UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
2003 JUN 11 AM 8:57
070 Farmington, NM

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

1a. **Type of Work**
DRILL

5. **Lease Number**
NMSF-~~078604~~ 078134
**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**
Hudson

9. **Well Number**
5B

4. **Location of Well**
1105'FSL, 665' FWL

Latitude 36° 53.7, Longitude 107° 54.7

10. **Field, Pool, Wildcat**
Blanco MV/Basin DK

11. **Sec., Twn, Rge, Mer. (NMPM)**
M Sec. 17, T-31-N, R-10-W
**API # 30-045-** 31728

14. **Distance in Miles from Nearest Town**
5.9 Mls to Int. Hwy 550 & Hwy 173 North of Aztec

12. **County** San Juan

13. **State** NM

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

16. **Acres in Lease**

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

18. **Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease**
1226

19. **Proposed Depth**
7380'

20. **Rotary or Cable Tools**
Rotary

21. **Elevations (DF, FT, GR, Etc.)**
6007'

22. **Approx. Date Work will Start**

23. **Proposed Casing and Cementing Program**
See Operations Plan attached

24. **Authorized by:** Peggy Cole
Regulatory/Compliance Supervisor

Date 1-8-02

**PERMIT NO.** _____ **APPROVAL DATE** _____

**APPROVED BY** for Charlie Beecham **TITLE** _____ **DATE** 10-8-03

**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.

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

NMOCD

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

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 31728 | 72319/71599 | Blanco MV/Basin DK |

| [4] Property Code | [5] Property Name | [6] Well Number |
|---|---|---|
| 7136 | HUDSON | 5B |

| [7] OGRID No. | [8] Operator Name | [9] Elevation |
|---|---|---|
| 14538 | BURLINGTON RESOURCES OIL & GAS, INC. | 6007' |

### [10] Surface Location

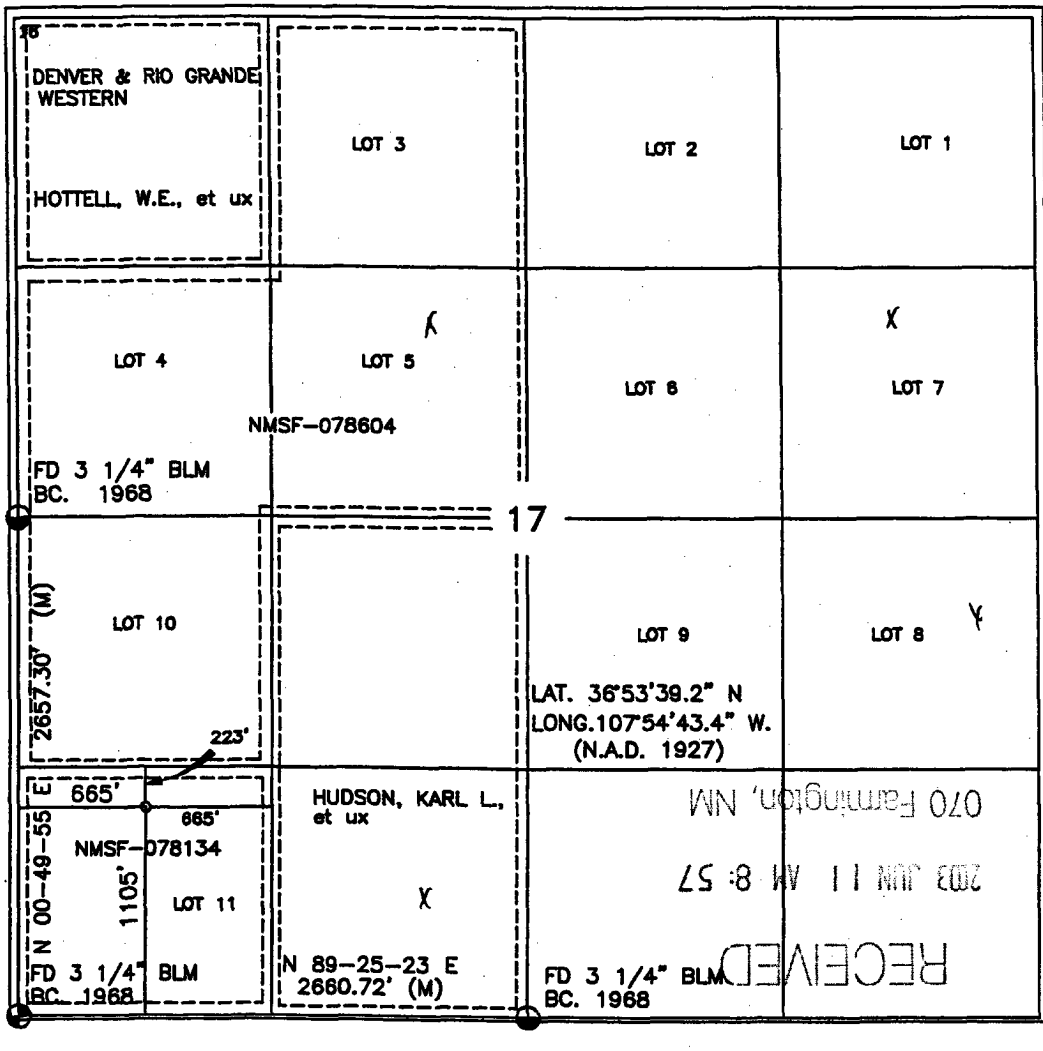
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| M | 17 | 31-N | 10-W | | 1105 | SOUTH | 665 | WEST | SAN JUAN |

### [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. |
|---|---|---|---|
| W-324.01 | | | |

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

1-8-02
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.*

Date of Survey

Signature and Seal of Professional Surveyor:

DAVID A. JOHNSON
NEW MEXICO
14827
REGISTERED PROFESSIONAL SURVEYOR

Certificate Number

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

## 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.***

***SUBMIT IN TRIPLICATE - Other instructions on reverse side.***

5. Lease Serial No.
NMSF078134

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
NMNM73168

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

8. Well Name and No.
HUDSON 5B

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

9. API Well No.
30-045-31728-00-X1

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

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

10. Field and Pool, or Exploratory
BASIN DAKOTA
BLANCO MESAVERDE

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 17 T31N R10W SWSW 1105FSL 665FWL
36.90278 N Lat, 107.91944 W Lon

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

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

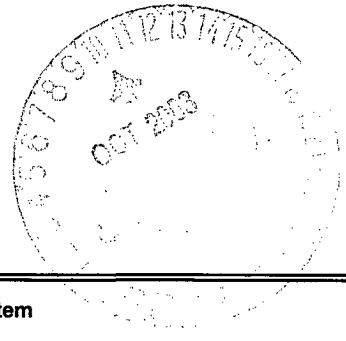
| TYPE OF SUBMISSION | TYPE OF ACTION | | | |
|---|---|---|---|---|
| ☒ Notice of Intent | ☐ Acidize | ☐ Deepen | ☐ Production (Start/Resume) | ☐ Water Shut-Off |
| ☐ Subsequent Report | ☐ Alter Casing | ☐ Fracture Treat | ☐ Reclamation | ☐ Well Integrity |
| ☐ Final Abandonment Notice | ☐ Casing Repair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

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 recomplete 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 recompletion 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.)

It is intended to alter the cementing program on the subject well according to the following:

9-5/8" surface casing - cement with 266 sx Class "B" cement w/0.25 pps celloflake, and 3% calcium chloride (376 cu. ft. if slurry, 200% excess to circulate to surface). WOC 8 hrs. Test casing to 600 psi for 30 minutes.

7" intermediate casing - Lead w/263 sx Premium Lite with 3% calcium chloride, 0.25 pps celloflake, 5 pps LCM-1, 0.4% fluid loss, 0.4% sodium metasilicate. Tail with 90 sx Type III cmt w/1% calcium chloride, 0.25 pps celloflake, 0.2% fluid loss (685 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 temp survey will be run to determine TOC. Test casing to 1500 psi for 30 minutes.



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

**Electronic Submission #23566 verified by the BLM Well Information System**
**For BURLINGTON RESOURCES O&G CO LP, sent to the Farmington**
**Committed to AFMSS for processing by Adrienne Garcia on 06/26/2003 (03AXG1466SE)**

Name *(Printed/Typed)* PEGGY COLE — Title REGULATORY ADMINISTRATOR

Signature (Electronic Submission) — Date 06/25/2003

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By — Title — Date

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.

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

NMOCD

## [redacted]nal data for EC transaction #23566 that would not fit on the form

**32. Additional remarks, continued**

7" intermediate casing alternative two stage: Stage collar at 2214'. First stage: cement w/40 sx Premium Lite w/3% calcium chloride, 0.25 pps flocele, 5 pps LCM-1, 0.4% FL-52, 0.4% SMS. Tail w/90 sx Type III cmt w/1% calcium chloride, 0.25 pps celloflake, 0.2% fluid loss. Second stage: w/234 sx Premium Lite with 3% calcium chloride, 0.25 pps celloflake, 5 pps LCM-1, 0.4% fluid loss, 0.4% sodium metasilicate (685 cu.ft. of slurry, 50% excess to circulate to surface).

4 1/2" Production Liner - Pump 345 sxs Premium Lite HS FM w/0.25 pps celloflake, 0.3% CD-32, 6.25 pps LCM-1, 1% fluid loss, 6% gel, 7 pps CSE (683
cu.ft., 40% excess to circulate liner). WOC a minimum of 18 hrs prior to completing.

# OPERATIONS PLAN

***Well Name:*** Hudson 5B
***Location:*** 1105'FSL, 665'FWL, Sec 17, T-31-N, R-10-W
San Juan County, NM
Latitude 36° 53.7, Longitude 107° 54.7
***Formation:*** Blanco Mesaverde/Basin Dakota
***Elevation:*** 6007'GL

| ***Formation Tops:*** | ***Top*** | ***Bottom*** | ***Contents*** |
|---|---|---|---|
| Surface | San Jose | 1114 | |
| Ojo Alamo | 1114' | 1214' | aquifer |
| Kirtland | 1214' | 2314' | gas |
| Fruitland | 2314' | 2734' | gas |
| Pictured Cliffs | 2734' | 2934' | gas |
| Lewis | 2934' | 3444' | gas |
| **Intermediate TD** | **3034'** | | |
| Mesa Verde | 3444' | 3809' | gas |
| Chacra | 3809' | 4454' | gas |
| Massive Cliff House | 4454' | 4554' | gas |
| Menefee | 4554' | 4939' | gas |
| Massive Point Lookout | 4939' | 5328' | gas |
| Mancos | 5328' | 6274' | gas |
| Gallup | 6274' | 7034' | gas |
| Greenhorn | 7034' | 7087' | gas |
| Graneros | 7087' | 7139' | gas |
| Dakota | 7139' | | |
| **TD** | **7380'** | | |

***Logging Program:***

Cased hole - GR/Cement bond log - TD to surface
Open hole - Array Induction: TD to Inter. Csg
Temperature: TD to minimum operations depth
Neutron-Density- TD to minimum operations depth
Mudlogging Program: Log from 6800 to total depth

Cores - none

***Mud Program:***

| Interval | Type | Weight | Vis. | Fluid Loss |
|---|---|---|---|---|
| 0- 400' | Spud | 8.4-9.0 | 40-50 | no control |
| 400- 3034' | LSND | 8.4-9.0 | 30-60 | no control |
| 3034- 7380' | 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' - 400' | 9 5/8" | 32.3# | H-40 |
| 8 3/4" | 0' - 3034' | 7" | 20.0# | J-55 |
| 6 1/4" | 2934' - 7380' | 4 1/2" | 10.5# | J-55 |

***Tubing Program:***

| | | | |
|---|---|---|---|
| 0' - 7380' | 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 319 sx Class "B" cement with 1/4# celloflake/sx and 3% calcium chloride (376 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/309 sx 50/50 Class G/TXI lightweight w/2.5% sodium metasilicate, 10# gilsonite/sx and 1/2# celloflake/sx, 2% Calcium Chloride. Tail w/90 sx 50/50 Class "G" Poz, 2% gel, 1/4 pps celloflake, 5 pps gilsonite, 0.1% antifoam agent, 2% Calcium Chloride (912 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 2214'. First stage: cement with 193 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: 258 sx 50/50 Class G/TXI lightweight w/2.5% sodium metasilicate, 2% calcium chloride, 10# gilsonite/sx and 1/2# celloflake/sx (912 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 1214'. Two turbolating centralizers at the base of the Ojo Alamo at 1214'. 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 443 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 (639 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/177 sx 9.5 PPG Litecrete Blend w/0.11% dispersant, 0.5% fluid loss. Tail w/166 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 (684 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.