

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

JAN 27 AM 7 56

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  
1440' FNL, 680' FEL  
Latitude 36° 48.9187'N, Longitude 107° 54.0056'W

14. Distance in Miles from Nearest Town  
5.1 miles to Aztec, NM

15. Distance from Proposed Location to Nearest Property or Lease Line  
680'

16. Acres in Lease

5. Lease Number  
SF-077764 RECEIVED  
Unit Reporting Number

6. If Indian, All. or Tribe

7. Unit Agreement Name

8. Farm or Lease Name  
Schumacher

9. Well Number  
#1B

10. Field, Pool, Wildcat  
Basin Dakota/Blanco Mesaverde

11. Sec., Twn, Rge, Mer. (NMPM)  
H Sec. 17, T30N, R10W  
API # 30-045-33552

12. County  
San Juan

13. State  
NM

17. Acres Assigned to Well  
N/2 320 - MV  
E/2 311.82 - DK

18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease  
1006'

19. Proposed Depth  
7618'

20. Rotary or Cable Tools  
Rotary

21. Elevations (DF, FT, GR, Etc.)  
6468' GR

22. Approx. Date Work will Start

23. Proposed Casing and Cementing Program  
See Operations Plan attached

24. Authorized by: Joni Clark  
Regulatory/Compliance Specialist

1/26/06  
Date

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

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  
product detail review pursuant to 43 CFR 3165.3  
and appeal pursuant to 43 CFR 3165.4

DRILLING OPERATIONS AUTHORIZED ARE  
SUBJECT TO COMPLIANCE WITH ATTACHED  
"PERMIT TO DRILL"

NMOCB



Office

Energy, Minerals and Natural Resources

May 27, 2004

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

## OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

WELL API NO.

30-045-

5. Indicate Type of Lease

STATE ☐FEE ☐

6. State Oil &amp; Gas Lease No.

SF-077764

7. Lease Name or Unit Agreement Name

Schumacher

8. Well Number

1B

9. OGRID Number

14538

10. Pool name or Wildcat

Blanco Mesaverde/Basin Dakota

SUNDY 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 H : 1440 feet from the North line and 680 feet from the East lineSection 17 Township 30N Range 10W NMPM County San Juan

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

Pit or Below-grade Tank Application

☒ or Closure ☐Pit type New Drill Depth to Groundwater >100' 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 ☐TEMPORARILY ABANDON ☐PULL OR ALTER CASING ☐PLUG AND ABANDON ☐CHANGE PLANS ☐MULTIPLE COMPL ☐

OTHER:

New Drill ☒

## SUBSEQUENT REPORT OF:

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

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 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/flare 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

TITLE

Regulatory Specialist

DATE

5/27/2005

Type or print name

Joni Clark

E-mail address:

jclark@br-inc.com

Telephone No.

505-326-9700

For State Use Only

APPROVED BY

TITLE

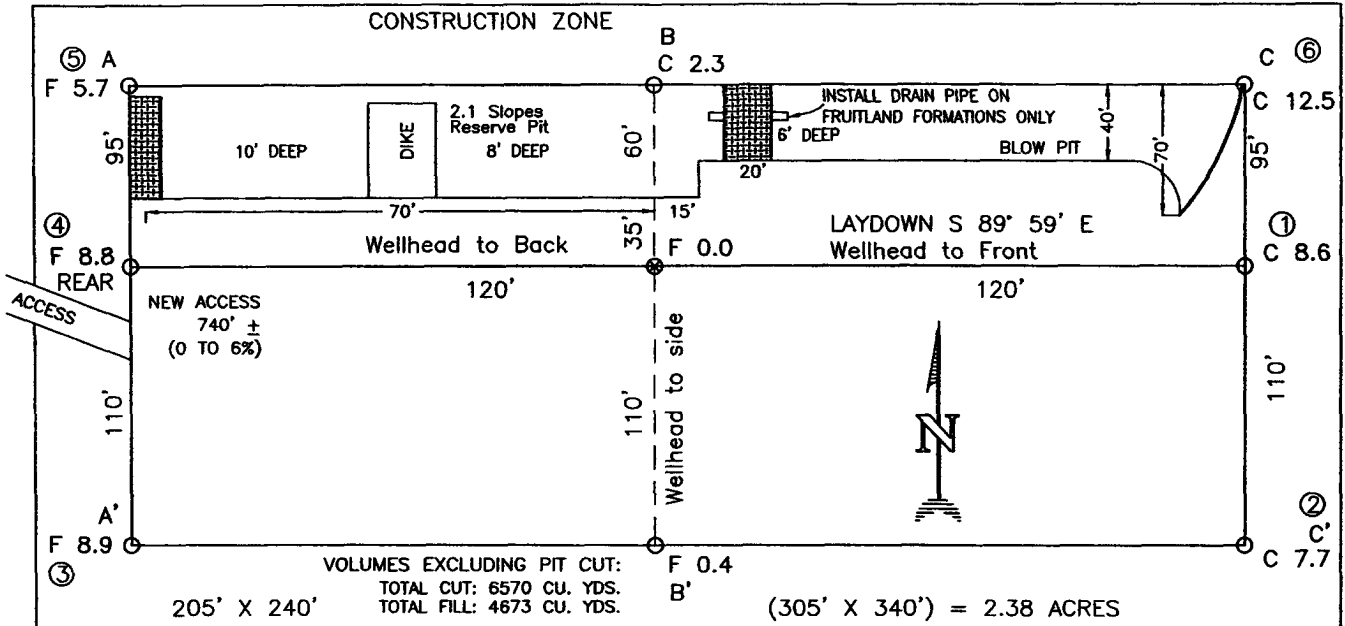
DEPUTY OIL &amp; GAS INSPECTOR, DIST. #3

DATE

FEB 17 2006

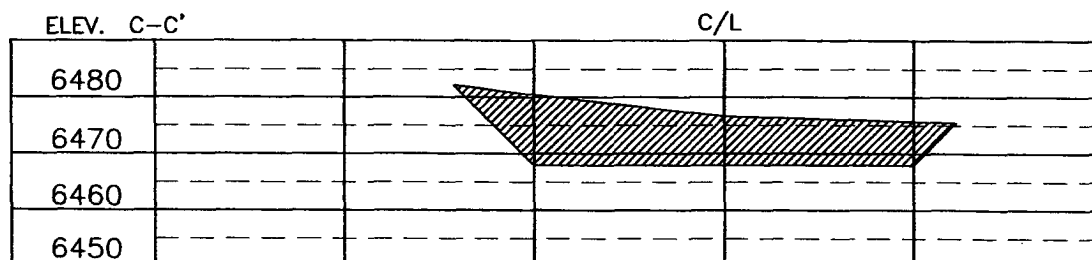
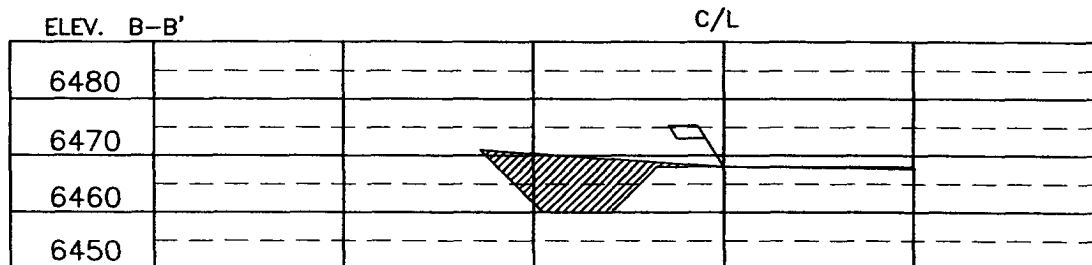
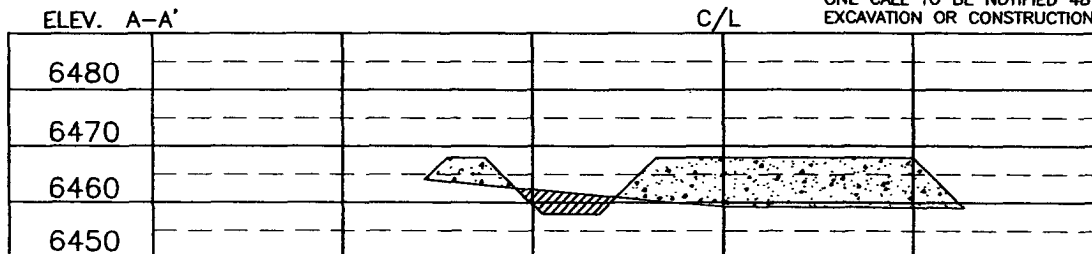
Conditions of Approval (if any):

**BURLINGTON RESOURCES OIL & GAS COMPANY LP**  
**SCHUMACHER NO. 1B, 1440 FNL 680 FEL**  
**SECTION 17, T-30-N, R-10-W, N.M.P.M., SAN JUAN COUNTY, NEW MEXICO**  
**GROUND ELEVATION: 6468, DATE: MARCH 29, 2005**



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: DAGGETT ENTERPRISES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. NEW MEXICO ONE CALL TO BE NOTIFIED 48 HOURS PRIOR TO EXCAVATION OR CONSTRUCTION.



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.

REVISION	DATE	REVISED BY
	DATE	REVISED BY

**Daggett Enterprises, Inc.**  
 Surveying and Oil Field Services  
 P. O. Box 15068 · Farmington, NM 87401  
 Phone (505) 326-1772 · Fax (505) 326-6019  
 NEW MEXICO L.S. No. 14831  
 DRAWN BY: G.V. ROWE: BR557

DATE: 4/08/05

## OPERATIONS PLAN

Well Name: SCHUMACHER 1B  
Location: 1440' FNL & 680' FEL, Section 17 T30N R10W  
San Juan County, New Mexico  
Formation: Blanco Mesaverde/Basin Dakota  
Elevation: 6468' GL

<u>Formation Tops:</u>	<u>Top</u>	<u>Bottom</u>	<u>Contents</u>
Surface	San Jose	1697'	
Ojo Alamo	1697'	1818'	aquifer
Kirtland	1818'	2832'	gas
Fruitland Coal	2832'	3058'	gas
Pictured Cliffs	3058'	3202'	gas
Lewis	3202'	3794'	
Huerfanito Bentonite	3794'		
Chacra	4087'	4657'	gas
Massive Cliff House	4657'	4840'	gas
Menefee	4840'	5354'	gas
Massive Point Lookout	5354'	5685'	gas
Mancos Shale	5685'	6580'	
Upper Gallup	6580'	7315'	gas
Greenhorn	7315'	7370'	gas
Graneros	7370'	7425'	gas
Two Wells	7425'	7508'	gas
Paguate	7508'	7559'	gas
Cubero	7559'	7618'	gas
Encinal	7618'	7618'	gas
Total Depth:	7618'		gas

### 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 - <del>120'</del> 200'	Spud MUD/Air/Air Mist	8.4 - 9.0	40 - 50	no control
120 - 3302'	LSND	8.4 - 9.0	30 - 60	no control
3302 - 7618'	Air/Air Mist/Nitrogen	n/a	n/a	n/a

C. HARRADEN/ January 30, 2006 *CH*

BURLINGTON RESOURCES/ Schumacher #1B APD

### STIPULATION/CONDITION OF APPROVAL

This well is located within a 'vulnerable area'. In order to protect the integrity of the alluvium aquifer, a minimum surface csg. depth of 200' is stipulated as a condition of approval for this APD.

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>	<u>--</u>
12 1/4"	0' - 120' 200	9 5/8"	32.3#	H-40	
8 3/4"	0' - 3302'	7"	20/23#	J-55	
6 1/4"	0' - 7618'	4 1/2"	10.5#	J-55	

Tubing Program:

<u>Depth Interval</u>	<u>Csg.Size</u>	<u>Wt.</u>	<u>Grade</u>
0' - 7618'	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. **BOP**

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. **BOP**

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 ~~88~~ <sup>148</sup> sx Type III cement with 0.25 pps Celloflake, 2% CaCl<sub>2</sub>. ~~1023~~ <sup>148</sup> 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 288 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 (738 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/23 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: 265 sacks Premium Lite cement with 3% calcium chloride, .25 pps celloflake, 5 pps LCM-1, 0.4% fluid loss, 0.4% sodium metasilicate (738 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 @ 1818'. Two turbolating centralizers at the base of the Ojo Alamo @ 1818'. 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 297 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 (364 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 north half of Section 17 is dedicated to the Mesa Verde formation and the east 311.82 acres of Section 17 is dedicated to Dakota formation.
- This gas is dedicated.

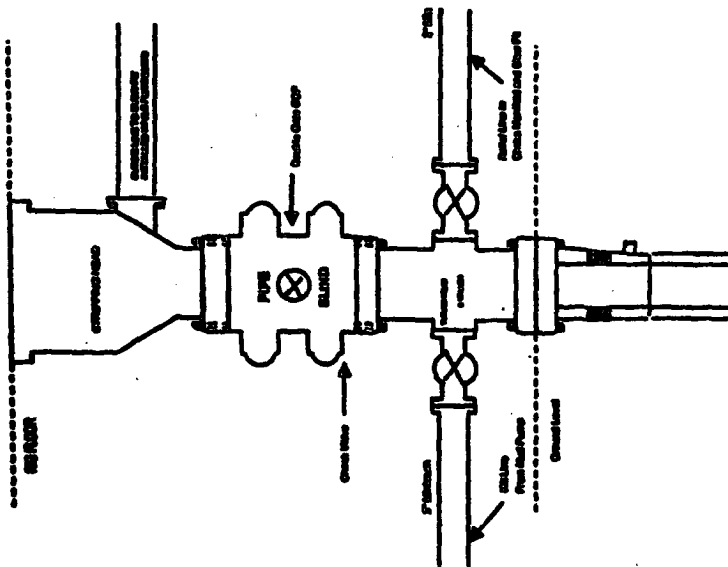
  
Drilling Engineer

6/11/05  
Date



# BURLINGTON RESOURCES

## Completion/Workover Rig BOP Configuration 2,000 psi System

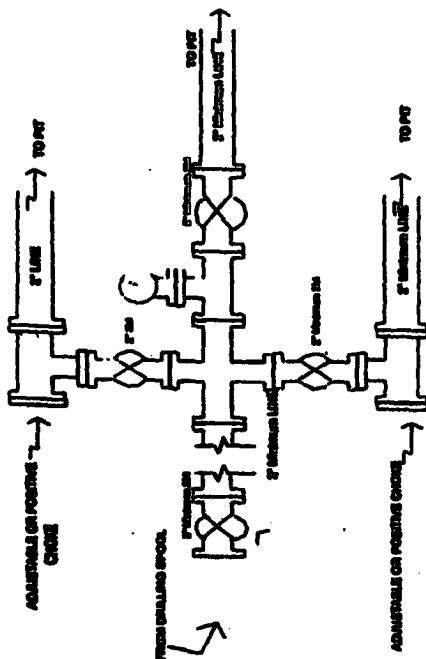


Minimum BOP installation for all Completion/Workover Operations. 7-1/16" bore, 2000 psi minimum working pressure double gate BOP to be equipped with blind and pipe rams. A stopping head to be installed on the top of the BOP. All BOP equipment is 2000 psi working pressure or greater excluding 680 psi stopping head.

Figure #2

4-20-01

## Drilling Rig Choke Manifold Configuration 2000 psi System



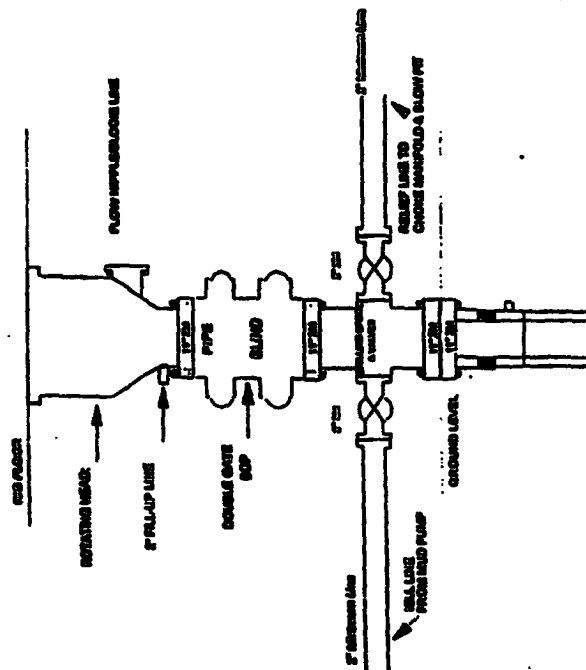
Choke manifold installation from Surface Casing Point to Total Depth. 2,000psi working pressure equipment with two chokes.

Figure #3

4-20-01

## Burlington Resources

## Drilling Rig 2000 psi System



BOP installation from Surface Casing Point to Total Depth. 11" Bore 10" Minimum, 2000 psi working pressure double gate BOP to be equipped with blind rams and pipe rams. A 1500 psi stopping head on top of ram preventer. All BOP equipment is 2,000 psi working pressure.

Figure #1