

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work
DRILL

1b. Type of Well
GAS

2. Operator
BURLINGTON RESOURCES Oil & Gas Company

3. Address & Phone No. of Operator
PO Box 4289, Farmington, NM 87499
(505) 326-9700

4. Location of Well
1750' FSL, 955' FWL
Latitude 36° 40.4, Longitude 107° 41.5

5. Lease Number
NMSF-078499A
Unit Reporting Number

6. If Indian, All. or Tribe

7. Unit Agreement Name

8. Farm or Lease Name
Hardie E

9. Well Number
2118

10. Field, Pool, Wildcat
Otero Chacra/
Blanco MV/Basin DK

11. Sec., Twn, Rge, Mer. (NMPM)
Sec. 9, T-28-N, R-8-W
API # 30-039-
645 27570 31179

12. County
Rio Arriba

13. State
NM

14. Distance in Miles from Nearest Town
10 miles from Blanco

15. Distance from Proposed Location to Nearest Property or Lease Line
955'

16. Acres in Lease
This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

17. Acres Assigned to Well
Cha - 149.21
MV - 297.8 S/2
DK - 333.84

18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease
1000'

19. Proposed Depth
2033' 7250'

20. Rotary or Cable Tools
Rotary

21. Elevations (DF, FT, GR, Etc.)
6035' GR

22. Approx. Date Work will Start

23. Proposed Casing and Cementing Program
See Operations Plan attached

24. Authorized by: Regan Caci
Regulatory/Compliance Supervisor

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

2-21-02
Date

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY /s/ David J. Markiewicz TITLE _____ DATE NOV 25 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 1
1625 N. French Dr., Hobbs, N.M. 88240

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 15, 2000

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

DISTRICT III
1000 E. Brazos Rd., Aztec, N.M. 87410

DISTRICT IV
2040 South Pocheco, Santa Fe, NM 87505

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- 31179	² Pool Code 82329/72319/71599	³ Pool Name Otero Chacra/Blanco Mesaverde/Basin Dakota
⁴ Property Code 7089	⁵ Property Name HARDIE E	⁶ Well Number 218
⁷ OGRID No. 14538	⁸ Operator Name BURLINGTON RESOURCES OIL & GAS INC.	⁹ Elevation 6035'

¹⁰ Surface Location

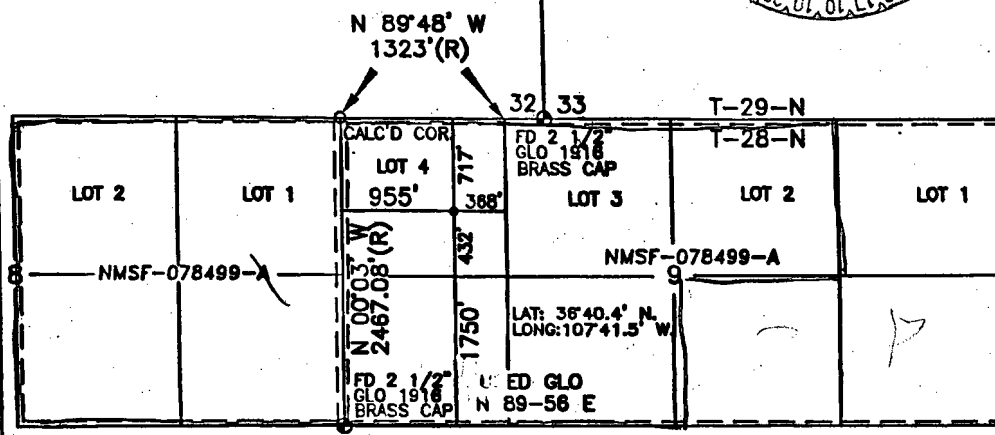
UL or lot no. L	Section 9	Township 28-N	Range 8-W	Lot Idn	Feet from the 1750	North/South line SOUTH	Feet from the 955	East/West line WEST	County SAN JUAN
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11 Bottom Hole Location If Different From Surface

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 Cha - 149.29 MV - S/297.80 DK - 333.84			¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No. R-401 for Mesa Verde R-1814 for Dakota NSP		

**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**

Reissued to show footages from
the South and West lines



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

III

Date: _____

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plot 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.

Date of Survey

Signature and Seal of Professional Surveyor

8894

Certificate Number

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

FORM APPROVED
OMB NO. 1004-0135
Expires: November 30, 2000

5. Lease Serial No.
NMSF078499A

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

8. Well Name and No.
HARDIE E 2M

9. API Well No.
~~30-039-27245-00-X1~~
045 31179

10. Field and Pool, or Exploratory
Multiple--See Attached

11. County or Parish, and State
SAN JUAN COUNTY, NM

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator
BURLINGTON RESOURCES O&G CO LP
Contact: PEGGY COLE
E-Mail: pcole@br-inc.com

3a. Address
3401 EAST 30TH
FARMINGTON, NM 87499

3b. Phone No. (include area code)
Ph: 505.326.9727
Fx: 505.326.9781

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
Sec 9 T28N R8W NWNW 1750FSL 955FWL

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Change to Original A
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	PD

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

The number for the subject well has been changed from Hardie E #2M to Hardie E #2B.

14. Thereby certify that the foregoing is true and correct.

**Electronic Submission #18207 verified by the BLM Well Information System
For BURLINGTON RESOURCES O&G CO LP, sent to the Farmington
Committed to AFMSS for processing by Adienne Garcia on 02/10/2003 (03AXG0685SE)**

Name (Printed/Typed) PEGGY COLE

Title REGULATORY ADMINISTRATOR

Signature (Electronic Submission)

Date 02/03/2003

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By /s/ David J. Martkiewicz

Title

NDV
Date 2 5

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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 representations as to any matter within its jurisdiction.

**** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ****

NWCCD

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Sundry Notices and Reports on Wells

RECEIVED

1. Type of Well
GAS

2. Name of Operator

BURLINGTON

RESOURCES OIL & GAS COMPANY LP

3. Address & Phone No. of Operator

PO Box 4289, Farmington, NM 87499 (505) 326-9700

4. Location of Well, Footage, Sec., T, R, M

1750' FSL, 955' FWL, Sec. 9, T-28-N, R-8-W, NMPM

5. Lease Number

NMSF-078499A

6. If Indian, All. or
Tribe Name

7. Unit Agreement Name

8. Well Name & Number

Hardie E #2B

9. API Well No.

30-045-00000 31179

10. Field and Pool

Otero Chacra/
Blanco MV/Basin DK

11. County and State

San Juan Co, NM

12. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OTHER DATA

Type of Submission

Type of Action

☒ Notice of Intent☐ Abandonment☒ Change of Plans☐ Subsequent Report☐ Recompletion☐ New Construction☐ Final Abandonment☐ Plugging Back☐ Non-Routine Fracturing☐ Casing Repair☐ Water Shut off☒ Altering Casing☐ Conversion to Injection☐ Other -

13. Describe Proposed or Completed Operations

It is intended to drill the subject well to a total depth of 7250'. A new operations plan is attached.



14. I hereby certify that the foregoing is true and correct.

Signed David J. Markiewicz Title Regulatory Supervisor Date 3/21/03

(This space for use by District Office use)

APPROVED BY David J. Markiewicz Title _____ Date _____

CONDITION OF APPROVAL, if any:

NMOC

OPERATIONS PLAN

Well Name: Hardie E #2B
1750' FSL, 955' FWL, Section 9, T-28-N, R-8-W
San Juan County, New Mexico
Latitude 36° 40.4, Longitude 107° 41.5
Formation: Otero Chacra/Blanco Mesa Verde/Basin Dakota
Elevation: 6035' GL

<u>Formation Tops:</u>	<u>Top</u>	<u>Bottom</u>	<u>Contents</u>
Surface	San Jose	1498'	
Ojo Alamo	1498'	1638'	aquifer
Kirtland	1638'	2048'	gas
Fruitland	2048'	2488'	
Pictured Cliffs	2488'	2618'	gas
Lewis	2618'	3098'	gas
Intermediate TD	2718'		
Huerfano Bentonite	3098'	3458'	gas
Chacra	3458'	4158'	gas
Cliff House	4158'	4248'	
Menefee	4248'	4723'	gas
Point Lookout	4723'	5168'	gas
Mancos	5168'	5948'	gas
Gallup	5948'	6688'	gas
Greenhorn	6688'	6748'	gas
Graneros	6748'	6803'	gas
Dakota	6803'		gas
TD	7250'		

Logging Program:

Mud logs - none
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- 120'	Spud	8.4-9.0	40-50	no control
120- 2718'	LSND	8.4-9.0	30-60	no control
2718- 7250'	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' - 120'	9 5/8"	32.3#	WC-50
8 3/4"	0' - 2718'	7"	20.0#	J-55
6 1/4"	2618' - 7250'	4 1/2"	10.5#	K-55

Tubing Program:

0' - 7250'

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 80 sx Type III cement with 0.25 pps Celloflake and 2% calcium chloride (113 cu.ft. of slurry, 200% excess to circulate to surface). WOC 24 hours for pre-set holes or 8 hours for conventionally set holes before pressure testing or drilling out from under surface casing. 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/230 sx Premium Lite cement with 3% calcium chloride, 0.25 pps Flocele, 5 pps LCM-1, 0.4% fluid loss, 0.4% sodium metasilicate. Tail w/90 sx Type III cmt w/1% calcium chloride, 0.25 pps Flocele, 0.25% fluid loss (613 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 during completion operations to determine TOC. Test casing to 1500 psi for 30 minutes.

7" intermediate casing alternative two stage: Stage collar 1948'. First stage: cement with 24 sx Premium lite cmt w/3% calcium chloride, 0.25 pps Celloflake, 5 pps LCM-1, 0.4% fluid loss, 0.4% sodium metasilicate. Tailed with 90 sacks Type III cement with 1% calcium chloride, 0.25 pps Celloflake, 0.2% fluid loss. Second stage: 206 sx Premium Lite cmt with 3% calcium chloride, 0.25 pps Celloflake, 5 pps LCM-1, 0.4% fluid loss, 0.4% sodium metasilicate (613 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 1638'. Two turbolating centralizers at the base of the Ojo Alamo at 1638'. 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 366 sx 35/65 poz Type III cement w/0.25 pps Celloflake, 0.3% CD-32, 6.25 pps LCM-1, 1% fluid loss 7 pps CSE, 6% gel (665 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 southwest quarter of Section 9 is dedicated to the Chacra, the south half of Section 9 is dedicated to the Mesaverde and the south half of Section 9 and Lots 1 & 2, south half of the southeast quarter of Section 8 is dedicated to the Dakota in this well.
- This gas is dedicated.


Drilling Engineer

3/24/03
Date