

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Sundry Notices and Reports on Wells

RECEIVED

1. Type of Well  
GAS

5. Lease Number  
NMSF-078499A  
If Indian, All. or  
Tribe Name

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-~~9~~-W, NMPM

8

8. Well Name & Number  
Hardie E #2B  
9. API Well No.  
30-045- 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

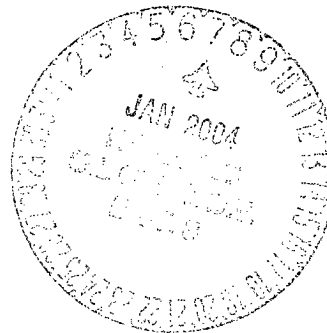
☐ Altering Casing

☐ Conversion to Injection

☐ Other -

13. Describe Proposed or Completed Operations

Attached is the revised operations plan for the subject well.



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

Signed Nancy Olthmann Title Senior Staff Specialist Date 11/12/03

(This space for Federal or State Office use)

APPROVED BY Pete Eng Title Pete Eng Date 12/31/03  
CONDITION OF APPROVAL, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

NMOCD

# 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'	2218'	gas
Fruitland	2218'	2488'	
Pictured Cliffs	2488'	2618'	gas
Lewis	2618'	3098'	gas
Intermediate TD	2718'		
Huerfanito 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'	6804'	gas
Dakota	6804'		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 23 sx Type I, II cement with 20% flyash, mixed at 14.5 ppg, 1.61 cu.ft. per sack yield (37 cu.ft. of slurry, bring cement to surface) or equivalent. Wait on cement for 24 hours for pre-set holes or 8 hrs for conventionally set holes before pressure testing or drilling out from under surface. Test BOP and 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 1918'. First stage: cement with 26 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: 203 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 336 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):

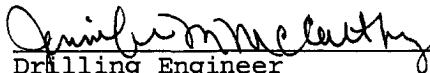
The following equipment will be operational while gas/mist drilling:

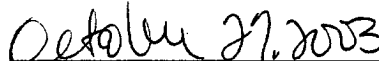
- An anchored blooie line will be utilized to discharge all cuttings and circulating medium to the blow pit a minimum of 100' from the wellhead.
- The blooie line will be equipped with an automatic igniter or pilot light.
- Compressors will be located a minimum of 100' from the wellhead in the opposite 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

  
Date