

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-078717 Unit Reporting Number 070 FARMINGTON NM	
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 Grenier B 9. Well Number 5M	
4. Location of Well 1005' FSL, 1880' FWL Latitude 36° 45.0240'N, Longitude 107° 55.6141'W	10. Field, Pool, Wildcat Blanco MV/Basin DK 11. Sec., Twn, Rge, Mer. (NMPM) 0 Sec 6, T29N, R10W API # 30-045- 33201	
14. Distance in Miles from Nearest Town 5.8 Miles from Bloomfield	12. County San Juan	13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 1005'	17. Acres Assigned to Well 28124 5/2	
16. Acres in Lease		
18. Distance from Proposed Location to Nearest Well, Drig, Compl, or Applied for on this Lease 977'		
19. Proposed Depth 6758	20. Rotary or Cable Tools Rotary	
21. Elevations (DF, FT, GR, Etc.) 5826' Gr	22. Approx. Date Work will Start	
23. Proposed Casing and Cementing Program See Operations Plan attached		
24. Authorized by: <u>Frances Bend</u> Regulatory Specialist	6-23-05 Date	

PERMIT NO. _____ APPROVAL DATE _____
APPROVED BY Wayne Johnson TITLE Acting AFM DATE 7-22-05

Archaeological Report Attached

Threatened and Endangered Species Report Attached

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

NMOC

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

DISTRICT I
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

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

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

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, NM 87505

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

2005 JUN 24 PM 2 59 ☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-045 33201	Pool Code 72319/71599	Blanco Mesa Verde/Basin Dakota
Property Code 18532	Property Name GRENIER B	Well Number 5M
OGRIID No. 14538	Operator Name BURLINGTON RESOURCES OIL AND GAS COMPANY LP	Elevation 5826'

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
N	6	29-N	10-W		1005'	SOUTH	1880'	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
Dedicated Acres MV/DK 281.04 312.6 S/2		Joint or Infill		Consolidation Code		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

<div>16</div> <div>LOT 11</div> <div>LOT 10</div> <div>LOT 9</div> <div>LOT 8</div>				<div>17 OPERATOR CERTIFICATION</div> <div>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</div> <div><u>Frances Bond</u> Signature Frances Bond Printed Name Regulatory Specialist Title <u>3-29-05</u> Date</div>			
<div>LOT 12</div> <div>LOT 13</div> <div>LOT 14</div> <div>LOT 15</div>				<div>18 SURVEYOR CERTIFICATION</div> <div>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.</div> <div>Date of Survey <u>3-22-05</u></div> <div>Signature and Seal of Professional Surveyor: <u>Galen W. Russell</u> Certificate Number 15703</div>			
<div>6</div> <div>NM NM-03561</div> <div>LOT 19</div> <div>LOT 18</div> <div>LOT 17</div> <div>LOT 16</div> <div>LOT 20</div> <div>LOT 21</div> <div>LOT 22</div> <div>LOT 23</div> <div>N 0-24-45 E 2568.11'</div> <div>1880'</div> <div>1005'</div> <div>NMSF-078717</div> <div>LAT: 36°45.0240' N. LONG: 107°55.8141' W. NAD 1987</div>							

District I

Energy, Minerals and Natural Resources

May 27, 2004

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Ave., Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-039-
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
2. Name of Operator BURLINGTON RESOURCES OIL & GAS COMPANY LP		6. State Oil & Gas Lease No. NMSF-078717
3. Address of Operator 3401 E. 30TH STREET, FARMINGTON, NM 87402		7. Lease Name or Unit Agreement Name Grenier B
4. Well Location Unit Letter N : 1005 feet from the South line and 1880 feet from the West line. Section 6 Township 29N Range 10W NMPM County San Juan		8. Well Number 5M
11. Elevation (Show whether DR, RKB, RT, GR, etc.)		9. OGRID Number 14538
Pit or Below-grade Tank Application <input type="checkbox"/> or Closure <input type="checkbox"/>		10. Pool name or Wildcat Blanco Mesaverde/Basin Dakota
Pit type New Drill Depth to Groundwater >50' Distance from nearest fresh water well >1000' Distance from nearest surface water >1000'		
Pit Liner Thickness: 12 mil Below-Grade Tank: Volume bbls; Construction Material 		

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
OTHER: **New Drill** ☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐
OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

New Drill, Lined:

Burlington Resources proposes to construct a new drilling pit and an associated vent/flame pit. Based on Burlington's interpretation of the Ecosphere's risk ranking criteria, the new drilling pit will be a lined pit as detailed in Burlington's Revised Drilling / Workover Pit Construction / Operation Procedures dated November 11, 2004 on file at the NMOCD office. A portion of the vent/flame pit will be designed to manage fluids and that portion will be lined as per the risk ranking criteria. Burlington Resources anticipates closing these pits according to the Drilling / Workover Pit Closure Procedure dated August 2, 2004 on file at the NMOCD office.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☒ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Frances Bond TITLE Regulatory Specialist DATE 04/05/2005

Type or print name Frances Bond E-mail address: fbond@br-inc.com Telephone No. 505-326-9847

For State Use Only

APPROVED BY [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. # DATE JUL 25 2005

Conditions of Approval (if any):

GRENIER B #5M, 1005' FSL & 1880' FWL

GROUND ELEVATION: 5826', DATE: MARCH 11, 2005

2

[illegible]

21

[illegible]

2

[illegible]

NOTE: VECTOR SURVEYS IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELL PAD AND/OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

OPERATIONS PLAN

Well Name:

GRENIER B 5M

Location:

1005' FSL & 1880' FWL, Section Sec 06 T29N R10W
San Juan County, New Mexico

Formation:

Blanco Mesaverde/Basin Dakota
5826' GL

Elevation:

Formation Tops:

	<u>Top</u>	<u>Bottom</u>	<u>Contents</u>
Surface	San Jose	903'	aquifer
Ojo Alamo	903'	1018'	gas
Kirtland	1018'	1996'	gas
Fruitland Coal	1996'	2183'	gas
Pictured Cliffs	2183'	2285'	
Lewis	2285'	2813'	
Huerfanito Bentonite	2813'	3868'	gas
Chacra	3201'	3908'	gas
Massive Cliff House	3868'	4498'	gas
Menefee	3908'	4870'	gas
Massive Point Lookout	4498'	5725'	
Mancos Shale	4870'	6473'	gas
Upper Gallup	5725'	6531'	gas
Greenhorn	6473'	6594'	gas
Graneros	6531'	6649'	gas
Two Wells	6594'	6712'	gas
Paguate	6649'	6758'	gas
Cubero	6712'	6758'	gas
Encinal	6758'		
Total Depth:	6758'		

Logging Program:

Mud Logs/Coring/DST

Mud logs - none
Coring - none
DST - none
Open hole - none
Cased hole - Gamma Ray, CCL, CBL - surface to TD

Mud Program:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Vis.</u>	<u>Fluid Loss</u>
0 - 120'	Spud MUD/Air/Air Mist	8.4 - 9.0	40 - 50	no control
120 - 2385'	LSND	8.4 - 9.0	30 - 60	no control
2385 - 6758'	Air/Air Mist/Nitrogen	n/a	n/a	n/a

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#	H-40
8 3/4"	0' - 2385'	7"	20/23#	J-55
6 1/4"	0' - 6758'	4 1/2"	10.5#	J-55

Tubing Program:

<u>Depth Interval</u>	<u>Csg.Size</u>	<u>Wt.</u>	<u>Grade</u>
0' - 6758'	2 3/8"	4.7#	J-55

BOP Specifications, Wellhead and Tests:

Surface to Intermediate TD -

11" 2000 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" 2000 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, 2000 psi minimum choke manifold (Reference Figure #3).

Completion Operations -

7 1/16" 2000 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 4 1/2" x 2 3/8" x 2000 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 drill crew.
- All BOP tests & 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 -

Pre-Set Drilled - Cement with 23 sx Type I, II cement with 20% flyash mixed at 14.5 ppg, 1.61 cu ft per sack yield. (38 cu ft of slurry, bring cement to surface) Wait on cement for 24 hours for pre-set holes before pressure testing or drilling out from under surface.

Conventionally Drilled - Cement with 88 sx Type III cement with 0.25 pps Celloflake, 2% CaCl. (113 cu ft of slurry, 200% excess, bring cement to surface) Wait on cement for 8 hrs for conventionally set holes before pressure testing or drilling out from under surface. Wait on cement appropriate time until cement achieves 250 psi compressive strength at 60 degrees F. prior to nipple up of BOPE. Wait on cement for 8 hrs for conventionally set holes before pressure testing or drilling out from under surface. 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 with 191 sacks Premium Lite cement with 3% calcium chloride, 0.25 pps Celloflake, 5 pps LCM-1, 0.4% fluid loss, 0.4% sodium metasilicate. Tail w/90 sacks Type III cmt w/1% calcium chloride, 0.25 pps Celloflake, 0.2% fluid loss (532 cu ft 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 to determine TOC. Test casing to 1500 psi for 30 minutes.

7" intermediate casing alternative two stage -

Stage collar set 300' above the top of the Fruitland. First stage: Lead w/15 sacks Premium Lite cement with 3% calcium chloride, .25 pps celloflake, 5 pps LCM-1, 0.4% fluid loss. Tail w/90 Type III cmt w/1% calcium chloride, 0.25 pps Celloflake, 0.2% fluid loss. Second stage: 177 sacks Premium Lite cement with 3% calcium chloride, .25 pps celloflake, 5 pps LCM-1, 0.4% fluid loss, 0.4% sodium metasilicate (124 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 @ 1018'. Two turbolating centralizers at the base of the Ojo Alamo 1018'. 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 -

Pump 301 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 (595 cu.ft., 30% excess to achieve 100' overlap in 4-1/2" x 7" annulus). WOC a minimum of 18 hrs prior to completing.

Cementing: Continued

Cement float collar stacked on top of float shoe.

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

Cement nose guide shoe on bottom with float collar spaced on top of shoe joint. The liner hanger will have a rubber packoff.

- 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 (Air/Mist Drilling):

The following equipment will be operational while air/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.
- 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:

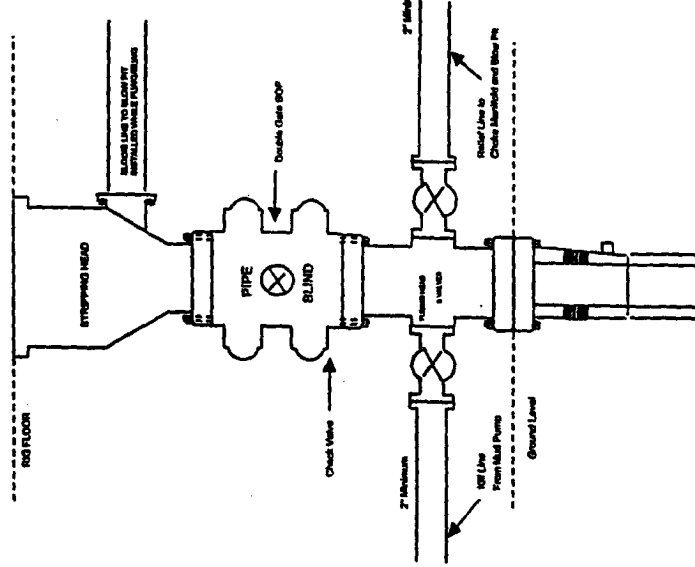
- The Mesa Verde and Dakota formations will be completed and commingled.
- No abnormal temperatures or hazards are anticipated.
- Anticipated pore pressures are as follows:

Fruitland Coal	300 psi
Pictured Cliffs	600 psi
Mesa Verde	700 psi
Dakota	2000 psi
- Sufficient LCM will be added to the mud system to maintain well control, if lost circulation is encountered below the top of the Pictured Cliffs.
- The south half of Section 6 is dedicated to the Mesa Verde and Dakota.
- This gas is dedicated.


Drilling Engineer

6/24/05
Date

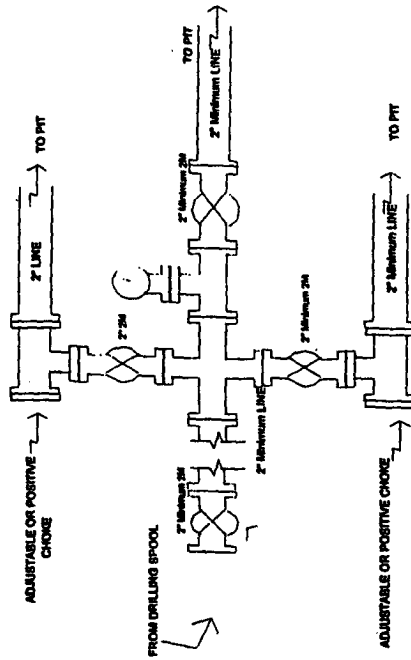
Completion/Workover Rig
BOP Configuration
2,000 psi System



Minimum BOP Installation for all Completion/Workover Operations. 7-1/16" bore, 2000 psi minimum working pressure double gate BOP to be equipped with blind and pipe rams. A stripping head to be installed on the top of the BOP. All BOP equipment is 2000 psi working pressure or greater excluding 500 psi stripping head.

Figure #2

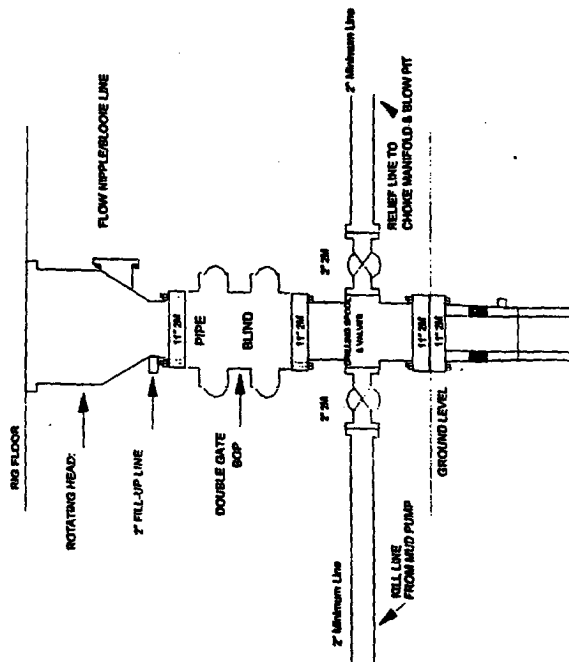
Drilling Rig
Choke Manifold Configuration
2000 psi System



Choke manifold installation from Surface Casing Point to Total Depth. 2,000psi working pressure equipment with two chokes.

Figure #3

Drilling Rig
2000 psi System



BOP Installation from Surface Casing Point to Total Depth. 11" Bore 10" Nominal. 2000 psi working pressure double gate BOP to be equipped with blind rams and pipe rams. A 500 psi rotating head on top of ram preventers. All BOP equipment is 2,000 psi working pressure

Figure #1