UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK Type of Work 5. Lease Number DRILL SF-078505 **Unit Reporting Number** 1b. Type of Well 6. If Indian, All. or Tribe GAS 2. Operator 7. Unit Agreement Name Oil & Gaᢆ≸ d Address & Phone No. of Operator 3. 8. Farm or Lease Name PO Box 4289, Farmington, Seymour 9. Well Number (505) 326-9700 #2C 4. **Location of Well** 10. Field, Pool, Wildcat 1500'FNL, 790'FWL Blanco Mesaverde/ Basin Dakota 11. Sec., Twn, Rge, Mer. (NMPM) Latitude 36° 53.2′, Longitude 107° 44.3′ Sec.24, T-31-N, R-9-W API# 30-045- 30174 14. Distance in Miles from Nearest Town 12. County 13. State 6 mi from Navajo Dam P.O. San Juan МИ 15. Distance from Proposed Location to Nearest Property or Lease Line 790' 16. Acres in Lease 17. Acres Assigned to Well 320 W/2 314.74 Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease 18. 400' 19. **Proposed Depth** 20. Rotary or Cable Tools 8000' Rotary 21. Elevations (DF, FT, GR, Etc.) 22. Approx. Date Work will Start 6410' GL 23. **Proposed Casing and Cementing Program** See Operations Plan attached 24. Authorized by Compliance Administrator PERMIT NO. APPROVAL DATE /s/ Charlie Beecham **APPROVED BY** DATE MAR

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.

OPERATIONS PLAN

Well Name: Seymour #2C

Location: 1500'FNL, 790'FWL, Sec 24, T-31-N, R-9-W

San Juan County, NM

Latitude 36° 53.2, Longitude 107° 44.3

Formation: Blanco Mesa Verde/ Basin Dakota

Elevation: 6410' GL

Formation Tops:	Top	Bottom	<u>Contents</u>		
Surface	San Jose	1962'			
Ojo Alamo	1962'	2047′	aquifer		
Kirtland	2047′	2692′	gas		
Fruitland	2692'	3262'	gas		
Pictured Cliffs	3262'	3383'	gas		
Lewis	3383'	3963'	gas		
Intermediate TD	3483'				
Mesa Verde	3963′	4342'	gas		
Chacra	4342'	5090′	gas		
Massive Cliff House	5090'	5157'	gas		
Menefee	5157'	5492′	gas		
Massive Point Lookout	5492'	5850'	gas		
Mancos	5850′	6793′	gas		
Gallup	6793′	7522′	gas		
Greenhorn	7522'	7577'	gas		
Graneros	7577'	7642'	gas		
Dakota	7642′	7960′	gas		
Morrison	7960′		gas		
TD (4-17/2"liner)	8000'				
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Logging Program:

Cased hole - IEL-GR, CNL-CDL, CBL-CCL-GR - TD to surface

Mud Program:

Interv	<u>ral</u>	<u> Type</u>	Weight	<u>Vis.</u>	Fluid Loss
0 - 5	500'	Spud	8.4-9.0	40-50	no control
500- 3	3483'	LSND	8.4-9.0	30-60	no control
3483- 8	3000'	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	<u>Csq.Size</u>	<u>Wt.</u>	<u>Grade</u>
17 ½"	0' - 500'	13 3/8"	48#	H-40
10 5/8"	0' - 3483'	8 5/8"	32#	J-55
7 7/8"	3383' - 8000'	5 ½"	15.5#	J-55

Tubing Program:

0'	-	8000'	1	½ ″	2	.90#	EUE
0'	_	5850′	1	½"	2	.75#	IJ

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 -

13 3/8" x 8 5/8" x 1 ½" x 1 ½" x 5000 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
- · All BOP tests and drills will be recorded in daily drilling reports.
- Blind and pipe rams will be equipped with extension hand wheels.

13 3/8" surface casing - cement with 885 sx Class "B" cement with 1/4# flocele/sx and 3% calcium chloride (1042 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.

8 5/8" intermediate casing -

Lead w/450 sx Class "B" w/3% sodium metasilicate, 5# gilsonite/sx and 1/4# flocele/sx. Tail w/90 sx Class "B" w/2% calcium chloride, 2% sodium metasilicate, 0.25 pps flocele, 5 pps gilsonite (1463 cu.ft. of slurry, 100% excess to circulate WOC minimum of 8 hours before drilling out to surface.) 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.

8 5/8" intermediate casing alternative two stage: Stage collar at 2592'. First stage: cement with 218 sx Class "B" cmt with 5 pps gilsonite, 1/4 pps flocele, 2% metasilicate, 2% calcium chloride. Second stage: 374 sx Class "B" with 3% sodium metasilicate, 1/4 pps flocele, 5 pps Gilsonite (1463 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 2047'. Two turbolating centralizers at the base of the Ojo Alamo at 2047'. Bowspring centralizers spaced every fourth joint from the base of the Ojo Alamo to the base of the surface casing.

5 1/2" Production Liner -

Cement to cover minimum of 100' of 5 1/2" x 8 5/8" overlap. Lead with 869 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 (1120 cu.ft.), 50% excess to cement 5 1/2" x 8 5/8" 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 5 1/2" casing will be run and cemented with a minimum of 100' of cement overlap between the 5 1/2" x 8 5/8" casing strings. After completion of the well, a 5 1/2" retrievable bridge plug will be set below the top of cement in the 5 1/2" x 8 5/8" overlap. The 5 1/2" casing will then be backed off above the top of cement in the 5 1/2" x 8 5/8" overlap and laid down. The 5 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 dualled.
- No abnormal temperatures or hazards are anticipated.
- Anticipated pore pressures are as follows:

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

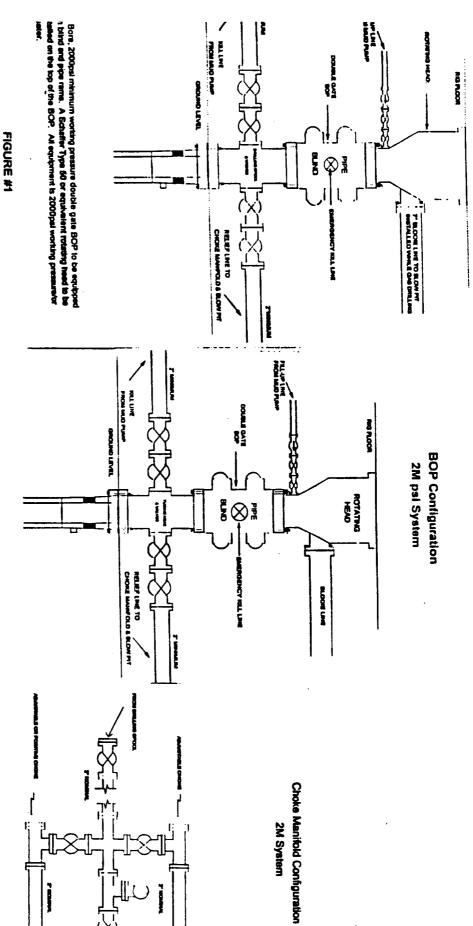
- Sufficient LCM will be added to the mud system to maintain well control, if lost circulation is encountered.
- The west half of Section 24 is dedicated to the Mesaverde and Dakota in this well.

• This gas is dedicated.

Drilling Engineer

BOP Configuration 2M psi System

BURLINGTON RESOURCES



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FIGURE #2

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

Figure #3

2" minimum, 2000pai working preseure equip

ladon from surface to Total Dapth. ressure equipment with two chokes

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