

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-079391 Unit Reporting Number MV-891000950A DK-891000950
1b. Type of Well GAS	6. If Indian, All. or Tribe
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 70Y
4. Location of Well 915' FSL, 1595' FEL Latitude 36° 34.9, Longitude 107° 22.7	10. Field, Pool, Wildcat Blanco MV/Basin DK 11. Sec., Twn, Rge, Mer. (NMPM) 0 Sec. 8, T-27-N, R-5-W API # 30-039- 27244
14. Distance in Miles from Nearest Town 36 miles from Blanco MV	12. County Rio Arriba
15. Distance from Proposed Location to Nearest Property or Lease Line 915'	13. State NM
16. Acres in Lease	17. Acres Assigned to Well 320 E/2
18. Distance from Proposed Location to Nearest Well, Drig, Compl, or Applied for on this Lease 48'	
19. Proposed Depth 7911'	20. Rotary or Cable Tools Rotary
21. Elevations (DF, FT, GR, Etc.) 6674' 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: <u>[Signature]</u> Regulatory/Compliance Supervisor	Date <u>2-11-02</u>

PERMIT NO. _____

APPROVAL DATE _____

APPROVED BY /s/ David J. Mankiewicz

TITLE _____

DATE FEB - 3 2003

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

S 83°47'35" W FD 3 1/4
2671.49'(M) BLM 1957
BRASS CA

OPERATIONS PLAN

Well Name: San Juan 27-5 Unit #70Y
915' FSL, 1595' FEL, Section 8, T-27-N, R-5-W
Rio Arriba County, New Mexico
Latitude 36° 34.9, Longitude 107° 22.7
Formation: Blanco Mesa Verde/Basin Dakota
Elevation: 6674' GL

<u>Formation Tops:</u>	<u>Top</u>	<u>Bottom</u>	<u>Contents</u>
Surface	San Jose	2796'	
Ojo Alamo	2796'	2976'	aquifer
Kirtland	2976'	3121'	gas
Fruitland	3121'	3461'	
Pictured Cliffs	3461'	3586'	gas
Lewis	3586'	4036'	gas
Intermediate TD	3686'		
Huerfanito Bentonite	4036'	4426'	gas
Chacra	4426'	5206'	gas
Cliff House	5206'	5291'	
Menefee	5291'	5641'	gas
Point Lookout	5641'	6141'	gas
Mancos	6141'	6811'	gas
Gallup	6811'	7586'	gas
Greenhorn	7586'	7646'	gas
Graneros	7646'	7676'	gas
Dakota	7676'		gas
TD	7911'		

Logging Program:

Mud logs - none
Open hole - 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- 3686'	LSND	8.4-9.0	30-60	no control
3686- 7911'	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' - 3686'	7"	20.0#	J-55
6 1/4"	3586' - 7911'	4 1/2"	10.5#	K-55

Tubing Program:

0' - 7911'

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 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/385 sx 50/50 Class "G" TXI Liteweight cement with 2% calcium chloride, 2.5% sodium metasilicate, 10 pps Gilsonite and 0.5 pps Celloflake. Tail w/90 sx Class "G" 50/50 poz w/2% gel, 2% calcium chloride, 5 pps Gilsonite, 0.25 pps Celloflake (1108 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 3021'. First stage: cement with w/156 sx Class "G" 50/50 poz w/2% gel, 2% calcium chloride, 5 pps gilsonite, 0.25 pps Celloflake. Second stage: 352 sx 50/50 Class "G"/TXI Liteweight with 2% calcium chloride, 2.5% sodium metasilicate, 10 pps Gilsonite, 0.25 pps Celloflake (1108 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 2976'. Two turbolating centralizers at the base of the Ojo Alamo at 2976'. 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 431 sx 50/50 Class "G" Poz with 5% gel, 0.25 pps Celloflake, 5 pps Gilsonite (621 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 east half of Section 8 is dedicated to the Mesaverde and the Dakota in this well.
- This gas is dedicated.

Bennett D. Shurt
Drilling Engineer

2/13/02
Date