

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 NM01614 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
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499 (505) 326-9700	8. Farm or Lease Name Thompson 9. Well Number 8M
4. Location of Well 1250' FNL, 1950' FEL Latitude 36° 52.26, Longitude 108° 06.02	10. Field, Pool, Wildcat Blanco MV/Basin DK 11. Sec., Twn, Rge, Mer. (NMPM) B Sec.28, T-31-N, R12-W API # 30-045-30952
14. Distance in Miles from Nearest Town 9.1 Miles from US 550 & NM 173 in Aztec	12. County San Juan 13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 1250'	
16. Acres in Lease	17. Acres Assigned to Well 320 <i>NA</i>
18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease 925	
19. Proposed Depth 7195	20. Rotary or Cable Tools Rotary
21. Elevations (DF, FT, GR, Etc.) 6163' 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: <i>[Signature]</i> Regulatory/Compliance Supervisor	Date <i>12-5-01</i>

PERMIT NO. _____

APPROVAL DATE _____

APPROVED BY /s/ Charlie Beecham

TITLE _____

DATE OCT - 7 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

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240

DISTRICT II
811 South First, Artesia, N.M. 88210

DISTRICT III
1000 Rio Brazos Rd., Artesia, N.M. 87410

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 15, 2000

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, NM 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045 30952	² Pool Code 72319/71599	³ Pool Name Blanco MesaVerde/Basin Dakota
⁴ Property Code 18628	⁵ Property Name THOMPSON	⁶ Well Number 8M
⁷ GRID No. 14538	⁸ Operator Name BURLINGTON RESOURCES OIL AND GAS, INC.	⁹ Elevation 6163'

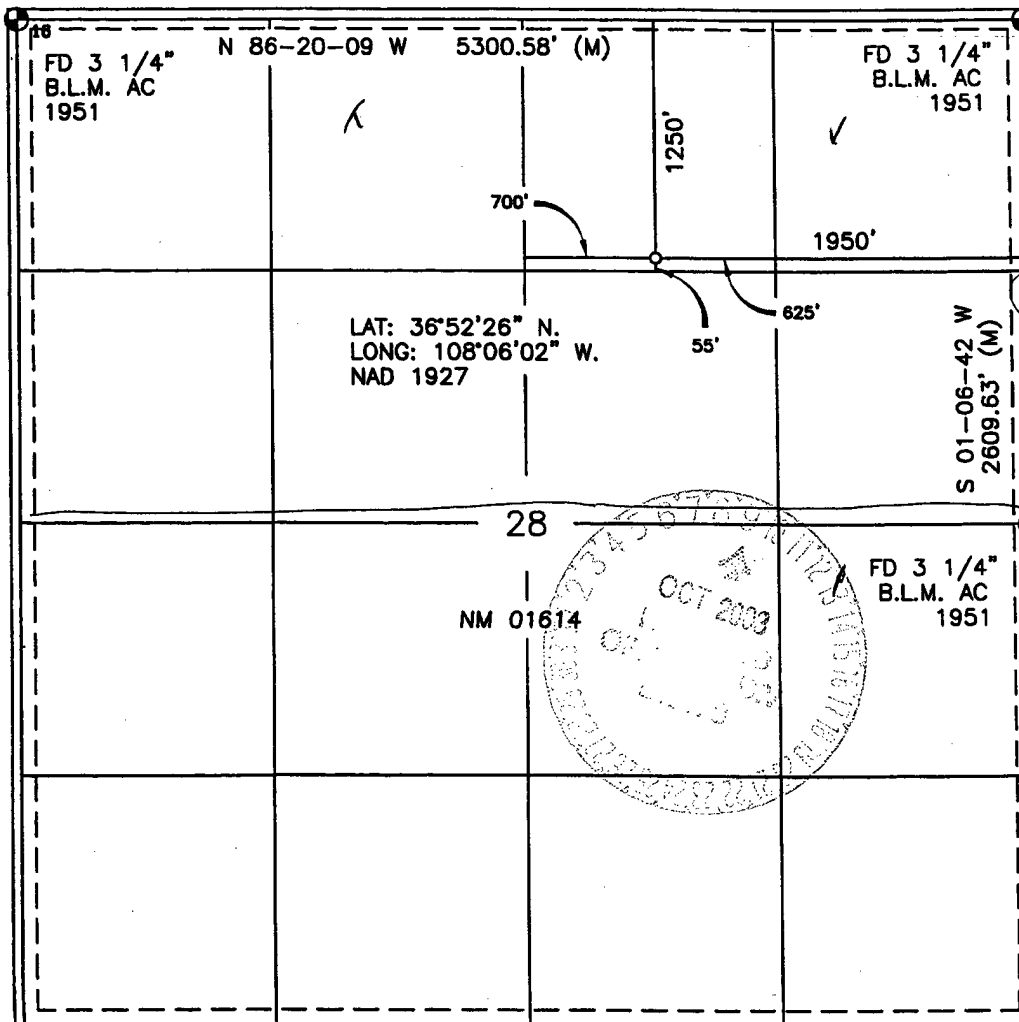
¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	28	31-N	12-W		1250'	NORTH	1950'	EAST	SAN JUAN

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 MV-N/320 DK-N/320					¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.

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 Supervisor
Title
12-5-01
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 me or under my supervision, and that the same is true and correct to the best of my belief.

9-12-03
Date of Survey
ROY A. RUSH
Signature and Seal of Professional Surveyor
8894
Certificate Number

OPERATIONS PLAN

Well Name: Thompson #8M
Location: 1250' FNL, 1950' FEL, Sec 28, T-31-N, R-12-W
San Juan County, NM
Latitude 36° 52.26, Longitude 108° 06.02
Formation: Blanco Mesaverde/Basin Dakota
Elevation: 6163' GL

<u>Formation Tops:</u>	<u>Top</u>	<u>Bottom</u>	<u>Contents</u>
Surface	San Jose	745'	
Ojo Alamo	745'	815'	aquifer
Kirtland	815'	1905'	gas
Fruitland	1905'	2535'	gas
Pictured Cliffs	2535'	2635'	gas
Lewis	2635'	3280'	gas
Mesa Verde	3280'	3635'	gas
Chacra	3635'	4205'	gas
Massive Cliff House	4205'	4310'	gas
Menefee	4310'	4885'	gas
Intermediate TD	4460'		
Massive Point Lookout	4885'	5235'	gas
Mancos	5235'	6195'	gas
Gallup	6195'	6920'	gas
Greenhorn	6920'	6970'	gas
Graneros	6970'	7035'	gas
Dakota	7035'		gas
TD	7195'		

Logging Program:

Cased hole - CBL-CCL-GR - TD to surface
Open hole - none
Cores - none

Mud Program:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Vis.</u>	<u>Fluid Loss</u>
0- 320'	Spud	8.4-9.0	40-50	no control
320- 4460'	LSND	8.4-9.0	30-60	no control
4460- 7195'	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' - 320'	9 5/8"	32.3#	H-40
8 3/4"	0' - 4460'	7"	20.0#	J-55
6 1/4"	4560' - 7195'	4 1/2"	10.5#	J-55

Tubing Program:

0' - 7195' 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 255 sx Class "B" cement with 1/4# celloflake/sx and 3% calcium chloride (301 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/560 sx 50/50 Class G/TXI lightweight w/1.75% sodium metasilicate, 0.2% Defoamer, 0.15% Retarder, 10# gilsonite/sx and 1/2# celloflake/sx. Tail w/95 sx 50/50 Class "G" Poz, 2% gel, 1/4 pps celloflake, 5 pps gilsonite, 0.1% antifoam agent, 0.1% Dispersant, 0.1% Retarder (1340 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 1805'. First stage: cement with 624 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: 210 sx 50/50 Class G/TXI lightweight w/2.5% sodium metasilicate, 2% calcium chloride, 10# gilsonite/sx and 1/2# celloflake/sx (1340 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 815'. Two turbulating centralizers at the base of the Ojo Alamo at 815'. 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 283 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 (407 cu.ft.), 40% excess to cement 4 1/2" x 7" overlap). WOC a minimum of 18 hrs prior to completing.

4 1/2" production casing alternative: Lead w/84 sx 9.5 PPG Litecrete Blend w/0.11% dispersant, 0.5% fluid loss. Tail w/156 sx Class G 50/50 poz w/5% gel, 0.25 pps celloflake, 5 pps gilsonite, 0.25% fluid loss, 0.15% dispersant, 0.1% retarder, 0.1% antifoam (436 cu.ft., 50% excess to cement 4 1/2" x 7" overlap).

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.