

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work DRILL	5. Lease Number NMSF-080511 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 Harrington 9. Well Number 4X
4. Location of Well 1440' FNL, 1410' FEL Latitude 36° 32.0, Longitude 107° 36.8	10. Field, Pool, Wildcat Basin Fruitland Coal/ So Blanco Pict Cliffs 11. Sec., Twn, Rge, Mer. (NMPM) G7 Sec. 31, T-27-N, R-7-W API # 30-039-26935
14. Distance in Miles from Nearest Town 25 miles from Blanco	12. County Rio Arriba 13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 1410'	17. Acres Assigned to Well FTC - E/320 PC - 160
16. Acres in Lease DOL'S DIS OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS"	
18. Distance from Proposed Location to Nearest Well, Drig, Compl, or Applied for on this Lease 120'	
19. Proposed Depth 3018' This action is subject to technical and procedural review pursuant to 43 CFR 3165.4 and appeal pursuant to 43 CFR 3165.4.	20. Rotary or Cable Tools Rotary
21. Elevations (DF, FT, GR, Etc.) 6636' GR	22. Approx. Date Work will Start
23. Proposed Casing and Cementing Program See Operations Plan attached	
24. Authorized by: <u>Patty Cole</u> Regulatory/Compliance Supervisor	<u>2-4-02</u> Date

PERMIT NO. 48 David J. Markiewicz

APPROVAL DATE

JUL - 1

APPROVED BY

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.

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

Form C-102
Revised August 15, 2000

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, NM 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045 26935	² Pool Code 72439 / 71629	³ Pool Name Blanco PCSouth/Basin FC
⁴ Property Code 7094	⁵ Property Name HARRINGTON	⁶ Well Number 4X
⁷ GRID No. 14538	⁸ Operator Name BURLINGTON RESOURCES OIL & GAS INC.	⁹ Elevation 6636

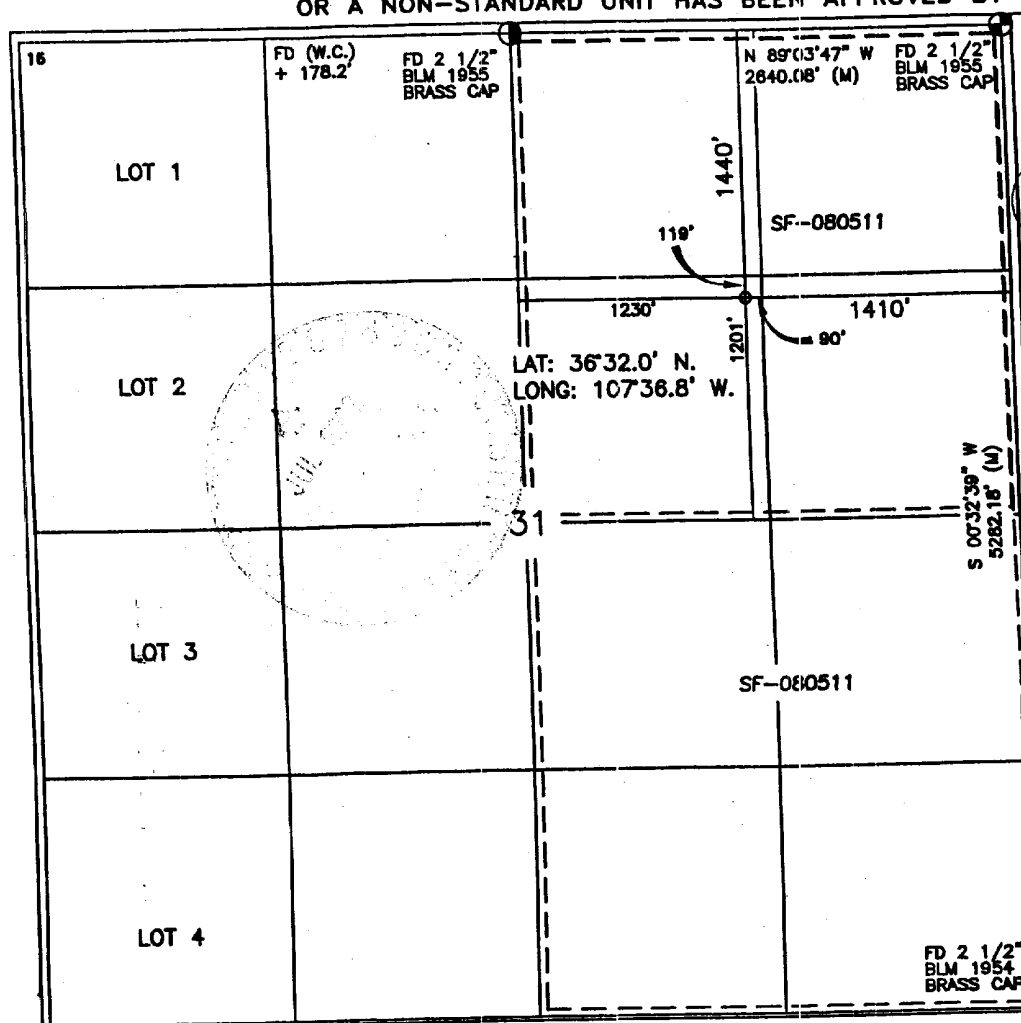
¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	31	27-N	7-W		1440	NORTH	1410	EAST	RIO ARriba

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 PC-NE/160 FC-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



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein
is true and complete to the best of my knowledge and
belief.

Peggy Cole
Signature

Peggy Cole
Printed Name

Regulatory Supervisor

Title

2-4-02
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 knowledge and belief.

[Signature]
Signature

5-31-02
Date of Survey

8894
Certificate Number

1440' FNL 1410' FEL

NO NEW BLM CONSTRUCTION

EXISTING ACCESS

WELL FLAG

CANON
6016

Heiße Gas
Wasser

Canyon

OPERATIONS PLAN

Well Name: Harrington #4X
Location: 1440' FNL, 1410' FEL, Section 31, T-27-N, R-7-W
Rio Arriba County, New Mexico
Latitude 36° 32.0, Longitude 107° 36.8
Formation: Basin Fruitland Coal/South Blanco Pictured Cliffs
Elevation: 6636' GL

Formation:	Top	Bottom	Contents
Surface	San Jose	2008'	
Ojo Alamo	2008'	2153'	aquifer
Kirtland	2153'	2398'	gas
Fruitland	2398'	2818'	gas
Pictured Cliffs	2818'		gas
Total Depth	3018'		

Logging Program:

Cased hole - Surface to TD - CBL-CCL-GR
Open hole - Platform Express - Surface to TD
Mud log - 2153 to TD

Coring Program: None

Mud Program:

Interval	Type	Weight	Vis.	Fluid Loss
0 - 200'	Spud	8.4-9.0	40-50	no control
200-3018'	FW	8.4-9.0	32-45	no control

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

Hole Size	Depth Interval	Csg. Size	Wt.	Grade
8 3/4"	0 - 200'	7"	20.0#	J-55
6 1/4"	0 - 3018'	4 1/2"	10.5#	K-55

Tubing Program:

0' -3018' 2 3/8" 4.7# J-55

Float Equipment: 7" surface casing - saw tooth guide shoe.
Centralizers will be run in accordance with Onshore Order #2.

4 1/2" production casing - float shoe on bottom. Three centralizers run every other joint above shoe. Seven centralizers run every 3rd joint to the base of the Ojo Alamo @ 2153'. Two turbolizing type centralizers - one below and one into the base of the Ojo Alamo @ 2153'. Standard centralizers thereafter every fourth joint up to the base of the surface pipe.

Wellhead Equipment: 7" x 4 1/2" x 2 3/8" 2000 psi screw on independent wellhead.

Cementing:

7" surface casing - cement with 76 sx Class B cement w/3% calcium chloride and 0.25 pps Flocele (90 cu.ft. of slurry, circulate cement to surface). WOC 8 hrs. Test casing to 600 psi for 30 minutes.

4 1/2" production casing - Lead w/232 sx Premium Lite cement w/3% calcium chloride, 1/4 pps Flocele, 5 pps LCM-1, 0.4% FL-52, 0.4% SMS. Tail w/90 sx Type III cement w/1% calcium chloride, 1/4 pps Flocele, and 0.2% FL-52 (619 cu.ft. of slurry, 100% excess to circulate to surface).

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

BOP and tests:

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

Completion - 6" 2000 psi (minimum) double gate BOP stack (Reference Figure #2). Prior to completion operations, test rams and casing to 2000 psi/15 min.

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

Pipe rams will be actuated to 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.

BOP and tests (if a coiled tubing drilling rig is utilized):

Surface to TD: 7 1/16" 2000 psi (minimum) Torus annular BOP stack (Reference Figure #1B). Prior to drilling out surface casing, test annular BOP to 600 psi/30 minutes.

Completion: 7 1/16" 2000 psi (minimum) double gate BOP stack (Reference Figure #2). Prior to completion operations, test blind rams and casing to 1500 psi/30 minutes; all pipe rams and casing to 1500 psi/30 minutes each.

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

The annular BOP will be actuated to close on drill pipe (coiled tubing) at least once each day and to close on open hole once each trip to test proper functioning.

Additional information:

- * The Fruitland Coal and Pictured Cliffs formation will be completed and commingled.
- * Anticipated pore pressure for the Fruitland Coal and Pictured Cliffs is 500 psi.
- * This gas is dedicated.
- * The east half of Section 31 is dedicated to the Fruitland Coal and the northeast quarter of Section 31 is dedicated to the Pictured Cliffs.

Eric J. Giles
Drilling Engineer

2/5/02
Date