UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

2002 SEP 25 AM 1:24

070 FARMINGTON NM

1a. Type of Work: DRILL

1b. Type of Well: GAS

5. Lease Number: NMSF-078416
Unit Reporting Number

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: Hardie A
9. Well Number: 1B

4. Location of Well
1645'FNL, 2580'FWL,
Latitude 36° 42.0, Longitude 107° 38.7

10. Field, Pool, Wildcat: Blanco Mesaverde
11. Sec., Twn, Rge, Mer. (NMPM): Sec. 26, T-29-N, R-8-W
API # 30-045- 31139

14. Distance in Miles from Nearest Town: 12 miles from Blanco

12. County: San Juan
13. State: NM

15. Distance from Proposed Location to Nearest Property or Lease Line: 1645'

16. Acres in Lease

17. Acres Assigned to Well: 320 W/2

18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease: 1251'

19. Proposed Depth: 5613'

20. Rotary or Cable Tools: Rotary

21. Elevations (DF, FT, GR, Etc.): 6346' GR

22. Approx. Date Work will Start

23. Proposed Casing and Cementing Program
See Operations Plan attached

24. Authorized by: Peggy Cole
Regulatory/Compliance Supervisor

7-26-02
Date

PERMIT NO. _____ APPROVAL DATE MAR 14 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.

HOLD C104 FOR NSL

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

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

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

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- 31139	72319	Blanco Mesaverde	
[4] Property Code	[5] Property Name		[6] Well Number
7085	HARDIE A		1B
[7] OGRID No.	[8] Operator Name		[9] Elevation
14538	BURLINGTON RESOURCES OIL AND GAS, INC.		6346'

[10] Surface Location

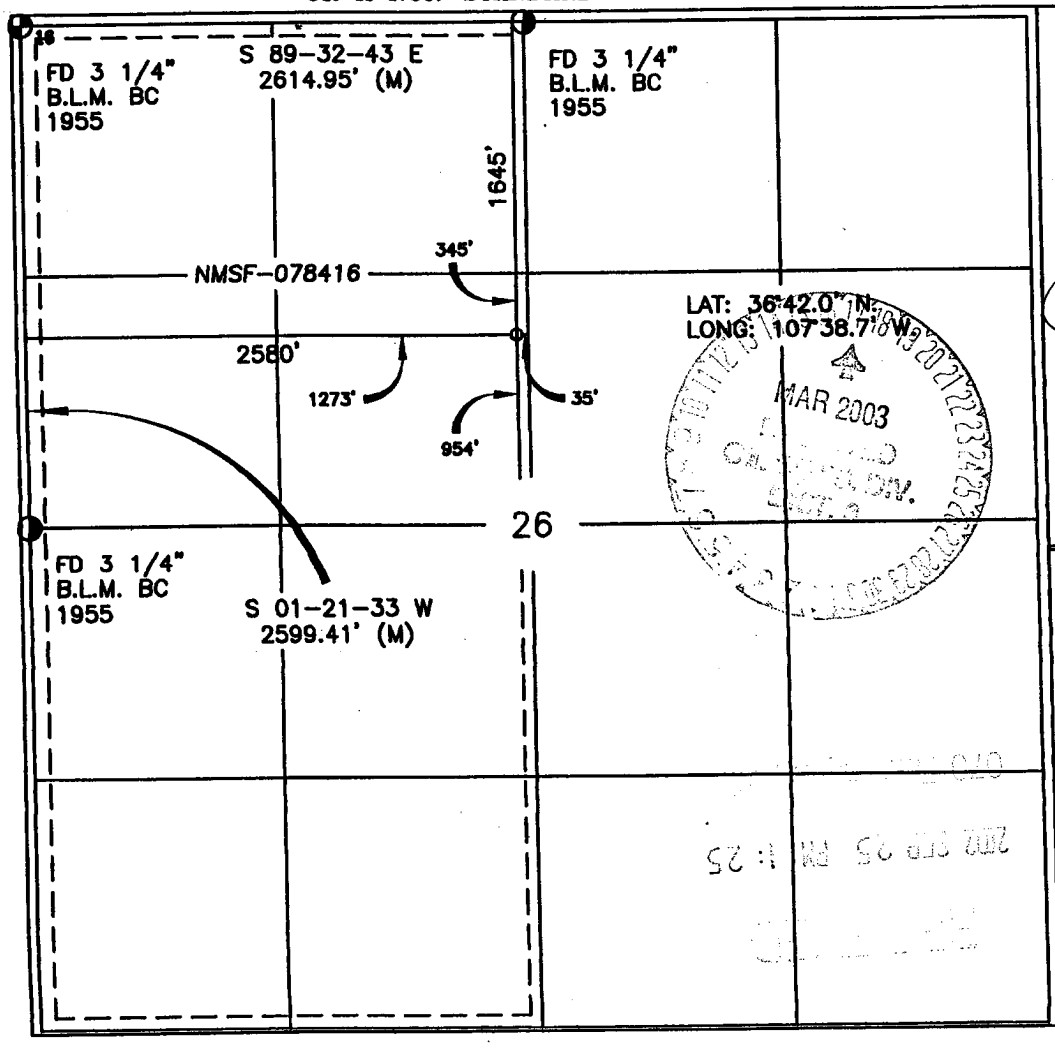
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	26	29-N	8-W		1645'	NORTH	2580'	WEST	SAN JUAN

[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/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

Signature

Peggy Cole
Printed Name

Regulatory Supervisor
Title

1-26-02
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.

DAVID A. JOHNSON 2002
Date of Survey

Signature and Seal of Professional Surveyor:

NEW MEXICO 14827 REGISTERED PROFESSIONAL SURVEYOR

14827
Certificate Number

OPERATIONS PLAN

Well Name: Hardie A #1B
Location: 1645'FNL, 2580' FWL, Section 26, T-29-N, R-8-W
San Juan County, New Mexico
Latitude 36° 42.0, Longitude 107° 38.7
Formation: Blanco Mesa Verde
Elevation: 6346'GL

Formation Tops:	***Top***	***Bottom***	***Contents***
Surface	San Jose	2018'	
Ojo Alamo	2018'	2118'	aquifer
Kirtland	2118'	2693'	
Fruitland	2693'	2988'	gas
Pictured Cliffs	2988'	3068'	gas
Lewis	3068'	3588'	gas
Intermediate TD	**3318'**		
Huerfanito Bentonite	3588'	3938'	gas
Chacra	3938'	4593'	gas
Massive Cliff House	4593'	4728'	gas
Menefee	4728'	5213'	gas
Point Lookout	5213'		gas
Total Depth	**5613'**		

Logging Program:
Mud Logs/Coring/DST -
Mud logs - none
Coring - none
DST - none
Open hole - none
Cased hole - Gamma Ray, CCL, CBL - surface to TD

Mud Program:

Interval- MD	Type	Weight	Vis.	Fluid Loss
0- 200'	Spud	8.4-9.0	40-50	no control
200- 3318'	LSND	8.4-9.0	30-60	no control
3318- 5613'	Air/Mist/N2*	n/a	n/a	n/a

Pit levels will be visually monitored to detect gain or loss of fluid control.

*Nitrogen might be used in conjunction with or instead of air to prevent a down hole fire.

Casing Program (as listed, the equivalent, or better):

Hole Size	Measured Depth	Csg Size	Weight	Grade
12 1/4"	0' - 200'	9 5/8"	32.3#	H-40
8 3/4"	0' - 3318'	7"	20.0#	J-55
6 1/4"	3218' - 5613'	4 1/2"	10.5#	J-55

Tubing Program: 0' - 5613' 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 2000 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 drill crew.
- All BOP tests & 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 134 sx Type III cement with 1/4# Celloflake/sx and 2% 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/288 sx Premium Lite cmt w/3% calcium chloride, and 0.25 pps Flocele, 5 pps LCM-1, 0.4% fluid loss, 0.4% SMS. Tail w/90 sx Type III cmt w/1% calcium chloride, 0.2% fluid loss and 0.25 pps Flocele (738 cu.ft. of slurry, 50% excess to circulate to surface.) WOC minimum of 8 hours before drilling out intermediate casing. If cement does not circulate to surface, a CBL or a temperature survey will be run 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 2593'. First stage: Cemented w/117 sx Type III cmt w/1% calcium chloride, 0.25 pps Flocele, 0.2% fluid loss. Second stage: 270 sx Premium Lite cmt w/3% calcium chloride, 0.25 pps Flocele, 5 pps LCM-1, 0.4% fluid loss, 0.4% SMS (738 cu.ft., 50% 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 2118'. Two turbolating centralizers at the base of the Ojo Alamo at 2118'. 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 circulate liner top. Pump 172 sx Premium Lite cmt w/0.25 pps Celloflake, 0.3% CD-32, 6.25 pps LCM-1, 1% fluid loss (341 cu.ft., 40% excess to circulate liner top). WOC a minimum of 18 hrs prior to completing.

Note: If open hole logs are run, cement volumes will be based on 25% excess over caliper volumes.

Cement nose guide shoe on bottom with float collar spaced on top of shoe joint. The liner hanger will have a rubber packoff.

- 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 (Air/Mist Drilling):

The following equipment will be operational while air/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.
- 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 Mesa Verde formation will be completed.
- 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

- Sufficient LCM will be added to the mud system to maintain well control, if lost circulation is encountered below the top of the Pictured Cliffs.
- The west half of Section 26 is dedicated to the Mesa Verde.
- This gas is dedicated.

Jennifer M Jamulla
Drilling Engineer

9/24/02
Date