

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

2005 FEB 17 PM 1 32

RECEIVED
070 FARMINGTON NM

1a. Type of Work
DRILL

5. Lease Number
SF-076958

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
Hare

9. Well Number
#16M

4. Location of Well
1830' FNL, 915' FWL
Latitude 36° 45.3864'N, Longitude 107° 52.6364'W

10. Field, Pool, Wildcat
Blanco MV/Basin DK

11. Sec., Twn, Rge, Mer. (NMPM)
Sec. 3, T29N, R10W
API # 30-039-045-32905

14. Distance in Miles from Nearest Town
6.15 miles to Blanco, NM Post Office

12. County
San Juan

13. State
NM

15. Distance from Proposed Location to Nearest Property or Lease Line
915'

16. Acres in Lease

17. Acres Assigned to Well
296.11 N/2

18. Distance from Proposed Location to Nearest Well, Drig, Compl, or Applied for on this Lease
1200'

19. Proposed Depth
7077'

20. Rotary or Cable Tools
Rotary

21. Elevations (DF, FT, GR, Etc.)
5872' GR

22. Approx. Date Work will Start

23. Proposed Casing and Cementing Program
See Operations Plan attached

24. Authorized by: Joni Clark
Regulatory Specialist

Date 2/10/05

PERMIT NO.

APPROVAL DATE

APPROVED BY [Signature]

TITLE AFM

DATE 4-4-05

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.

NO HPA NOTIFICATION REQUIRED UNDER ORDER R-8768F.

NMOCD

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240

State of New Mexico
Minerals & Natural Resources Department

Form C-102
Revised August 15, 2000

DISTRICT II
611 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

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, NM 87505

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

2005 FEB 17 PM 1 32

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045- 32905	² Pool Code 72319/71599	³ Pool Name Blanco Mesaverde/Basin Dakota
⁴ Property Code 7091	⁵ Property Name HARE	⁶ Well Number 16M
⁷ OGED No. 14538	⁸ Operator Name BURLINGTON RESOURCES OIL AND GAS COMPANY LP	⁹ Elevation 5872'

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
E	3	29-N	10-W		1830'	NORTH	915'	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
¹² Dedicated Acres N/2 296.11 acres					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

LOT 8		LOT 7		LOT 6		LOT 5	
S 89-41-04 E 2611.34'		NM SF-076958					
S 01-41-32 W 2491.27'		LOT 10		LOT 11		LOT 12	
915'		LAT: 36°45.3864' N. LONG: 107°52.6364' W. NAD 1927					
LOT 9		3					
LOT 16		LOT 15		LOT 14		LOT 13	
LOT 17		LOT 18		LOT 19		LOT 20	

17 OPERATOR CERTIFICATION

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

Joni Clark
Signature

Joni Clark
Printed Name

Regulatory Specialist
Title

2-10-05
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 belief.

11-27-04
Date of Survey

Signature and Seal of Professional Surveyor

Glen V. Russell
Certificate Number 15703

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 <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No.	NMSF-076958
7. Lease Name or Unit Agreement Name	Hare
8. Well Number	16M
9. OGRID Number	14538
10. Pool name or Wildcat	Blanco Mesaverde/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 & GAS COMPANY LP

3. Address of Operator
3401 E. 30TH STREET, FARMINGTON, NM 87402

4. Well Location
Unit Letter **E** : **1830** feet from the **North** line and **915** feet from the **West** line
Section **3** Township **29N** 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 **< 50'** Distance from nearest fresh water well **< 1000'** Distance from nearest surface water **< 1000'**
Pit Liner Thickness: **na** mil Below-Grade Tank: **Volume** **bbbs**; 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.

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.

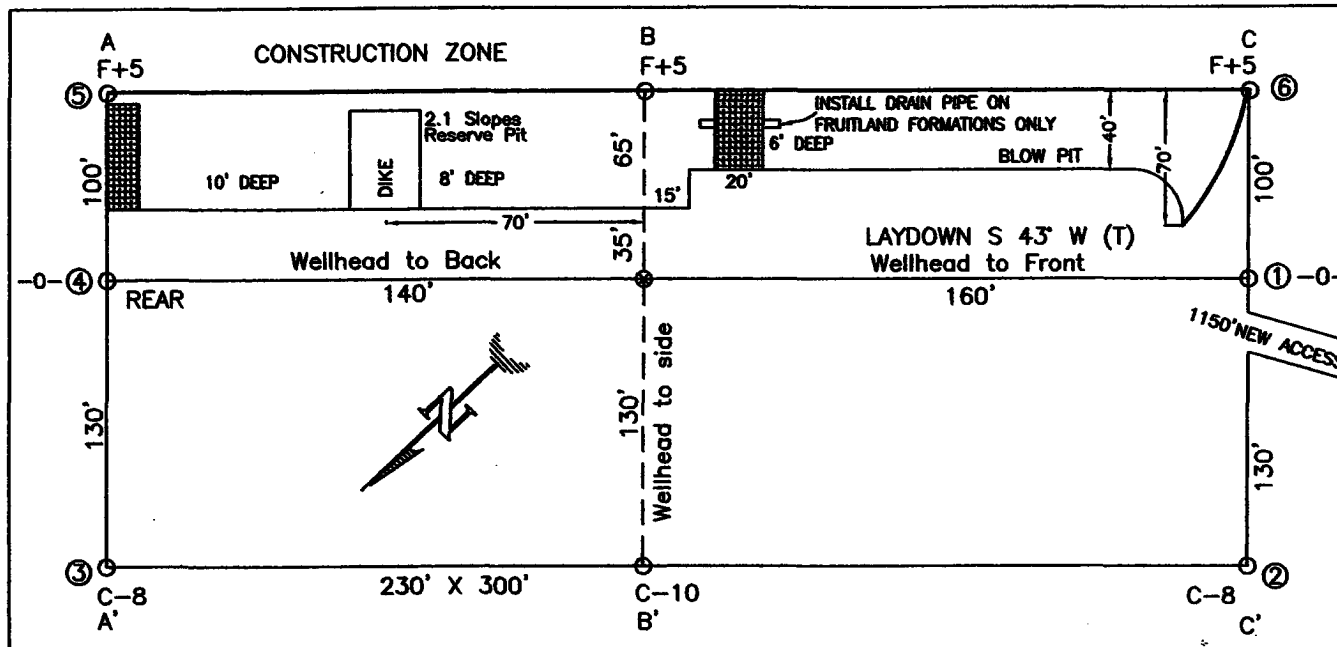
I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☒ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE *Joni Clark* TITLE **Regulatory Specialist** DATE **2/10/2005**

Type or print name **Joni Clark** E-mail address: **tjones3@br-inc.com** Telephone No. **505-326-9700**
For State Use Only

APPROVED BY *[Signature]* TITLE **DEPUTY OIL & GAS INSPECTOR, DIST. 00** DATE **APR - 8 2005**
Conditions of Approval (if any):

BURLINGTON RESOURCES OIL & GAS COMPANY LP
HARE 16M, 1830' FNL & 915' FWL
SECTION 3, T-29-N, R-10-W, NMPM, SAN JUAN COUNTY, NM
GROUND ELEVATION: 5872', DATE: NOVEMBER 2, 2004

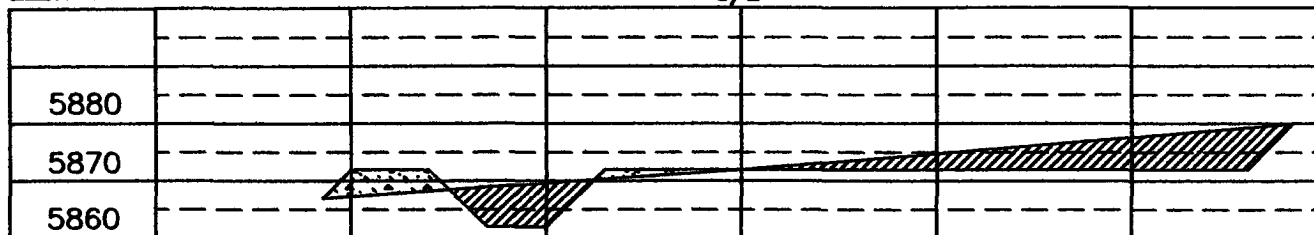


(330' X 400') = 3.03 ACRES

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.

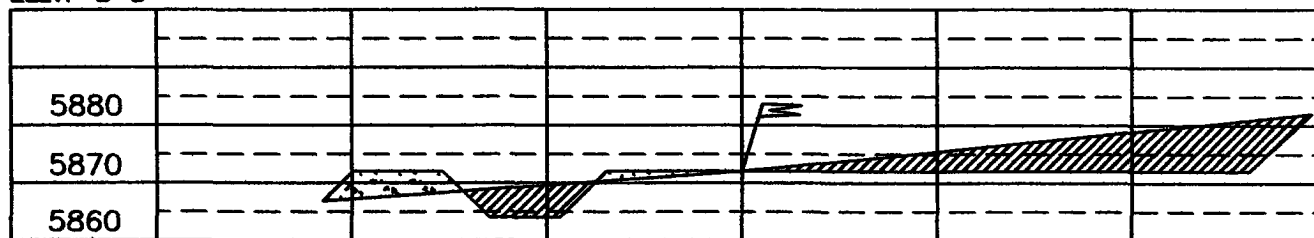
ELEV. A-A'

C/L



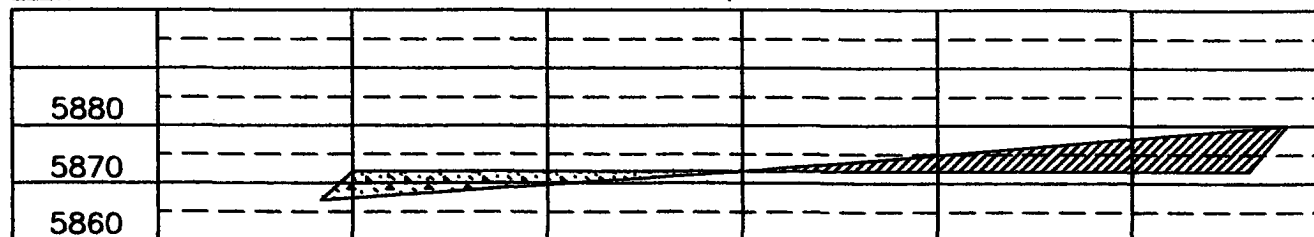
ELEV. B-B'

C/L



ELEV. C-C'

C/L



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: HARE 16M
Location: 1830' FNL & 915' FWL, Section 03 T29N R10W
San Juan County, New Mexico
Formation: Blanco Mesaverde/Basin Dakota
Elevation: 5872' GL

<u>Formation Tops:</u>	<u>Top</u>	<u>Bottom</u>	<u>Contents</u>
Surface	San Jose	1081'	
Ojo Alamo	1081'	1224'	aquifer
Kirtland	1224'	2104'	gas
Fruitland Coal	2104'	2316'	gas
Pictured Cliffs	2316'	2446'	gas
Lewis	2446'	2946'	
Huerfanito Bentonite	2946'		
Chacra	3324'	3964'	gas
Massive Cliff House	3964'	4079'	gas
Menefee	4079'	4639'	gas
Massive Point Lookout	4639'	4997'	gas
Mancos Shale	4997'	5829'	
Upper Gallup	5829'	6559'	gas
Greenhorn	6559'	6614'	gas
Graneros	6614'	6676'	gas
Two Wells	6676'	6738'	gas
Paguate	6738'	6792'	gas
Cubero	6792'	6847'	gas
Encinal	6847'	6937'	gas
Burro Canyon	6937'	7037'	gas
Morrison	7037'	6917'	gas
Topset TD:	6917'	7077'	gas
Total Depth:	7077'		

Logging Program:

Mud Logs/Coring/DST

Mud logs - From 6360' to 6917' and from 6917' to final TD in Morrison.
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 - 120 200	Spud MUD/Air/Air Mist	8.4 - 9.0	40 - 50	no control
120 - 4229'	LSND	8.4 - 9.0	30 - 60	no control
4229 - 7077'	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' 200	9 5/8"	32.3#	H-40
8 3/4"	0' - 4229'	7"	20/23#	J-55
6 1/4"	0' - 6917'	4 1/2"	10.5#	J-55
3 7/8"	6917' - 7077'	open hole		

Tubing Program:

<u>Depth Interval</u>	<u>Csg. Size</u>	<u>Wt.</u>	<u>Grade</u>
0' - 6917'	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 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 388 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 (953 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/198 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: 191 sacks Premium Lite cement with 3% calcium chloride, .25 pps celloflake, 5 pps LCM-1, 0.4% fluid loss, 0.4% sodium metasilicate (953 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 fourth joint off bottom, to the base of the Ojo Alamo @ 1224'. Two turbolating centralizers at the base of the Ojo Alamo 1224'. 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 188 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 (372 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):

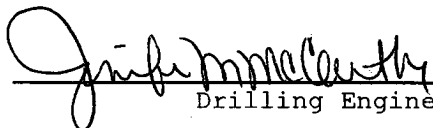
The following equipment will be operational while air/mist drilling:

- 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:

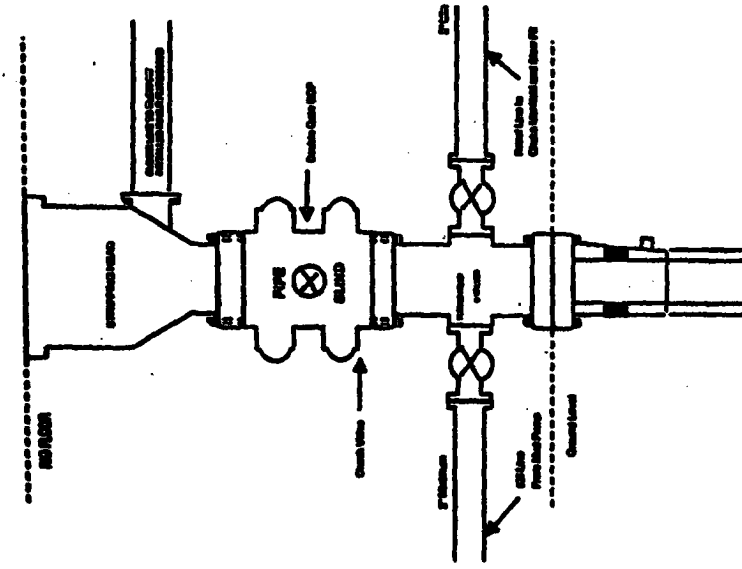
Fruitland Coal	300 psi
Pictured Cliffs	600 psi
Mesa Verde	700 psi
Dakota	2000 psi
- Sufficient LCM will be added to the mud system to maintain well control, if lost circulation is encountered below the top of the Pictured Cliffs.
- The north half of Section 3 is dedicated to the Mesa Verde and Dakota.
- This gas is dedicated.


Drilling Engineer

2-15-05
Date

BURLINGTON RESOURCES

Completion/Workover Rig BOP Configuration 2,000 psi System

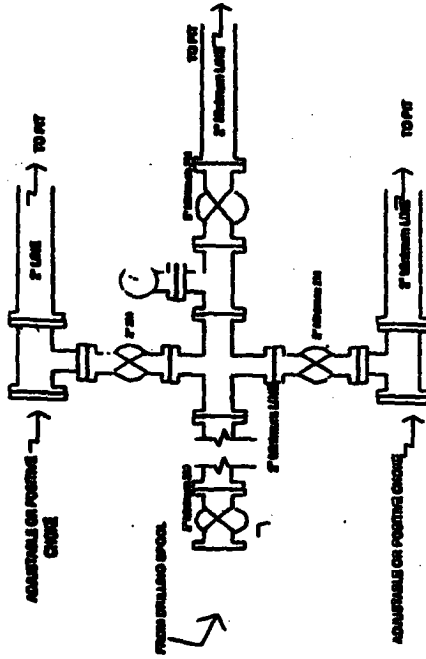


Minimum BOP installation for all Completion/Workover Operations. 7-1/4" bore, 2000 psi minimum working pressure double gate BOP to be equipped with blind and pipe rams. A stopping head to be installed on the top of the BOP. All BOP equipment is 2000 psi working pressure or greater excluding 850 psi stopping head.

Figure #2

4-20-01

Drilling Rig Choke Manifold Configuration 2000 psi System



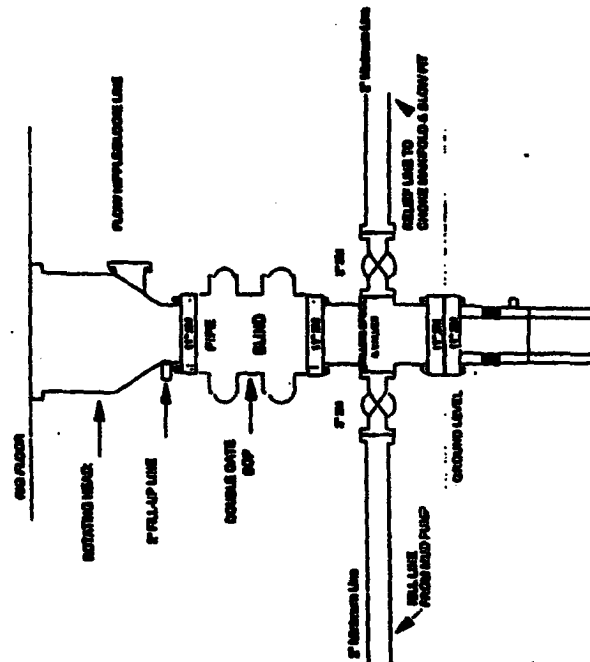
Choke manifold installation from Surface Casing Point to Total Depth. 2,000psi working pressure equipment with two check valves.

Figure #3

4-20-01

Burlington Resources

Drilling Rig 2000 psi System



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

Figure #4