UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

DHC

1a. **Type of Work**
DRILL

5. **Lease Number**
SF-079394
Unit Reporting Number
DK-8910009500
MV-891000950A

1b. **Type of Well**
GAS

6. **If Indian, All. or Tribe**

APR 2000
RECEIVED
OIL CON. DIV
DIST. 3

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

7. **Unit Agreement Name**
San Juan 27-5 Unit

3. **Address & Phone No. of Operator**
PO Box 4289, Farmington, NM 87499

(505) 326-9700

8. **Farm or Lease Name**
San Juan 27-5 Unit

9. **Well Number**
170M

4. **Location of Well**
1010' FSL, 970' FEL

Latitude 36° 31.6, Longitude 107° 20.4

10. **Field, Pool, Wildcat**
Blanco MV/Basin DK

11. **Sec., Twn, Rge, Mer. (NMPM)**
Sec. 34, T-27-N, R-5-W

API # 30-039- 26295

14. **Distance in Miles from Nearest Town**
53 miles from Blanco

12. **County** Rio Arriba
13. **State** NM

15. **Distance from Proposed Location to Nearest Property or Lease Line**
970'

16. **Acres in Lease**

17. **Acres Assigned to Well**
DK - 320 S/2
MV - 320 E/2

18. **Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease**
600'

19. **Proposed Depth**
7733'

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.)**
6571' GR

22. **Approx. Date Work will Start**

23. **Proposed Casing and Cementing Program**
See Operations Plan attached

DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS".

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

12-6-99
Date

PERMIT NO. _____ **APPROVAL DATE** _____

APPROVED BY /s/ Charlie Beecham **TITLE** _____ **DATE** MAR 31 2000

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.

ahdc

NMOCD

DISTRICT I
P.O. Box 1980, Hobbs, N.M. 88241-1980

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

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
P.O. 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

[1] API Number	[2] Pool Code	[3] Pool Name
30-039-26295	72319/71599	Blanco Mesaverde/Basin Dakota

[4] Property Code	[5] Property Name	[6] Well Number
7454	SAN JUAN 27-5 UNIT	# 170M

[7] OGRID No.	[8] Operator Name	[9] Elevation
14538	BURLINGTON RESOURCES OIL & GAS COMPANY	6571'

[10] Surface Location

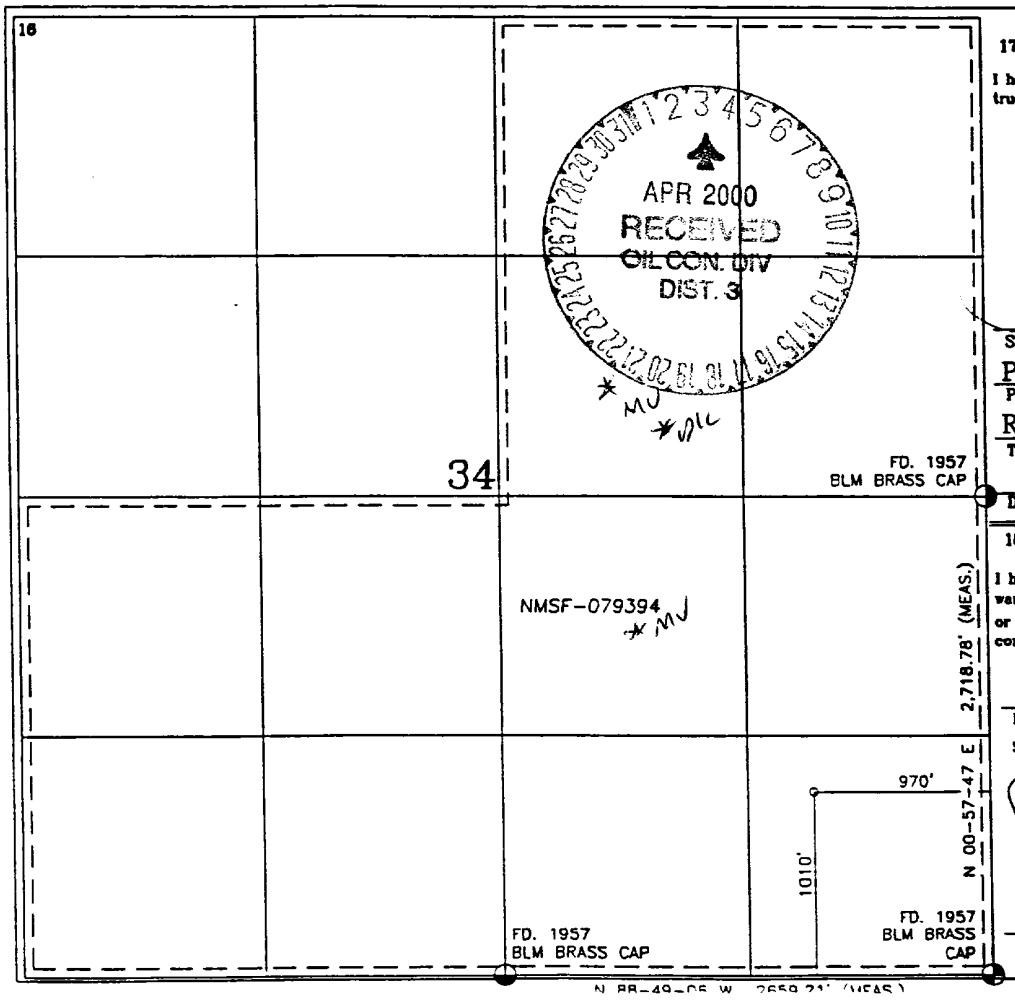
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	34	27-N	5-W		1010	SOUTH	970	EAST	RIO ARRIBA

[11] 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

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
MV - E/320 DK - S/320			

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



[17] OPERATOR CERTIFICATION

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

Peggy Cole
Signature

Peggy Cole
Printed Name

Regulatory Administrato
Title

12-6-99
Date

[18] SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by r or under my supervision, and that the same is true and correct to the best [illegible]

10-[illegible]
Date of Surv[illegible]

Signature and Seal of Professional Surveyor:

ROY A. RUSH
NEW MEXICO
8894
REGISTERED PROFESSIONAL LAND SURVEYOR

8894
Certificate Number

OPERATIONS PLAN

Well Name: San Juan 27-5 Unit #170M
Location: 1010'FSL, 970'FEL, Sec 34, T-27-N, R-5-W
Rio Arriba County, NM
Latitude 36° 31.6, Longitude 107° 20.4
Formation: Blanco Mesa Verde/Basin Dakota
Elevation: 6571' GL

Formation Tops:	***Top***	***Bottom***	***Contents***
Surface	San Jose	2702'	
Ojo Alamo	2702'	2857'	aquifer
Kirtland	2857'	2879'	gas
Fruitland	2879'	3273'	gas
Pictured Cliffs	3273'	3362'	gas
Lewis	3362'	3768'	gas
Intermediate TD	**3462'**		
Mesa Verde	3768'	4263'	gas
Chacra	4263'	4923'	gas
Massive Cliff House	4923'	5046'	gas
Menefee	5046'	5458'	gas
Massive Point Lookout	5458'	5908'	gas
Mancos	5908'	6611'	gas
Gallup	6611'	7403'	gas
Greenhorn	7403'	7463'	gas
Graneros	7463'	7488'	gas
Dakota	7488'		gas
TD	**7733'**		

Logging Program:
Open hole - AIT, CNL-CDL - TD to intermediate casing
Cased hole - CBL-CCL-GR - TD to surface
Cores - none

Mud Program:

Interval	Type	Weight	Vis.	Fluid Loss
0- 200'	Spud	8.4-9.0	40-50	no control
200- 3462'	LSND	8.4-9.0	30-60	no control
3462- 7733'	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):

Hole Size	Depth Interval	Csg.Size	Wt.	Grade
12 1/4"	0' - 200'	9 5/8"	32.3#	WC-50
8 3/4"	0' - 3462'	7"	20.0#	J-55
6 1/4"	3362' - 7733'	4 1/2"	10.5#	K-55

Tubing Program:

0' - 7733'	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/314 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 (1041 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 2779'. First stage: cement with w/152 sx Class "B" 50/50 poz w/2% gel, 2% calcium chloride, 0.5 pps Cellophane. Second stage: 285 sx Class "B" with 3% sodium metasilicate, 1/2 pps Cellophane, 10 pps Gilsonite (1041 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 2857'. Two turbolating centralizers at the base of the Ojo Alamo at 2857'. 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 495 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 (628 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:

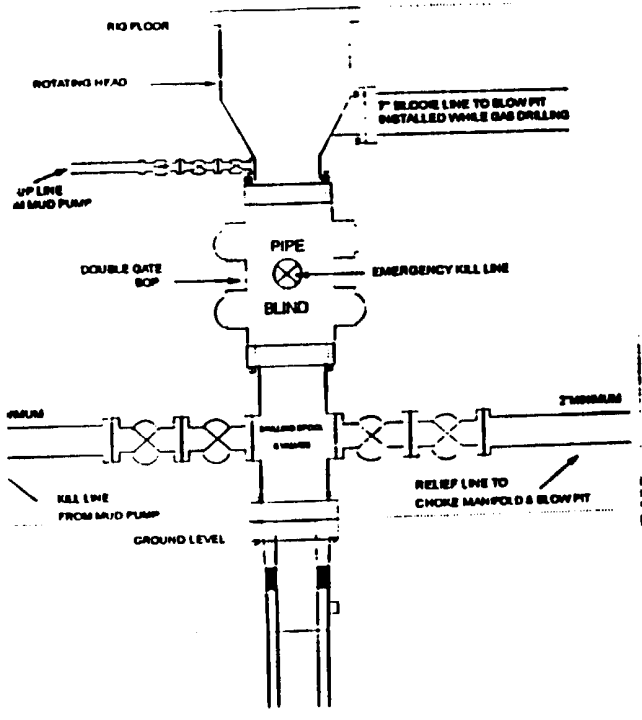
Fruitland Coal	300 psi
Pictured Cliffs	600 psi
Mesa Verde	700 psi
Dakota	2500 psi

- Sufficient LCM will be added to the mud system to maintain well control, if lost circulation is encountered.
- The east half of Section 34 is dedicated to the Mesaverde and the south half of Section 34 is dedicated to the Dakota in this well.
- This gas is dedicated.

Drilling Engineer

12/7/1999
Date

BOP Configuration
2M psi System

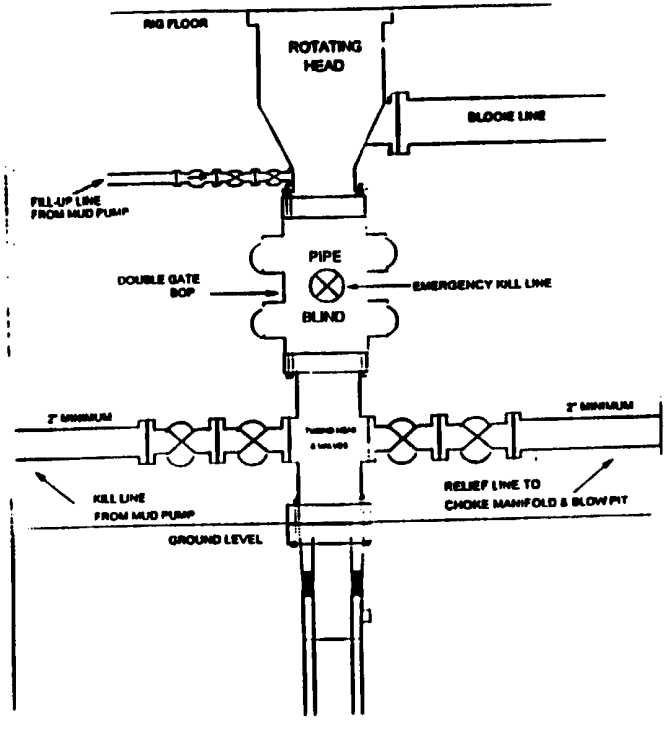


1" Bore, 2000psi minimum working pressure double gate BOP to be equipped ith blind and pipe rams. A Schaffer Type 50 or equivalent rotating head to be stalled on the top of the BOP. All equipment is 2000psi working pressure/or reater.

FIGURE #1

BURLINGTON RESOURCES

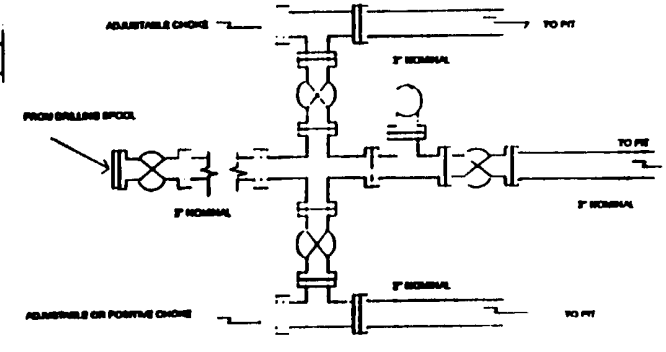
BOP Configuration
2M psi System



Minimum BOP installation for Completion operations. 7 1/16" Bore (6" Nominal). 2,000 psi minimum working pressure double gate BOP to be equipped with blind and pipe rams

FIGURE #2

Choke Manifold Configuration
2M System



Minimum choke manifold installation from surface to Total Depth. 2" minimum, 2000psi working pressure equipment with two chokes

Figure #3

BURLINGTON RESOURCES OIL & GAS COMPANY

SAN JUAN 27-5 UNIT #170M

SE/4 SEC. 34, T-27-N, R-5-W, N.M.P.M.,

RIO ARRIBA COUNTY, NEW MEXICO

1010' FSL, 970' FEL

APD MAP #1

950' NEW FEE CONSTRUCTION

400' NE/SE SECTION 34, T-27-N, R-5-W

550' SE/SE SECTION 34, T-27-N, R-5-W