

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  
1325' FSL, 1405' FEL  
Latitude 36° 51.0' N, Longitude 107° 40.6' W

5. Lease Number  
USA SF-078387  
Unit Reporting Number

6. If Indian, All. or Tribe

7. Unit Agreement Name

8. Farm or Lease Name  
Howell D POW

9. Well Number  
354

10. Field, Pool, Wildcat  
Basin Fruitland Coal

11. Sec., Twn, Rge, Mer. (NMPM)  
J Sec. 33, T-31-N, R-8-W  
API # 30-045-31072

12. County  
San Juan

13. State  
NM

14. Distance in Miles from Nearest Town  
Navajo Dam Post Office - 8 Miles

15. Distance from Proposed Location to Nearest Property or Lease Line  
1325'

16. Acres in Lease

17. Acres Assigned to Well  
320 B/2

18. Distance from Proposed Location to Nearest Well, Drig, Compl, or Applied for on this Lease  
160'

19. Proposed Depth  
3126

20. Rotary or Cable Tools  
Rotary

21. Elevations (DF, FT, GR, Etc.)  
6246 Gr.

22. Approx. Date Work will Start

23. Proposed Casing and Cementing Program  
See Operations Plan attached

24. Authorized by: [Signature]  
Regulatory/Compliance Supervisor

Date 3-21-02

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

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

APPROVED BY [Signature] TITLE \_\_\_\_\_ DATE 3-28-02

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 - or in filler order W/COOP

District I  
PO Box 1980, Hobbs, NM 88241-1980

District II  
PO Drawer DD, Artesia, NM 88211-0719

District III  
1000 Rio Brazos Rd., Aztec, NM 87410

District IV  
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
PO Box 2088  
Santa Fe, NM 87504-2088

Form C-102  
Revised February 21, 1994  
Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045- 31072	*Pool Code 71629	*Pool Name Basin Fruitland Coal
*Property Code 29834	*Property Name HOWELL D POW	*Well Number 354
*GRID No. 14538	*Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY LP	*Elevation 6246'

10 Surface Location

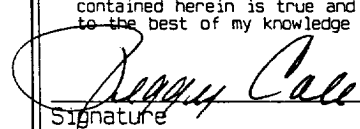

UL or lot no. J	Section 33	Township 31N	Range 8W	Lot Idn	Feet from the 1325	North/South line SOUTH	Feet from the 1405	East/West line EAST	County SAN JUAN
--------------------	---------------	-----------------	-------------	---------	-----------------------	---------------------------	-----------------------	------------------------	--------------------

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 E/320	13 Joint or Infill	14 Consolidation Code	15 Order No.
-----------------------------	--------------------	-----------------------	--------------

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

16	5221.92'	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 3-21-02 Date
5243.04'	33	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. Survey Date: JANUARY 21, 2002 Signature and Seal of Professional Surveyor  JASON C. EDWARDS Certificate Number 15269
5200.80'	USA SF-078387	
1275'	1220'	1405'
1325'	2615.58'	2634.72'

## OPERATIONS PLAN

**Well Name:** Howell D POW #354  
**Location:** 1325' FSL, 1405' FEL, Section 33, T-31-N, R-8-W  
Latitude 36° 51.0'N, Longitude 107° 40.6'W  
San Juan County, NM  
**Formation:** Basin Fruitland Coal  
**Elevation:** 6246' GR

Formation:	Top	Bottom	Contents
Surface	San Jose	1895'	
Ojo Alamo	1895'	2068'	aquifer
Kirtland	2068'	2670'	gas
Fruitland	2670'	2893'	gas
Intermediate casing	2843'		
T/Coal	2893	3122	gas
Basal Coal	3122'		gas
Total Depth	3126'		

**Logging Program:**

Open hole - GR, CDL - TD to 2843'  
Mud log - TD to 2843'

**Coring Program:** none

**Mud Program:**

Interval	Type	Weight	Vis.	Fluid Loss
0- 200'	Spud	8.4-9.0	40-50	no control
200-2843'	Non-dispersed	8.4-9.0	30-60	no control
2843-3126'	Air Mist			

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

Hole Size	Depth Interval	Csg. Size	Wt.	Grade
12 1/4"	0' - 200'	9 5/8"	32.3#	H-40
8 3/4"	0' - 2843'	7"	20.0#	K-55
6 1/4"	2803' - 3126'	5 1/2"	15.5#	K-55

**Tubing Program:**

0' - 3126'	2 3/8"	4.7#	J-55
------------	--------	------	------

**Float Equipment:** 9 5/8" surface casing - saw tooth guide shoe.  
Centralizers will be run in accordance with Onshore Order #2.

7" intermediate casing - guide shoe and self-fill float collar. Three centralizers run every fourth joint above shoe. Two turbolizing type centralizers - one below and one into the base of the Ojo Alamo @ 2068'. Standard centralizers thereafter every fourth joint up to the base of the surface pipe.

5 1/2" production casing - Pre-drilled liner run to the 7" casing with an overlap. Liner hanger is a slip grip type.

**Wellhead Equipment:** 9 5/8" x 7" x 2 3/8" x 11" 3000 psi xmas tree assembly.

**Cementing:**

9 5/8" surface casing - cement with 133 sx Type III cement with ¼ pps cellophane and 2% calcium chloride (188 cu.ft. of slurry, 200% excess to circulate to surface). WOC 8 hrs. Test casing to 600 psi/30 minutes.

7" intermediate casing - lead w/343 sacks Premium Lite with 3% Cacl, 5 pps Lcm-1, 0.4% FL-52, 0.4% sms and 1/4 pps sack Flocele. Tail with 90 sacks Type III Cement with 1% calcium chloride, 1/4 pps flocele (855 cu.ft., 100% excess to circulate to surface).

5 1/2" liner - uncemented.

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

**BOP and tests:**

Surface to intermediate TD - 11" 2000 psi (minimum) double gate BOP stack (Reference Figure #1). Prior to drilling out surface casing, test rams to 600#/30 min.

Intermediate TD to Total Depth - 7 1/6" 2000 psi (minimum) double gate BOP stack (Reference Figure #2). Prior to drilling out intermediate casing, test blind rams and casing to 2500 psi for 30 minutes; all pipe rams and casing to 2500 psi for 30 minutes each.

From surface to TD - choke manifold (Reference Figure #3).

Pipe rams will be actuated at least once each day and blind rams actuated once each trip to test proper functioning. An upper kelly cock valve with handle and drill string safety valves to fit each drill string will be maintained and available on the rig floor.

**Additional information:**

- The Fruitland Coal formation will be completed.
- Anticipated pore pressure for the Fruitland is 1000 psi.
- This gas is dedicated.
- The east half of section 33 is dedicated to this well.

Drilling Engineer:

Eric J. Giles

Date:

4/18/02

BURLINGTON RESOURCES OIL & GAS COMPANY HOWELL D POW #354

1325' FSL & 1405' FEL, SECTION 33, T31N, R8W, N.M.P.M.  
SAN JUAN COUNTY, NEW MEXICO

APD MAP #1

NO NEW CONSTRUCTION  
NWSE SECTION 33, T31N, R8W

