

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

2005 MAR 4 PM 4 15

1a. Type of Work DRILL	5. Lease Number NMNM-111921 Unit Reporting Number MV-8910010510 DK-891001051B
1b. Type of Well GAS	6. If Indian, All. or Tribe
2. Operator <b>BURLINGTON</b> 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 Negro Canyon 9. Well Number #103
4. Location of Well 1445' FNL, 150' FEL <i>Sec 2</i> surface 1875' FSL, 710' FWL <i>Sec 1</i> bottom hole  Surface-Latitude 36°55.7294'N, Longitude 107°38.1468' W Bottom Hole-Lat. 36°55.4152'N, Longitude 107°37.9858' W	10. Field, Pool, Wildcat Basin Fruitland Coal  11. Sec., Twn, Rge, Mer. (NMPM) W H Sec. <i>2</i> , T31N, R08W API # 30-045- <i>32938</i>
14. Distance in Miles from Nearest Town 30.2 miles to Blanco, NM Post Office	12. County San Juan 13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 150'	
16. Acres in Lease	17. Acres Assigned to Well 302.49 S/2 <i>Sec 1</i>
18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease 2179'	
19. Proposed Depth 3718'	20. Rotary or Cable Tools Rotary
21. Elevations (DF, FT, GR, Etc.) 6938' GR	22. Approx. Date Work will Start
23. Proposed Casing and Cementing Program See Operations Plan attached	
24. Authorized by: <i>Joni Clark</i> Senior Regulatory Specialist	<i>3-4-05</i> 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.

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

DISTRICT II  
811 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

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102  
Revised August 15, 2000

OIL CONSERVATION DIVISION

2040 South Pacheco  
Santa Fe, NM 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045-32938		*Pool Code 71629	*Pool Name Basin Fruitland Coal
*Property Code 34287	*Property Name NEGRO CANYON		*Well Number 103
*OGRIID No. 14538	*Operator Name BURLINGTON RESOURCES OIL AND GAS COMPANY LP		*Elevation 6938'

<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
H	2	31-N	8-W		1445'	NORTH	150'	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
L	1	31-N	8-W		1875'	SOUTH	710'	WEST	SAN JUAN
Dedicated Acres S/2 302.49 acres			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

17 OPERATOR CERTIFICATION

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

Signature Joni Clark

Printed Name Joni Clark

Title Regulatory Specialist

Date 2-1-05

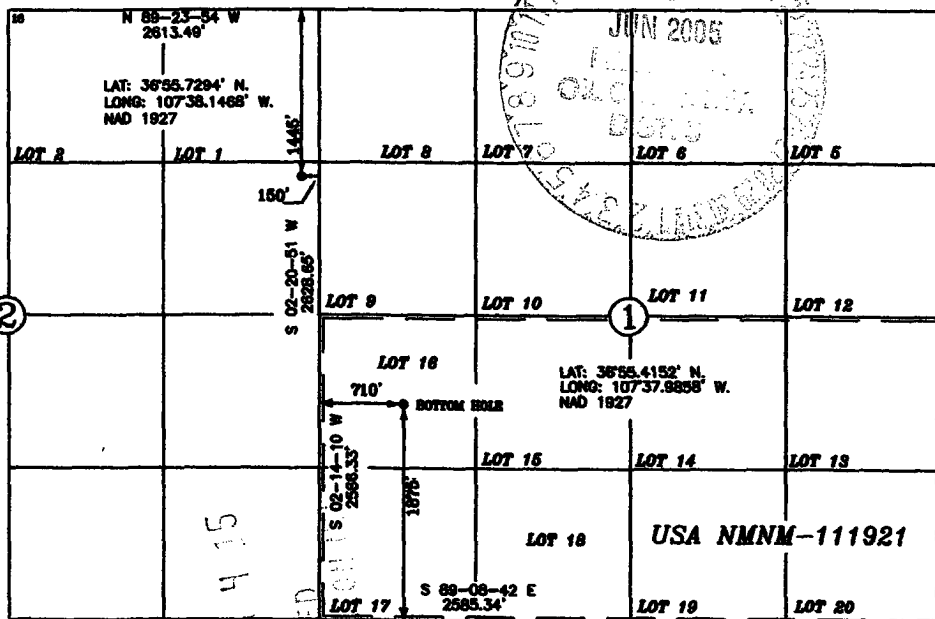
18 SURVEYOR CERTIFICATION

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.

Date of Survey 1-31-05

Signature and Seal of Licensed Professional Surveyor

Certificate Number 15703



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.)

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 H : 1445 feet from the North line and 150 feet from the East line  
Section 2 Township 31N Range 8W NMPM County San Juan, NM

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: 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 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 Joni Clark TITLE Regulatory Specialist DATE 2/4/2005

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

APPROVED BY [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 03 DATE JUN 17 2005

Conditions of Approval (if any):

Site plan of the Negro Canyon Wellhead and Blow Pit area. The plan shows a 300' x 425' rectangular area. Key features include:

- CONSTRUCTION ZONE** at the top right.
- Limited Construction Zone Due to Section 2 Boundary** at the top left.
- 2.1 Slopes Reserve Pit 8' DEEP** and a **10' DEEP** pit.
- DIKE** between the pits.
- BLOW PIT 6' DEEP** on the right side.
- WELLHEAD TO BACK** and **WELLHEAD TO FRONT** on the left side.
- LAYDOWN S 05° W** on the right side.
- NEGRO CANYON 1035** and **NEGRO CANYON 1025** on the right side.
- TWO TRACK ROAD** running diagonally from the bottom left towards the center.
- 1150' NEW ACCESS** on the left side.
- Survey points labeled **A, B, C, F+3, F+4, F+7, F+21, A', B', C', and F+3**.
- A **North Arrow** pointing towards the top right.
- Dimensions are given in feet throughout the plan.

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. C-C'					
6950					
6940					
6930					
6920					

WELL PAD SKETCH  
NOT TO SCALE

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: Negro Canyon #103

Location: Surface - 1445' FSL, 150' FEL, Section 2, T-31-N, R-8-W  
Bottom Hole - 1875' FSL, 710' FWL, Section 1, T-31-N, R-8-W  
San Juan County, New Mexico

Surface - Latitude 36° 56.7294'N, Longitude 107° 38.1468'W

Bottom Hole - Latitude 36° 55.4152'N, Longitude 107° 37.9858'W

Formation: Basin Fruitland Coal

Elevation: 6938' GL

<u>Formation Tops:</u>	<u>TVD</u>	<u>TMD</u>	<u>TVD</u> <u>Bottom</u>	<u>Contents</u>
Surface		San Jose	2657'	
Ojo Alamo	2657'	3206'	2747'	aquifer
Kirtland	2747'	3321'	3322'	gas
Fruitland	3322'	3982'	3522'	
Intermediate TD	<b>3482'</b>	<b>4178'</b>		
T/Coal	3522'	4182'	3832'	
B/Coal	3832'	4492'	3833'	
Pictured Cliffs	3833'	4493'		gas
TD	<b>3869'</b>	<b>4577'</b>		

### **Burlington Resources requests a sump on this well**

#### Logging Program:

Mudlog from 7" csg to 3729' (TVD).

#### Mud Program:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Vis</u>	<u>Fluid Loss</u>
0-200'	Spud Mud	8.4-9.0	40-50	no control
200'- 3482'	LSND	8.4-9.0	30-60	less than 12
3482'- 3869'	Air/Mist			

#### Drilling:

##### Surface Hole:

Drill to surface casing point of 200' and set 9 5/8" casing.

##### Intermediate Hole:

Mud drill to kick off point of 250'. At this point the well will be directionally drilled by building 5.0 degrees per 100' with an azimuth of 157.64 degrees. The end of the build will be at a TVD of 1001', a TMD of 1069', and an angle of 40.94 degrees. This angle and azimuth will be held to a total depth of 3359' TVD and 2731' TMD. To enter the productive interval vertical, the well will be dropped 5.0 degrees per 100'. The well will be vertical at 7" casing point of 3482' TVD and 4178' TMD.

##### Production Hole:

Production hole will be drilled vertical from 3482' TVD to 3869' TVD.

#### Materials:

##### Casing program: (as listed, the equivalent, or better)

<u>Hole Size</u>	<u>Interval</u>	<u>Size</u>	<u>Weight</u>	<u>Grade</u>
	TOP	Bottom (TVD)		
12 1/4"	0'	200'	9 5/8"	32.3#
8 3/4"	0'	3482'	7"	20#/23.0#
6 1/4"	3382'	3869'	5 1/2"	15.5#

Casing program: (alternate)

<u>Hole Size</u>	<u>Interval</u>		<u>Size</u>	<u>Weight</u>	<u>Grade</u>
	<b>TOP</b>	<b>Bottom (TVD)</b>			
12 1/4"	0'	200'	9 5/8"	32.3#	H-40
8 3/4"	0'	3482'	7"	20#/23.0#	J-55/L-80

Tubing Program:

6 1/4"	0'	3869'	2 3/8"	4.7#	J-55
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Tubing Program: (alternate)

6 1/4"	0'	3869'	2 7/8"	9.2#	J-55
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**Float Equipment:** 9 5/8" surface casing - saw tooth guide shoe. Centralizers will be run in accordance with Onshore Order #2.

7" intermediate casing - guide shoe and self-fill float collar. Standard centralizers run every other joint above shoe. Two turbolizing type centralizers - one below and one into the base of the Ojo Alamo @ 2747' (TVD). Standard centralizers thereafter every fourth joint up to the base of the surface pipe.

**Wellhead Equipment**

9 5/8" x 7" x 2 3/8" - 11" (2000 psi) wellhead assembly

**Cementing:**

9 5/8" surface casing -

Pre-Set Drilled Cement with 39 sx Type I, II cement with 20% flyash mixed at 14.5 ppg, 1.61 cu ft per sack yield. (63 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 147 sxs Type III cement with 0.25 pps Celloflake, 3% CaCl. (188 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.

**WOC until cement establishes 250 psi compressive strength prior to NU of BOPE.**

7" intermediate casing - lead w/383 sacks Premium Lite with 3% calcium chloride, 5 pps LCM-1, and 1/4#/sack flocele, 0.4% FL-52, & 0.4% SMS. Tail with 90 sacks Type III cmt with 1% calcium chloride, 1/4#/sack flocele and 0.2% FL-52 (942 cu.ft., 50% excess to circulate to surface).

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

5 1/2" liner - will not be cemented if run.

**BOP and tests:**

Surface to intermediate TD - 11" 2000 psi (minimum) double gate BOP stack (Reference Figure #1). Prior to drilling out surface casing, test BOPE to 600 psi for 30 min.

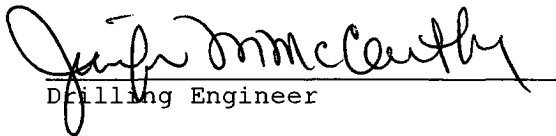
Intermediate TD to Total Depth - 7 1/6" 2000 psi (minimum) completion BOP stack (Reference Figure #2). Prior to drilling out intermediate casing, test BOPE and casing to 1500 psi for 30 minutes.

From surface to 7" TD - a choke manifold will be installed in accordance with Onshore Order No. 2 (Reference Figure #3). When the cavitation completion rig drills the production hole, the completion rig configuration will be used (Reference Figure #4). ~~No wellhead manifolds will be used on cavitation rig operations.~~

Pipe rams will be actuated at least once each day and blind rams actuated once each trip to test proper functioning. An upper kelly cock valve with handle and drill string safety valves to fit each drill string will be maintained and available on the rig floor.

**Additional information:**

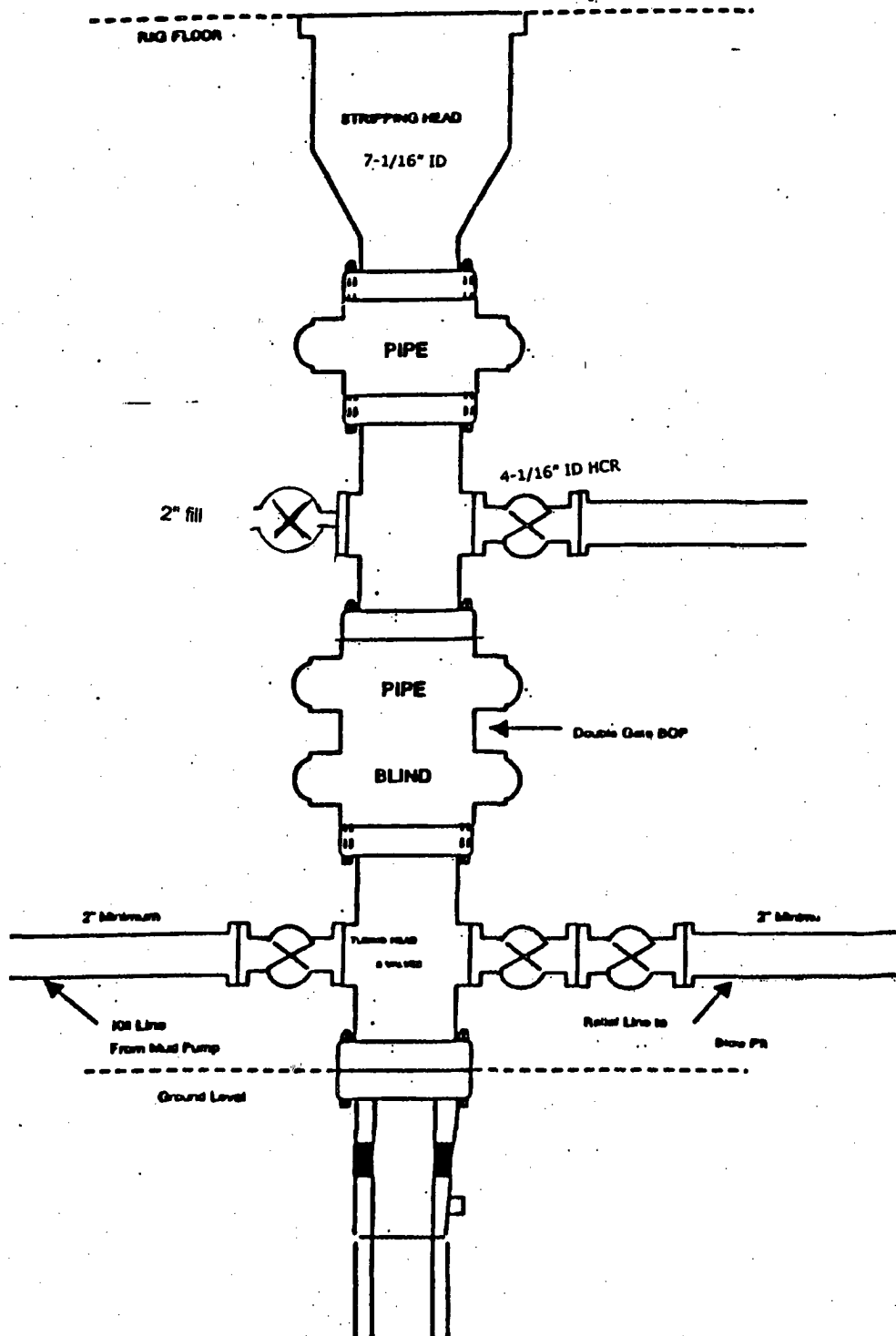
- \* The Fruitland Coal formation will be completed.
- \* Anticipated pore pressure for the Fruitland is less than 1600 psi.
- \* This gas is dedicated.
- \* The south half of Section 1 is dedicated to the Fruitland Coal.

  
Drilling Engineer

3-8-05  
Date

# BURLINGTON RESOURCES

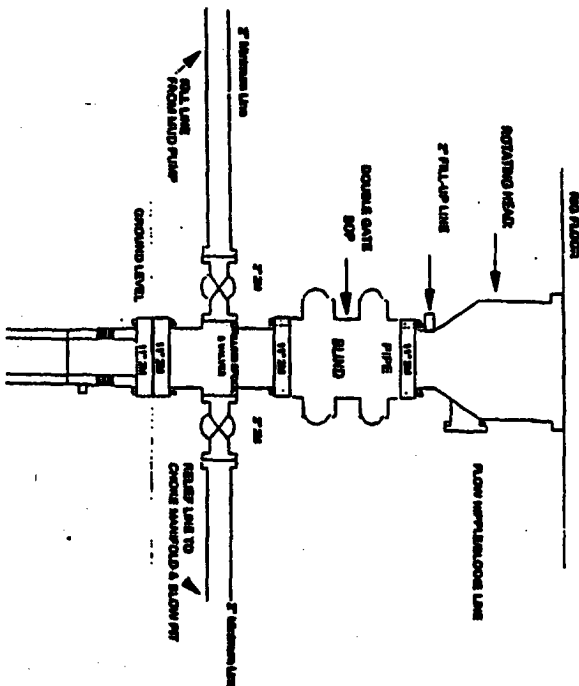
Figure #4  
Cavitation Rig  
BOP Configuration  
2,000 psi Minimum System





# Burlington Resources

## Drilling Rig 2000 psi System



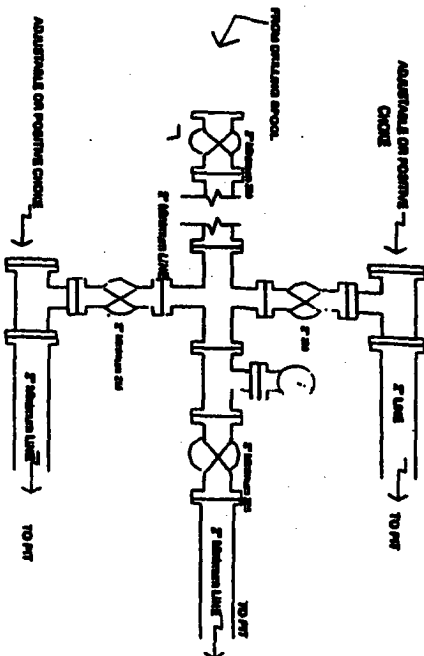
BOP Installation from Surface Casing Point to Total Depth. 11" Bore 10" Internal. 2000 psi working pressure double gate BOP to be equipped with blind rams and pipe rams. A 500 psi working head on top of ram preventer. All BOP equipment is 2,000 psi working pressure.

Figure #1

4-20-01

# BURLINGTON RESOURCES

## Drilling Rig Choke Manifold Configuration 2000 psi System



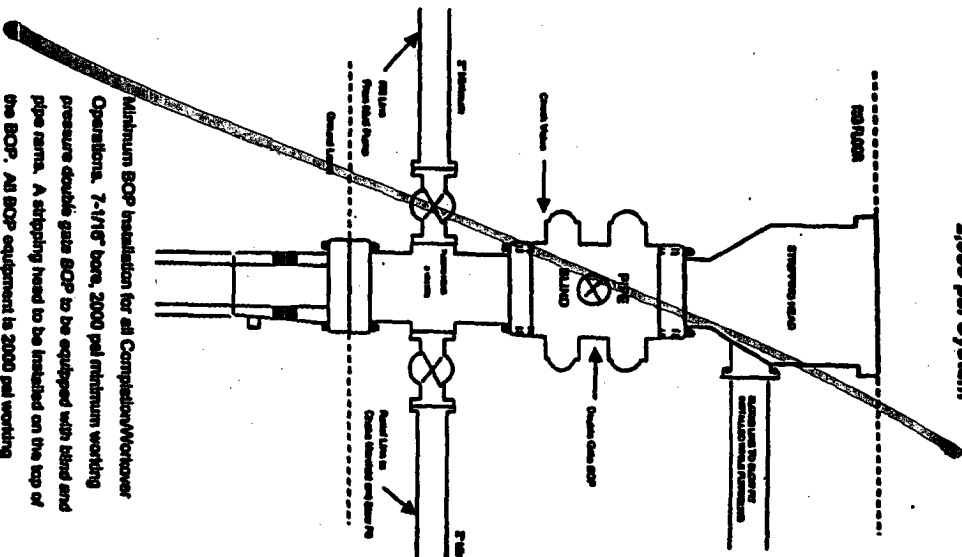
Choke manifold installation from Surface Casing Point to Total Depth. 2,000psi working pressure equipment with two chokes.

Figure #3

4-20-01

# BURLINGTON RESOURCES

## 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