

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 2009 1100 3.00 NMSF-078415-A Unit Reporting Number RECEIVED	
1b. Type of Well GAS	6. If Indian, All. or Tribe	
2. Operator <b>BURLINGTON</b> RESOURCES Oil & Gas Company LP	7. Unit Agreement Name	
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499 (505) 326-9700	8. Farm or Lease Name Roelofs 9. Well Number #2E	
4. Location of Well Unit D (NWNW), 840' FNL & 660' FWL,  Lat. 36°44.6908'N Long. 107°40.0953'W	10. Field, Pool, Wildcat Basin DK  11. Sec., Twn, Rge, Mer. (NMPM) Sec. 10, T29N, R8W  API # 30-045- 33894	
14. Distance in Miles from Nearest Town 10 miles to Blanco, NM	12. County San Juan	13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 660'	17. Acres Assigned to Well 320 W/2	
16. Acres in Lease	18. Distance from Proposed Location to Nearest Well, Drig, Compl, or Applied for on this Lease 1050' Roelofs A #1A	
19. Proposed Depth 7555'	20. Rotary or Cable Tools Rotary	
21. Elevations (DF, FT, GR, Etc.) 6345' GL	22. Approx. Date Work will Start	
23. Proposed Casing and Cementing Program See Operations Plan attached		
24. Authorized by: <i>[Signature]</i> Regulatory Analyst	E-10-06 Date	

PERMIT NO. APPROVAL DATE  
APPROVED BY *[Signature]* TITLE *AFM* DATE *9/1/06*

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 well is NOT in the HPA area.

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

NMOCB

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

District I  
PO Box 1980, Hobos, 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-10  
Revised February 21, 199

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number <b>30-045- 33894</b>		2 Pool Code <b>71599 /72319</b>		3 Pool Name <b>Dakota</b>	
4 Property Code <b>29226</b>		5 Property Name <b>ROELOFS</b>			6 Well Number <b>2E</b>
7 OGRID No. <b>14538</b>		8 Operator Name <b>BURLINGTON RESOURCES OIL &amp; GAS COMPANY, LP</b>			9 Elevation <b>6345'</b>

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
D	10	29N	8W		840	NORTH	660	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
D									

12 Dedicated Acres <b>DK 320.00ac W2</b>				13 Joint or Infill		14 Consolidation Code		15 Order No.	
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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

<p>16</p>		<p>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p><i>Patsy Clugston</i></p> <p>Signature</p> <p><b>Patsy Clugston</b></p> <p>Printed Name</p> <p><b>Sr. Regulatory Specialist</b></p> <p>Title</p> <p><i>7/7/06</i></p> <p>Date</p>	
<p>18 SURVEYOR CERTIFICATION</p> <p>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.</p> <p>Date of Survey: <b>JUNE 1, 2006</b></p> <p>Signature and Seal of Professional Surveyor</p> <p></p> <p><b>JASON C. EDWARDS</b></p> <p>Certificate Number 15269</p>			

Office

District I

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

## State of New Mexico

Energy, Minerals and Natural Resources

Form C-103

May 27, 2004

## OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

WELL API NO.

30-045-

33894

5. Indicate Type of Lease

STATE ☐FEE ☐

6. State Oil &amp; Gas Lease No.

NMSF-078415-A

7. Lease Name or Unit Agreement Name

Roelofs

8. Well Number

2N 2E

9. OGRID Number

14538

10. Pool name or Wildcat

Basin Dakota

**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.)

1. Type of Well:

Oil Well ☐Gas Well ☒

Other

2. Name of Operator

BURLINGTON RESOURCES OIL &amp; GAS COMPANY LP

3. Address of Operator

3401 E. 30TH STREET, FARMINGTON, NM 87402

4. Well Location

Unit Letter D : 840 feet from the North line and 660 feet from the West line  
 Section 10 Township 29N Range 8W NMPM County San Juan

11. Elevation (Show whether DR, RKB, RT, GR, etc.)

6345'

Pit or Below-grade Tank Application

or Closure ☐

Pit type

New Drill

Depth to Groundwater

&gt;100'

Distance from nearest fresh water well

&gt;1000'

Distance from nearest surface water

&gt;1000'

Pit Liner Thickness:

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 ☐TEMPORARILY ABANDON ☐PULL OR ALTER CASING ☐PLUG AND ABANDON ☐CHANGE PLANS ☐MULTIPLE COMPL ☐

## SUBSEQUENT REPORT OF:

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

OTHER:

New Drill

☒

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, Unlined:

Burlington Resources proposes to construct a new drilling pit and an associated vent/flare pit. Based on Burlington's interpretation of the Ecosphere's risk ranking criteria, the new drilling pit and vent/flare pit will be an unlined 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/flare pit will be designed to manage fluids, and that portion will be unlined, 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

TITLE

Regulatory Analyst

DATE

7/25/2006

Type or print name

Amanda Sanchez

E-mail address:

asanchez@br-inc.com

Telephone No.

505-326-9891

For State Use Only

APPROVED BY

TITLE

DEPUTY OIL &amp; GAS INSPECTOR, DIST. 14

DATE

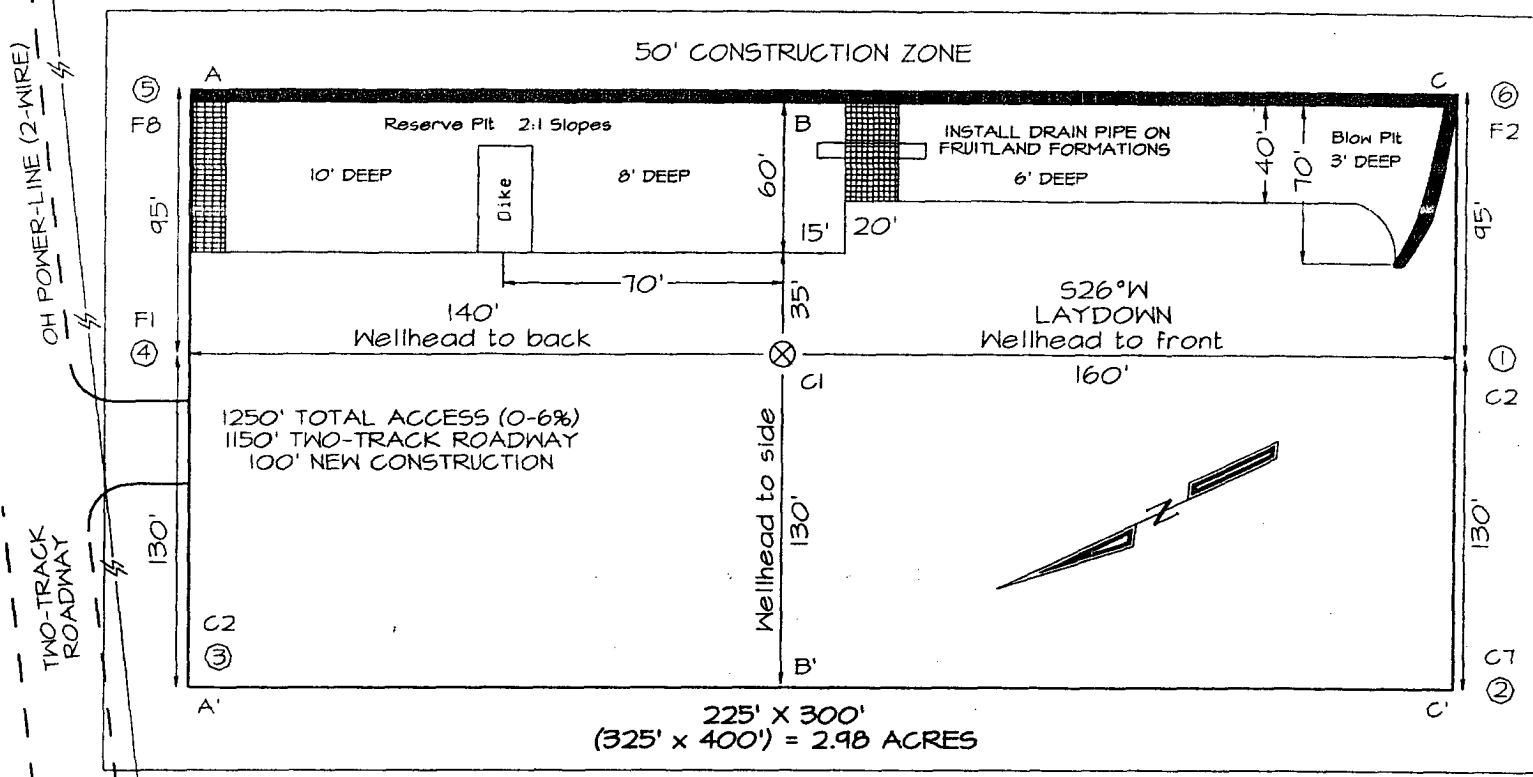
SEP 05 2006

Conditions of Approval (if any):

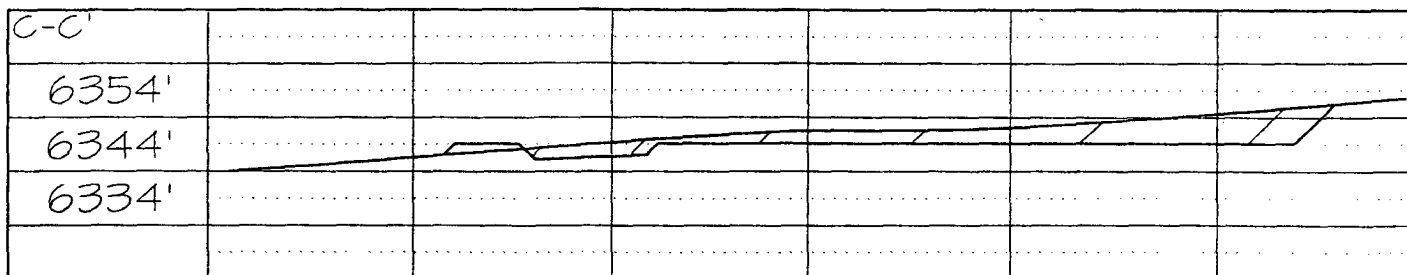
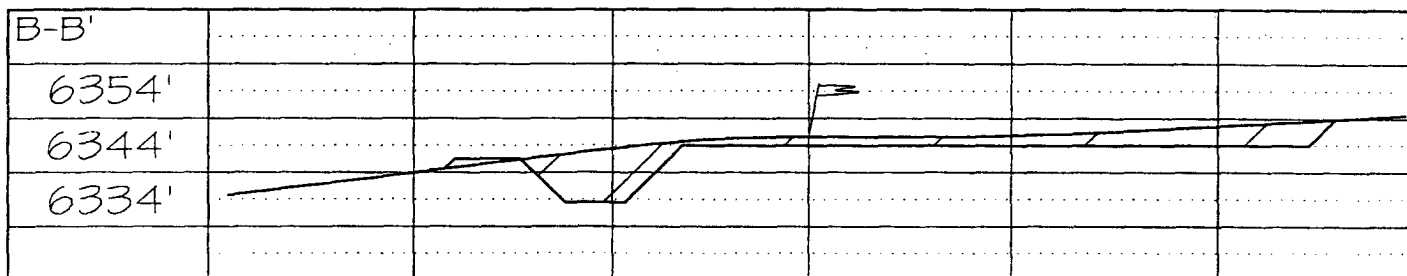
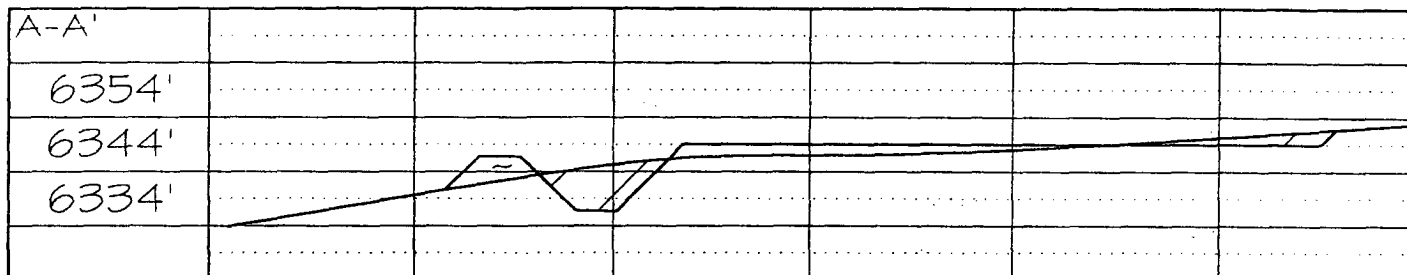
PLAT #1

**BURLINGTON RESOURCES OIL & GAS COMPANY, LP**  
**ROELOFS #2N, 840' FNL & 660' FWL**  
**SECTION 10, T29N, R8W, NMPM, SAN JUAN COUNTY, NM**  
**GROUND ELEVATION: 6345' DATE: JUNE 1, 2006**

**LATITUDE: 36.74485° N**  
**LONGITUDE: 107.66887° W**  
 DATUM: NAD1983



Reserve Pit Dike: to be 8' above Deep side (overflow - 3' wide and 1' above shallow side).  
 Blow Pit: overflow pipe halfway between top and bottom and to extend over plastic liner and into blow pit.



Note: 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: ROELOFS 2E  
Location: 840' FNL & 660' FWL, Section 10 T29N R08W  
San Juan County, New Mexico  
Formation: Dakota/Mesaverde  
Elevation: 6345' GL

<u>Formation Tops:</u>	<u>Top</u>	<u>Bottom</u>	<u>Contents</u>
Surface	San Jose	1962'	
Ojo Alamo	1962'	2147'	aquifer
Kirtland	2147'	2767'	gas
Fruitland Coal	2767'	3047'	gas
Pictured Cliffs	3047'	3177'	gas
Lewis	3177'	3679'	
Huerfanito Bentonite	3679'		
Chacra	4008'	4767'	gas
Massive Cliff House	4767'	4819'	gas
Menefee	4819'	5207'	gas
Massive Point Lookout	5207'	5604'	gas
Mancos Shale	5604'	6485'	
Upper Gallup	6485'	7230'	gas
Greenhorn	7230'	7290'	gas
Graneros	7290'	7332'	gas
Two Wells	7332'	7438'	gas
Paguate	7438'	7460'	gas
Upper Cubero	7460'	7495'	gas
Lower Cubero	7495'	7555'	gas
Encinal	7555'	7555'	gas
Total Depth:	7555'		gas

### Logging Program:

#### Mud Logs/Coring/DST

Mud logs - none  
Coring - none  
DST - none  
Open hole - none  
Cased hole - Gamma Ray, 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' - 3277'	LSND	8.4 - 9.0	30 - 60	no control
3277' - 7555'	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' - 3277'	7"	20#	J-55
6 1/4"	0' - 7555'	4 1/2"	10.5#/11.6#	J-55

**Tubing Program:**

<u>Depth Interval</u>	<u>Csg. Size</u>	<u>Wt.</u>	<u>Grade</u>
0' - 7555'	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, BOPE 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, BOPE 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 286 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 (124 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/28 sacks Premium Lite cement with 3% calcium chloride, .25 pps celloflake, 5 pps LCM-1, 0.4% fluid loss. Tail w/90 sxs Type III cmt w/1% calcium chloride, 0.25 pps Celloflake, 0.2% fluid loss. Second stage: 258 sacks Premium Lite cement with 3% calcium chloride, .25 pps celloflake, 5 pps LCM-1, 0.4% fluid loss, 0.4% sodium metasilicate (733 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 @ 2147'. Two turbolating centralizers at the base of the Ojo Alamo @ 2147'. 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 280 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 (554 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:**

- This will be a Dakota only.
- 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 West half of Section 10 is dedicated to the Dakota formation.
- This gas is dedicated.

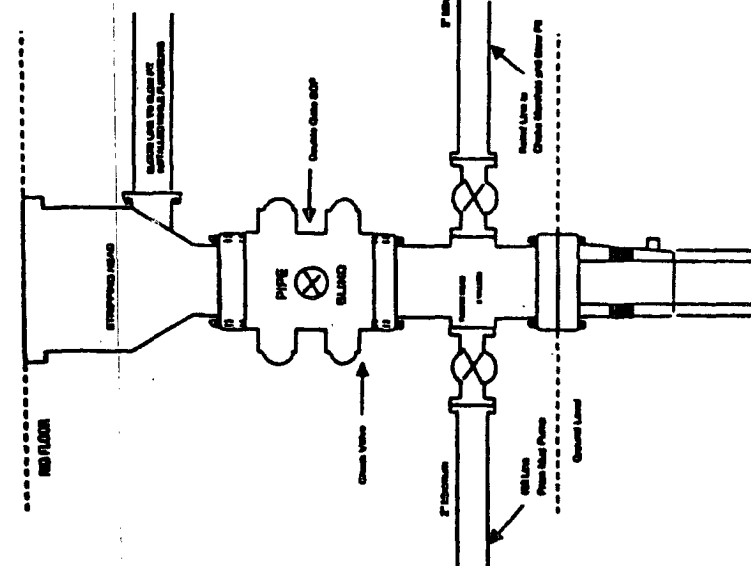
  
Drilling Engineer

7/26/06  
Date



# BURLINGTON RESOURCES

Completion/Workover Rig  
BOP Configuration  
2,000 psi System



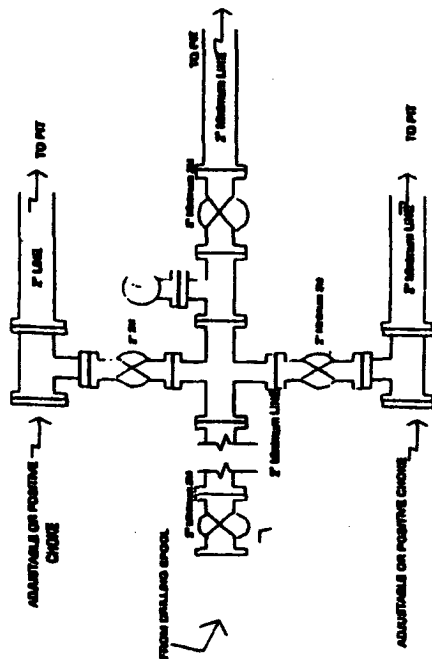
Minimum BOP installation for all Completion/Workover Operations. 7-1/16" bore, 2000 psi minimum working pressure double gate BOP to be equipped with blind and pipe rams. A stripping head to be installed on the top of the BOP. All BOP equipment is 2000 psi working pressure or greater excluding 500 psi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

Figure #2

4-20-01

# BURLINGTON RESOURCES

Drilling Rig  
Choke Manifold Configuration  
2000 psi System



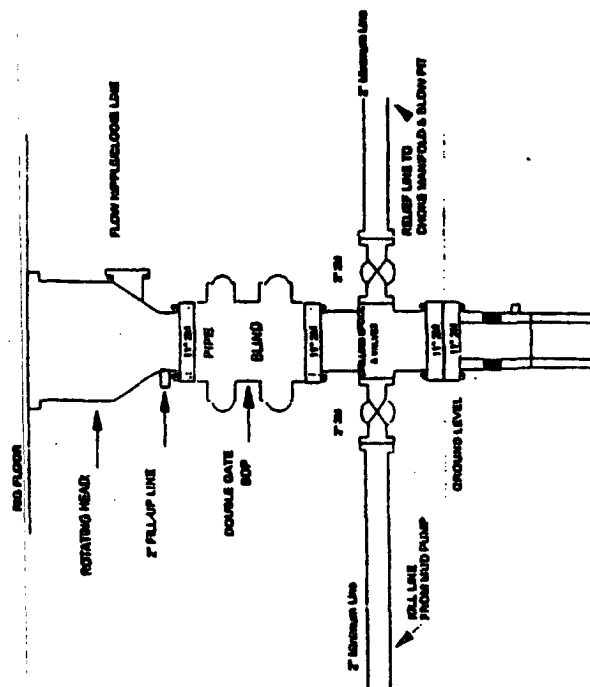
Choke manifold installation from Surface Casing Point to Total Depth. 2,000psi working pressure equipment with two chokes.

Figure #3

4-20-01

# Burlington Resources

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 preventer. All BOP equipment is 2,000 psi working pressure

Figure #1