

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

2003 JUN 30 PM 4 25

1a. Type of Work DRILL	5. Lease Number SF-078388	
1b. Type of Well GAS	Unit Reporting Number NMANM-078394B	
2. Operator <b>BURLINGTON RESOURCES</b> Oil & Gas Company LP	6. If Indian, All. or Tribe	
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499  (505) 326-9700	7. Unit Agreement Name  Huerfanito Unit	
4. Location of Well 1300' FNL, 2180' FEL  Latitude 36° 30.3772'N, Longitude 107° 45.4028'W	8. Farm or Lease Name Huerfanito Unit 9. Well Number 81F	
10. Field, Pool, Wildcat Basin Dakota	11. Sec., Twn, Rge, Mer. (NMPM) Sec 11, T26N, R9W API # 30-045-33567	
14. Distance in Miles from Nearest Town 16 miles to Bloomfield	12. County San Juan	13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 1300'	17. Acres Assigned to Well 320 N/2	
18. Distance from Proposed Location to Nearest Well, Drig, Compl, or Applied for on this Lease 52'	20. Rotary or Cable Tools Rotary	
19. Proposed Depth 6535'	22. Approx. Date Work will Start	
21. Elevations (DF, FT, GR, Etc.) 6194' GR, 6206' KB		
23. Proposed Casing and Cementing Program See Operations Plan attached		
24. Authorized by: <u>Frances Bond</u> Regulatory Specialist	Date <u>1-30-06</u>	

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 procedural review pursuant to 43 CFR 3165.3  
and 43 CFR 3165.4  
DRILLING OPERATIONS AUTHORIZED  
SUBJECT TO COMPLIANCE WITH ATTACHED  
"GENERAL REQUIREMENTS".

NMOCB  
8

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

DISTRICT II  
1301 W. Grand Ave., Artesia, N.M. 88210

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

DISTRICT IV  
1220 South St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

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

Form C-102

Revised June 10, 2003

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

RECEIVED

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-045 - 33567	<sup>2</sup> Pool Code 71599	<sup>3</sup> Pool Name Basin Dakota
<sup>4</sup> Property Code 7138	<sup>5</sup> Property Name HUERFANITO UNIT	<sup>6</sup> Well Number 81F
<sup>7</sup> OGRID No. 14538	<sup>8</sup> Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY LP	<sup>9</sup> Elevation 6194'

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	11	26-N	9-W		1300	NORTH	2180	EAST	SAN JUAN

<sup>11</sup> 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
<sup>12</sup> Dedicated Acres 320 N/2					<sup>13</sup> Joint or Infill		<sup>14</sup> Consolidation Code		<sup>15</sup> 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

<sup>16</sup> FD. 2 1/2" BC 1947 G.L.O. USA SF-078388 1300' N 89-29-12 W 2597.80' (M) FD. 2 1/2" BC 1947 G.L.O. 2180' S 00-02-55 E 2637.67' (M)	LAT. 36°30.3772' N. (NAD 27) LONG. 107°45.4028 W. (NAD 27)	<sup>17</sup> OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.  Frances Bond Signature  Frances Bond Printed Name Regulatory Specialist Title November 11, 2005 Date
		<sup>18</sup> 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.  OCT 26 2005 Date of Survey Signature and Seal of Professional Surveyor: JOHN A. VUKONICH REGISTERED PROFESSIONAL SURVEYOR NEW MEXICO 74831 Certificate Number

## State of New Mexico

Energy, Minerals and Natural Resources

## OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

Form C-103

May 27, 2004

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b> (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. 30-045- <b>33567</b>
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-078388
3. Address of Operator 3401 E. 30TH STREET, FARMINGTON, NM 87402		7. Lease Name or Unit Agreement Name Huerfanito Unit
4. Well Location Unit Letter <b>B</b> : <b>1300</b> feet from the <b>North</b> line and <b>2180</b> feet from the <b>East</b> line Section <b>11</b> Township <b>26N</b> Rng <b>9W</b> NMPM County <b>San Juan</b>		8. Well Number #81F
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 6194'		9. OGRID Number 14538
Pit or Below-grade Tank Application <input type="checkbox"/> or Closure <input type="checkbox"/>		10. Pool name or Wildcat Basin Dakota
Pit type <b>New Drill</b> Depth to Groundwater <b>&lt;50'</b> Distance from nearest fresh water well <b>&gt;1000'</b> Distance from nearest surface water <b>&lt;200'</b> Pit Liner Thickness: <b>12</b> mil Below-Grade Tank: Volume <b>bbbs</b> ; 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/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.

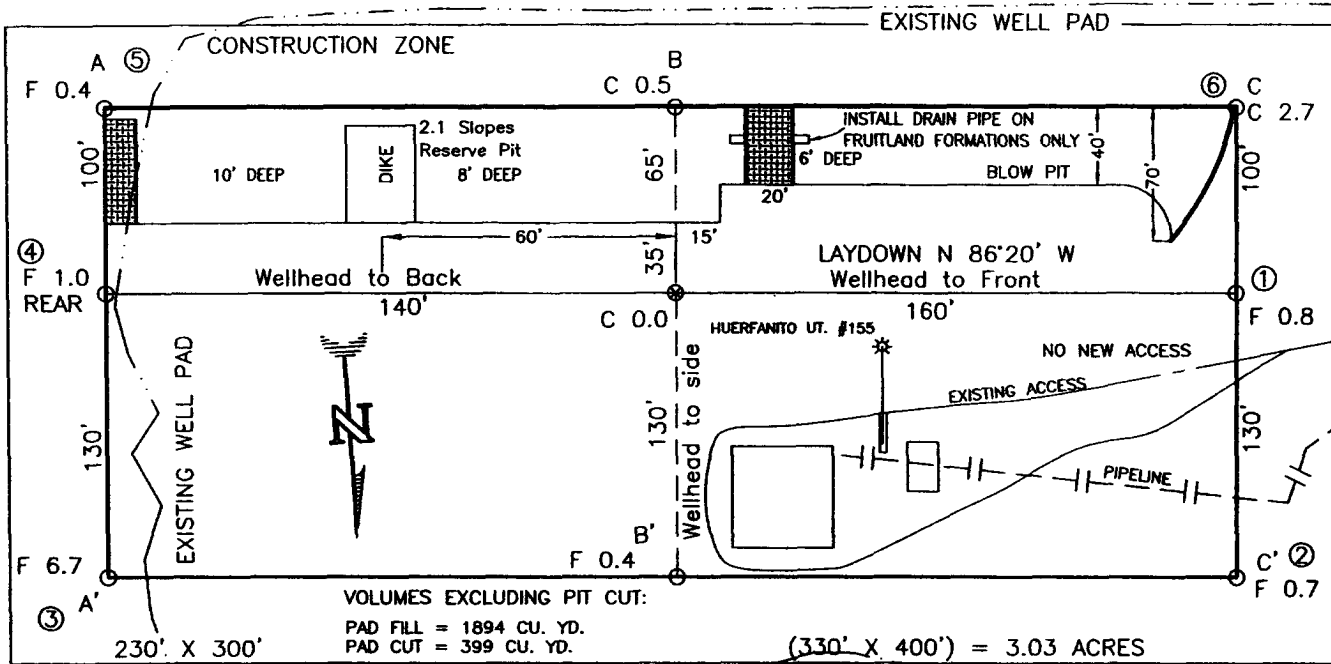
I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☒ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Amanda Sandoval TITLE Regulatory Assistant II DATE 1/17/2006

Type or print name Amanda Sandoval E-mail address: asandoval@br-inc.com Telephone No. 505-326-9891  
**For State Use Only**

APPROVED BY [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 40 DATE MAR 01 2006  
 Conditions of Approval (if any):

**BURLINGTON RESOURCES OIL & GAS COMPANY LP**  
**HUERFANITO UNIT No.81F, 1300 FNL 2180 FEL**  
**SECTION 11, T-26-N, R-9-W, N.M.P.M., SAN JUAN COUNTY, NEW MEXICO**  
**GROUND ELEVATION: 6194, DATE: OCTOBER 26, 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.

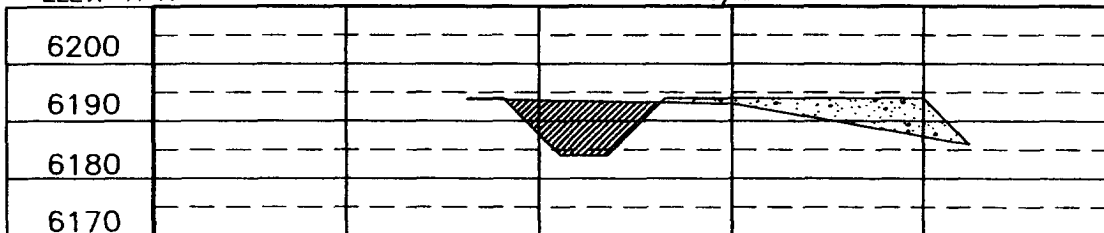
NOTE: - ESTIMATED VOLUMES CALCULATED BY AVERAGE END AREA AT CROSS-SECTION SHOWN

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.

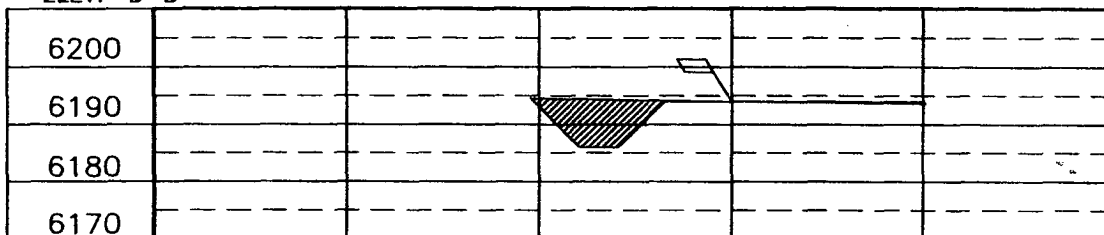
ELEV. A-A'

C/L



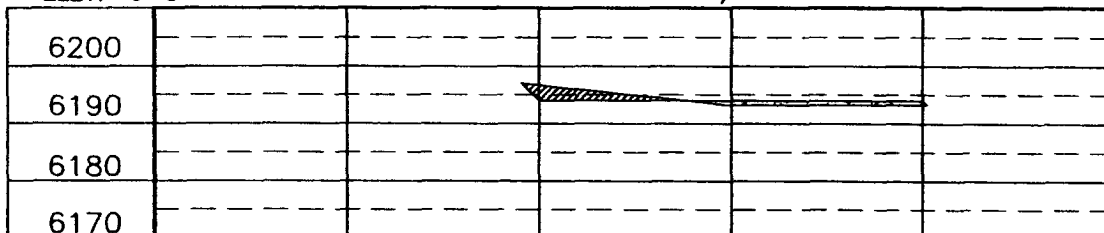
ELEV. B-B'

C/L



ELEV. C-C'

C/L



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:	REVISION BY:	DATE:
<b>Daggett Enterprises, Inc.</b> Surveying and Oil Field Services P. O. Box 15068 • Farmington, NM 87401 Phone (505) 326-1772 • Fax (505) 326-6019 NEW MEXICO P.L.S. No. 14831 CDRFILE: BR555CF8 DATE: 11/03/05			
DRAWN BY: B.L. ROWF: BR555			

## OPERATIONS PLAN

**Well Name:** HUERFANITO UNIT 81F  
**Location:** 1300' FNL & 2180' FEL, Section Sec 11 T26N R09W  
San Juan County, New Mexico  
**Formation:** Basin Dakota  
**Elevation:** 6194' GL

<b><u>Formation Tops:</u></b>	<b><u>Top</u></b>	<b><u>Bottom</u></b>	<b><u>Contents</u></b>
Surface	San Jose	1159'	
Ojo Alamo	1159'	1215'	aquifer
Kirtland	1215'	1738'	gas
Fruitland Coal	1738'	1906'	gas
Pictured Cliffs	1906'	2070'	gas
Lewis	2070'	2359'	
Huerfanito Bentonite	2359'		
Chacra	2796'	3473'	gas
Massive Cliff House	3473'	3563'	gas
Menefee	3563'	4243'	gas
Massive Point Lookout	4243'	4553'	gas
Mancos Shale	4553'	5378'	
Upper Gallup	5378'	6218'	gas
Greenhorn	6218'	6270'	gas
Graneros	6270'	6295'	gas
Two Wells	6295'	6388'	gas
Paguate	6388'	6455'	gas
Cubero	6455'	6535'	gas
Encinal	6535'	6535'	gas
Total Depth:	6535'		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:**

<b><u>Interval</u></b>	<b><u>Type</u></b>	<b><u>Weight</u></b>	<b><u>Vis.</u></b>	<b><u>Fluid Loss</u></b>
0 - 200'	Spud MUD/Air/Air Mist	8.4 - 9.0	40 - 50	no control
200- 2171'	LSND	8.4 - 9.0	30 - 60	no control
2171 - 6535'	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' - 200'	9 5/8"	32.3#	H-40
8 3/4"	0' - 2171'	7"	20/23#	J-55
6 1/4"	0' - 6535'	4 1/2"	10.5#	J-55

**Tubing Program:**

<u>Depth Interval</u>	<u>Csg.Size</u>	<u>Wt</u>	<u>Grade</u>
0' - 6535'	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. 1013 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 169 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/19 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: 318 sacks Premium Lite cement with 3% calcium chloride, .25 pps celloflake, 5 pps LCM-1, 0.4% fluid loss, 0.4% sodium metasilicate (149 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 @ 1215'. Two turbolating centralizers at the base of the Ojo Alamo @ 1215'. 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 286 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 (566 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):**

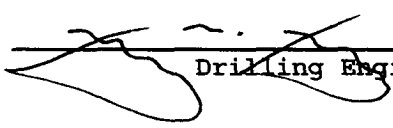
The following equipment will be operational while air/mist drilling:

- 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 Dakota formation will be completed.
- 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 11 is dedicated to the Dakota formation
- This gas is dedicated.

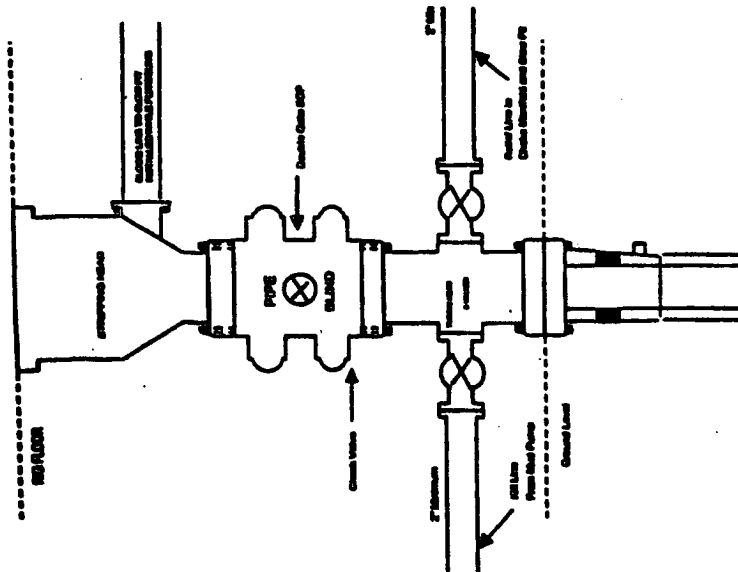
  
Drilling Engineer

12/1/05  
Date



# BURLINGTON RESOURCES

Completion/Workover Rig  
BOP Configuration  
2,000 psi System



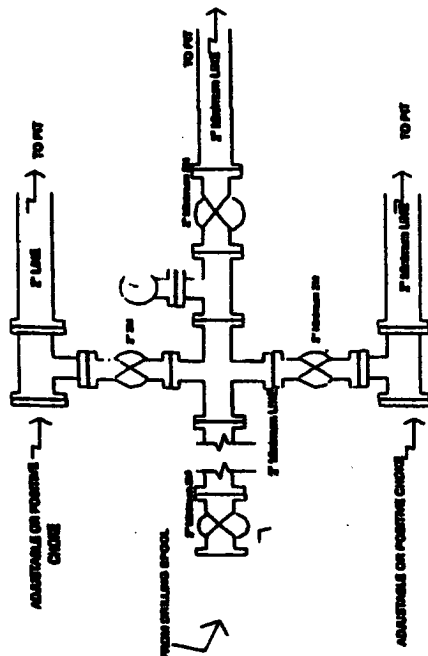
Minimum BOP Installation for all Completion/Workover Operations. 7-1/16" bore, 2000 psi minimum working pressure double gate BOP to be equipped with blind and pipe rams. A stripping head to be installed on the top of the BOP. All BOP equipment is 2000 psi working pressure or greater excluding 500 psi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

Figure #2

4-20-01

# BURLINGTON RESOURCES

Drilling Rig  
Choke Manifold Configuration  
2000 psi System



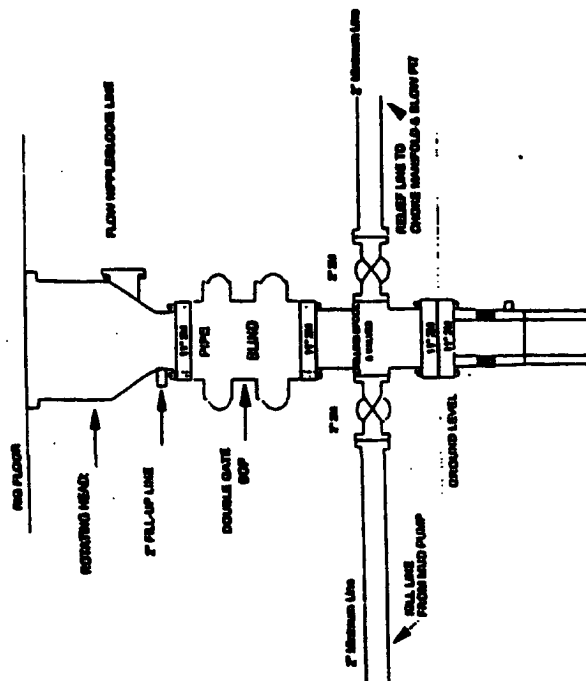
Choke manifold installation from Surface Casing Point to Total Depth. 2,000psi working pressure equipment with two chokes.

Figure #3

4-20-01

# Burlington Resources

Drilling Rig  
2000 psi System



BOP Installation from Surface Casing Point to Total Depth. 11\"/>

Figure #1