UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

2003 DEC 12 PM 1:51

070 Farmington NM

**1a. Type of Work**
DRILL

**5. Lease Number**
NMSF077652
**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**
East
**9. Well Number**
6M

**4. Location of Well**
1065'FSL, 665'FWL

Latitude 36° 52.49, Longitude 108° 04.25

**10. Field, Pool, Wildcat**
Blanco Mesa Verde/
Basin Dakota
**11. Sec., Twn, Rge, Mer. (NMPM)**
Sec.23, T-31-N, R-12-W
**API # 30-045-** 30945

**14. Distance in Miles from Nearest Town** | **12. County** | **13. State**
7.1 miles from int. of Hwy 550 & Hwy 173 in Aztec, NM | San Juan | NM

**15. Distance from Proposed Location to Nearest Property or Lease Line**
665'

**16. Acres in Lease**

**17. Acres Assigned to Well**
321.06 W/2

**18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease**
934'

**19. Proposed Depth**
7241'

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.)**
6144' 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 Supervisor

11-9-01
Date

**PERMIT NO.** _____ **APPROVAL DATE** _____ SEP 25 2003

**APPROVED BY** /s/ David J. Mankiewicz **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.

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., Aztec, N.M. 87410

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

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Form C-102
Revised August 15, 2000

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 |
|---|---|---|
| 30-045 30945 | 72319/71599 | Blanco MesaVerde/Basin Dakota |

| [4] Property Code | [5] Property Name | [6] Well Number |
|---|---|---|
| 18517 | EAST | 6M |

| [7] OGRID No. | [8] Operator Name | [9] Elevation |
|---|---|---|
| 14538 | BURLINGTON RESOURCES OIL AND GAS, INC. | 6144' |

## [10] Surface Location

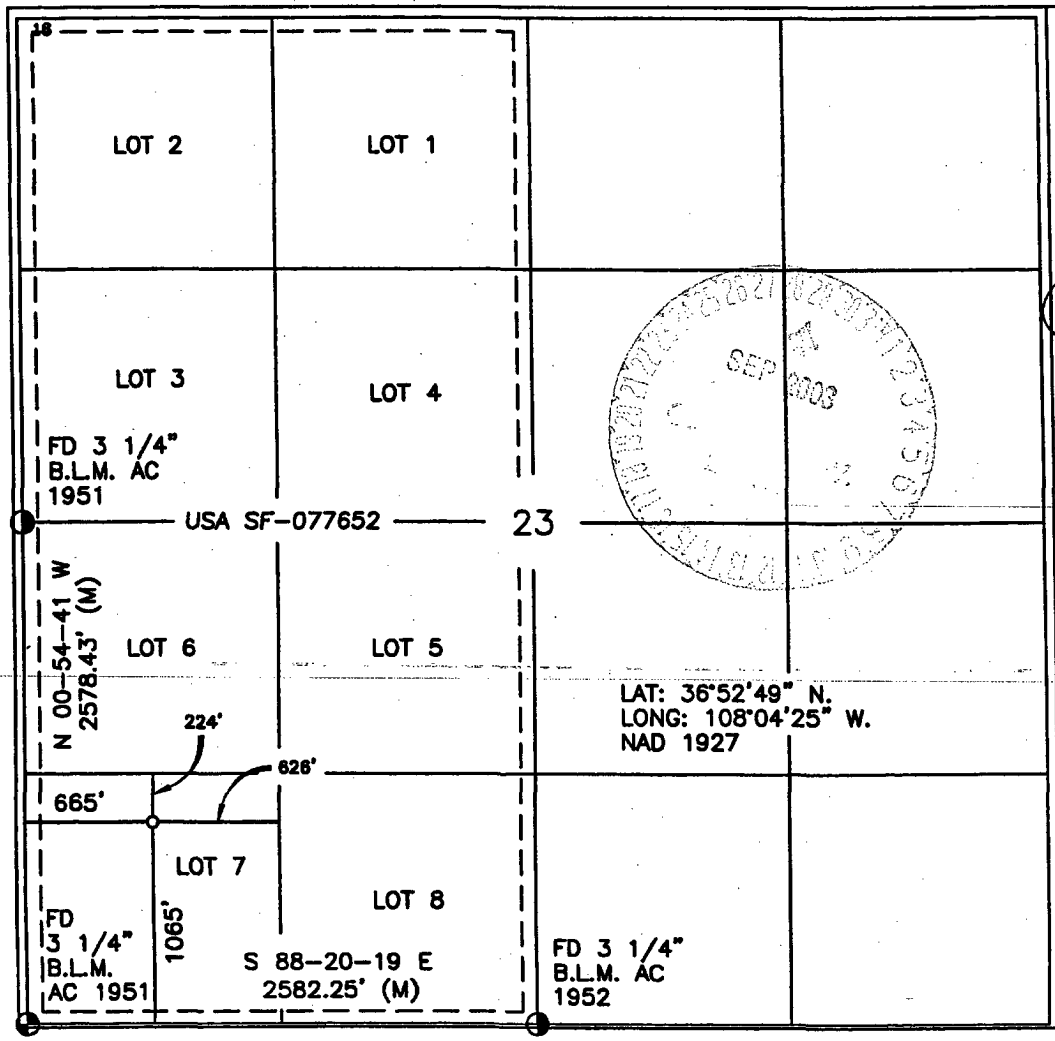
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| M | 23 | 31-N | 12-W | | 1065' | SOUTH | 665' | WEST | SAN JUAN |

## [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 | [13] Joint or Infill | [14] Consolidation Code | [15] Order No. |
|---|---|---|---|
| MV-W/321.06<br>DK-W/321.06 | | | |

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*

Signature

Peggy Cole
Printed Name

Regulatory Supervisor
Title

11-9-01
Date

## [18] SURVEYOR CERTIFICATION

*I hereby certify that the well location shown on this p was plotted from field notes of actual surveys made b me or under my supervision, and that the same is tru and correct to the best of my belief.*

9-10-01
Date of Survey

Signature and Seal of Professional Surveyor:

NEW MEXICO 8894 REGISTERED PROFESSIONAL LAND SURVEYOR

8894
Certificate Number

# OPERATIONS PLAN

***Well Name:*** East #6M
***Location:*** 1065'FSL, 665'FWL, Sec 23, T-31-N, R-12-W
San Juan County, NM
Latitude 36° 52.49, Longitude 108° 04.25
***Formation:*** Blanco Mesaverde/Basin Dakota
***Elevation:*** 6144'GL

| ***Formation Tops:*** | ***Top*** | ***Bottom*** | ***Contents*** |
|---|---|---|---|
| Surface | San Jose | 836' | |
| Ojo Alamo | 836' | 886' | aquifer |
| Kirtland | 886' | 1996' | gas |
| Fruitland | 1996' | 2596' | gas |
| Pictured Cliffs | 2596' | 2726' | gas |
| Lewis | 2726' | 3331' | gas |
| Mesa Verde | 3331' | 3676' | gas |
| Chacra | 3676' | 4236' | gas |
| Massive Cliff House | 4236' | 4376' | gas |
| Menefee | 4376' | 4906' | gas |
| **Intermediate TD** | **4526'** | | |
| Massive Point Lookout | 4906' | 5286' | gas |
| Mancos | 5286' | 6202' | gas |
| Gallup | 6202' | 6946' | gas |
| Greenhorn | 6946' | 7006' | gas |
| Graneros | 7006' | 7066' | gas |
| Dakota | 7066' | | gas |
| **TD** | **7241'** | | |

***Logging Program:***
Cased hole - CBL-CCL-GR - TD to surface
Open hole - none
Cores - none

***Mud Program:***

| Interval | Type | Weight | Vis. | Fluid Loss |
|---|---|---|---|---|
| 0- 320' | Spud | 8.4-9.0 | 40-50 | no control |
| 320- 4526' | LSND | 8.4-9.0 | 30-60 | no control |
| 4526- 7241' | 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):***

| Hole Size | Depth Interval | Csg.Size | Wt. | Grade |
|---|---|---|---|---|
| 12 1/4" | 0' - 320' | 9 5/8" | 32.3# | H-40 |
| 8 3/4" | 0' - 4526' | 7" | 20/23# | J55 |
| 6 1/4" | 4426' - 7241' | 4 1/2" | 10.5# | J-55 |

***Tubing Program:***

| | | | |
|---|---|---|---|
| 0' - 7241' | 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/569 sx 50/50 Class G/TXI lightweight w/1.75% sodium metasilicate, 8# gilsonite/sx, 1/2# celloflake/sx, 0.2% defoamer, 0.15% retarder. Tail w/95 sx 50/50 Class "G" Poz w/ 2% gel, 1/4 pps celloflake, 5 pps gilsonite, 0.1% antifoam agent, 0.1% dispersant, 0.1% retarder (1360 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 1896'. First stage: cement with 618 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: 221 sx 50/50 Class G/TXI lightweight w/2.5% sodium metasilicate, 2% calcium chloride, 10# gilsonite/sx and 1/2# celloflake/sx (1360 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 886'. Two turbolating centralizers at the base of the Ojo Alamo at 886'. 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 281 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 (404 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/83 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 (433 cu.ft., 50% excess to cement 4 ½" 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.