14538	*Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY LP		*Elevation 6323'

¹⁰ Surface Location

U. or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	10	29N	8W		730	SOUTH	1910	WEST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

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

¹² Dedicated Acres DK 320 W/2 MV 320/W2	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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

<div><p>15</p><p>5118.30'</p><p>5233.80'</p><p>NMSF-078415-A</p><p>10</p><p>1910'</p><p>660'</p><p>130'</p><p>LAT: 36°44.1'N LONG: 107°39.9'W</p></div>	<div><p>¹⁷ 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</p><p>Peggy Cole</p><p>Printed Name</p><p>Regulatory Supervisor</p><p>Title</p><p>7-28-01</p><p>Date</p></div>
	<div><p>¹⁸ 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>JUNE 1, 2000</p><p>Date of Survey</p><p>Signature and Seal of Professional Surveyor</p><p>NEALE C. EDWARDS</p><p>NEW MEXICO</p><p>6857</p></div>

BURLINGTON RESOURCES OIL & GAS COMPANY ROELOFS #2N

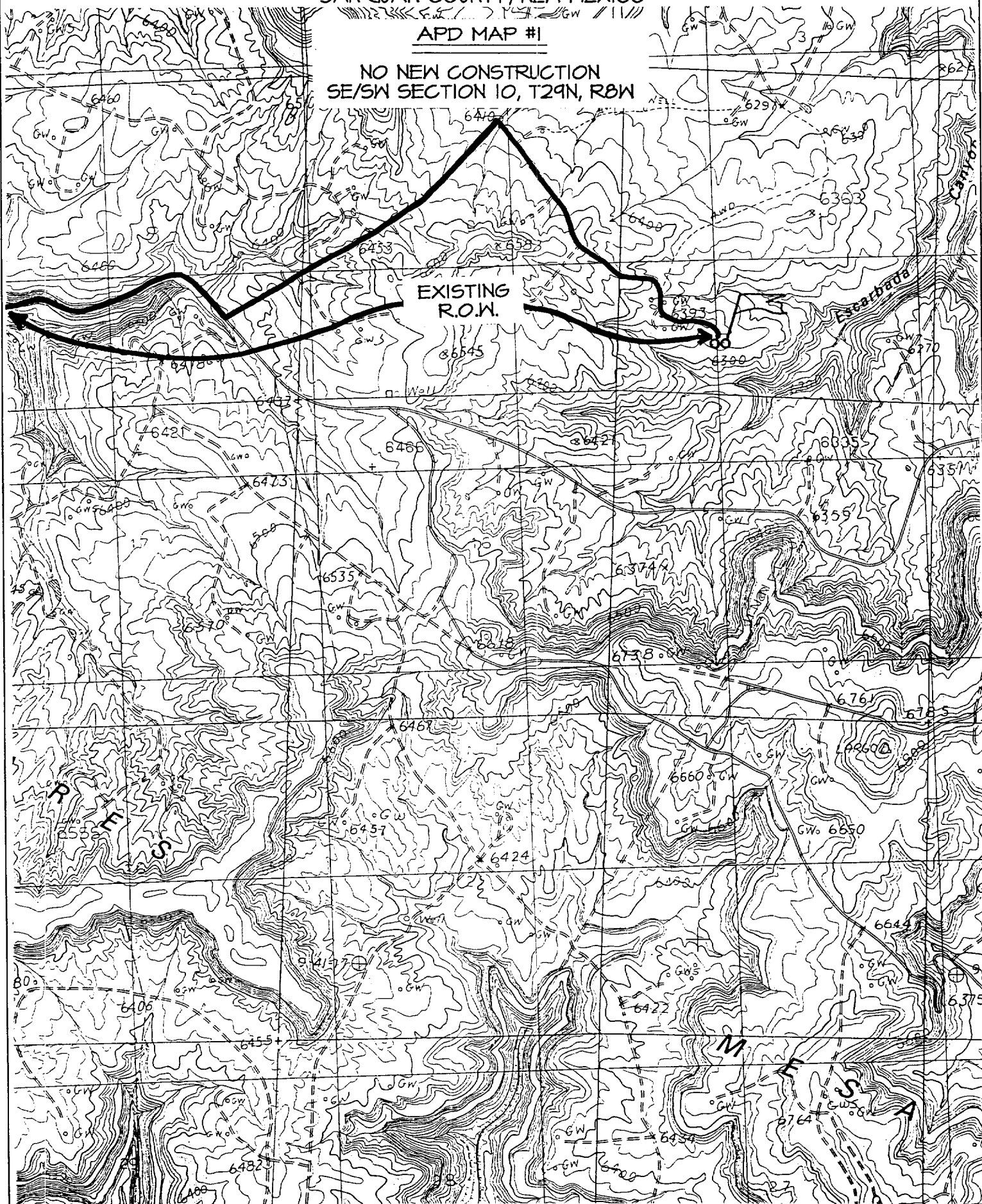
730' FSL & 1910' FWL, SECTION 10, T29N, R8W, N.M.P.M.

SAN JUAN COUNTY, NEW MEXICO

APD MAP #1

NO NEW CONSTRUCTION
SE/SW SECTION 10, T29N, R8W

EXISTING
R.O.W.



OPERATIONS PLAN

Well Name: Roelofs #2N
Location: 730' FSL, 1910' FWL, Sec. 10, T-29-N, R-8-W
San Juan County, NM
Latitude 36° 44.1' N, Longitude 107° 39.9' W
Formation: Blanco Mesa Verde/Basin Dakota
Elevation: 6323' GR

<u>Formation Tops:</u>	<u>Top</u>	<u>Bottom</u>	<u>Contents</u>
Surface	San Jose	1955'	
Ojo Alamo	1955'	2135'	aquifer
Kirtland	2135'	2585'	gas
Fruitland	2585'	3030'	gas
Pictured Cliffs	3030'	3135'	gas
Lewis	3135'	3655'	gas
Intermediate TD	3235'		
Mesa Verde	3655'	4010'	gas
Chacra	4010'	4660'	gas
Massive Cliff House	4660'	4825'	gas
Menefee	4825'	5235'	gas
Massive Point Lookout	5235'	5660'	gas
Mancos	5660'	6464'	gas
Gallup	6464'	7216'	gas
Greenhorn	7216'	7270'	gas
Graneros	7270'	7314'	gas
Dakota	7314'		gas
TD	7558'		

Logging Program:

Open hole - none
Cased hole - TMD/L, GR/CBL - TD to surface
Cores - none

Mud Program:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Vis.</u>	<u>Fluid Loss</u>
0- 300'	Spud	8.4-9.0	40-50	no control
300- 3235'	LSND	8.4-9.0	30-60	no control
3235- 7558'	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' - 300'	9 5/8"	32.3#	WC-50
8 3/4"	0' - 3235'	7"	20.0#	J-55
6 1/4"	3135' - 7558'	4 1/2"	10.5#	J-55

Tubing Program:

0' - 7558' 2 3/8" 4.7# J-55

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 #3).

Completion Operations -

7 1/16" 3000 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 239 sx Class "B" cement with 1/4# celloflake/sx and 3% calcium chloride (282 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/332 sx 50/50 Class G/TXI lightweight w/2.5% sodium metasilicate, 2% calcium chloride, 10# gilsonite/sx and 1/2# celloflake/sx. Tail w/90 sx 50/50 Class "G" Poz w/2% calcium chloride, 2% gel, 1/4 pps celloflake, 5 pps gilsonite, 0.1% antifoam agent (972 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.

See attached alternative intermediate lead slurry.

7" intermediate casing alternative two stage: Stage collar at 2485'. First stage: cement with 176 sx 50/50 Class "G" Poz w/2% calcium chloride, 2% gel, 1/4 pps celloflake, 5 pps gilsonite, 0.1% antifoam agent. Second stage: 290 sx 50/50 Class G/TXI lightweight w/2.5% sodium metasilicate, 2% calcium chloride, 10# gilsonite/sx and 1/2# celloflake/sx (972 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 2135'. Two turbolating centralizers at the base of the Ojo Alamo at 2135'. Bowspring centralizers spaced every fourth joint from the base of the Ojo Alamo to the base of the surface casing.

4 1/2" Production Casing -

Cement to cover minimum of 100' of 4 1/2" x 7" overlap. Lead with 441 sx 50/50 Class "G" Poz with 5% gel, 0.25# celloflake/sx, 5# gilsonite/sx, 0.1% retardant and 0.25% fluid loss additive, 0.15% dispersant, 0.1% antifoam agent (635 cu.ft.), 40% excess to cement 4 1/2" x 7" overlap). WOC a minimum of 18 hrs prior to completing.

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

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

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:

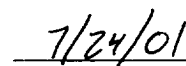
- An anchored blooie line will be utilized to discharge all cuttings and circulating medium to the blow pit a minimum of 100' from the wellhead.
- The blooie line will be equipped with an automatic igniter or pilot light.
- Compressors will be located a minimum of 100' from the wellhead in the opposite 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	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 10 is dedicated to the Mesaverde and Dakota in this well.
- This gas is dedicated.


Drilling Engineer


Date