

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work DRILL	2005 MHH 4 27 4 14	5. Lease Number NMNM-111921
	RECEIVED OTO FARMINGTON NM	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 #103S
4. Location of Well 1395' FNL, 170' FEL surface <i>Sec 2</i> 2510' FSL, 2425' FEL bottom hole <i>Sec 1</i>		10. Field, Pool, Wildcat Basin Fruitland Coal
Surface-Latitude 36°55.7380'N, Longitude 107°38.1505' W Bottom Hole-Lat. 36°55.5152'N, Longitude 107°37.5874' W		11. Sec., Twn, Rge, Mer. (NMPM) W H Sec. 2, T31N, R08W J Sec 1 API # 30-045- <i>32937</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 170'		
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, Drig, Compl, or Applied for on this Lease 2125'		
19. Proposed Depth 3914'	20. Rotary or Cable Tools Rotary	
21. Elevations (DF, FT, GR, Etc.) 6940' 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>3-3-05</i> Date	

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE *6-15-05*

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.

and appeal pursuant to 43 CFR 3165.4

NMOC

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

**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**

☐ AMENDED REPORT

# WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045-32931		*Pool Code 71629	*Pool Name Basin Fruitland Coal
*Property Code 34287	*Property Name NEGRO CANYON		*Well Number 103S
*OGRM No. 14538	*Operator Name BURLINGTON RESOURCES OIL AND GAS COMPANY LP		*Elevation 6940'

### <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		1395'	NORTH	170'	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
J	1	31-N	8-W		2510'	SOUTH	2425'	EAST	SAN JUAN

<sup>13</sup> Dedicated Acres	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
S/2 302.49 ac			

**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

Joni Clark  
Signature

**Signature**

Joni Clark

**Printed Name**  
Sr. Regulatory Specialist

**Title**

Date 2-22-05

## 18 SURVEYOR CERTIFICATION

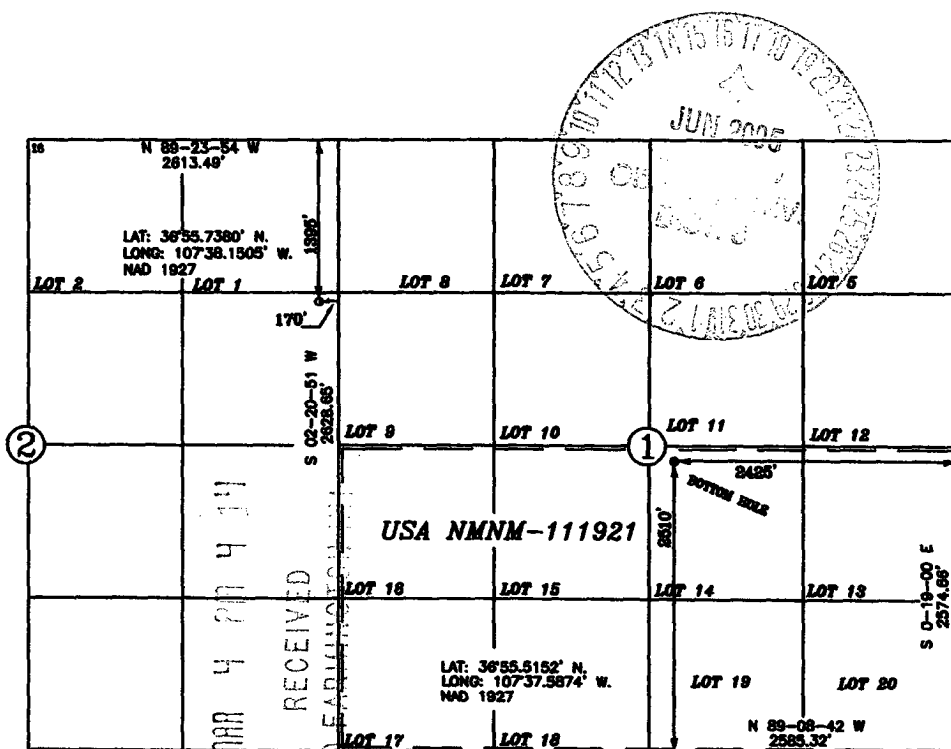
*I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.*

Date of Survey \_\_\_\_\_

Signature and Seal of Professional Surveyor

**Certificate Number**

15703



## 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-
5. Indicate Type of Lease	STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No.	NMNM-111921
7. Lease Name or Unit Agreement Name	Negro Canyon
8. Well Number	103S
9. OGRID Number	14538
10. Pool name or Wildcat	Basin Fruitland Coal

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 : 1395 feet from the North line and 170 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 bbls; 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: ☐

## 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 NMOCDD 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 NMOCDD office.

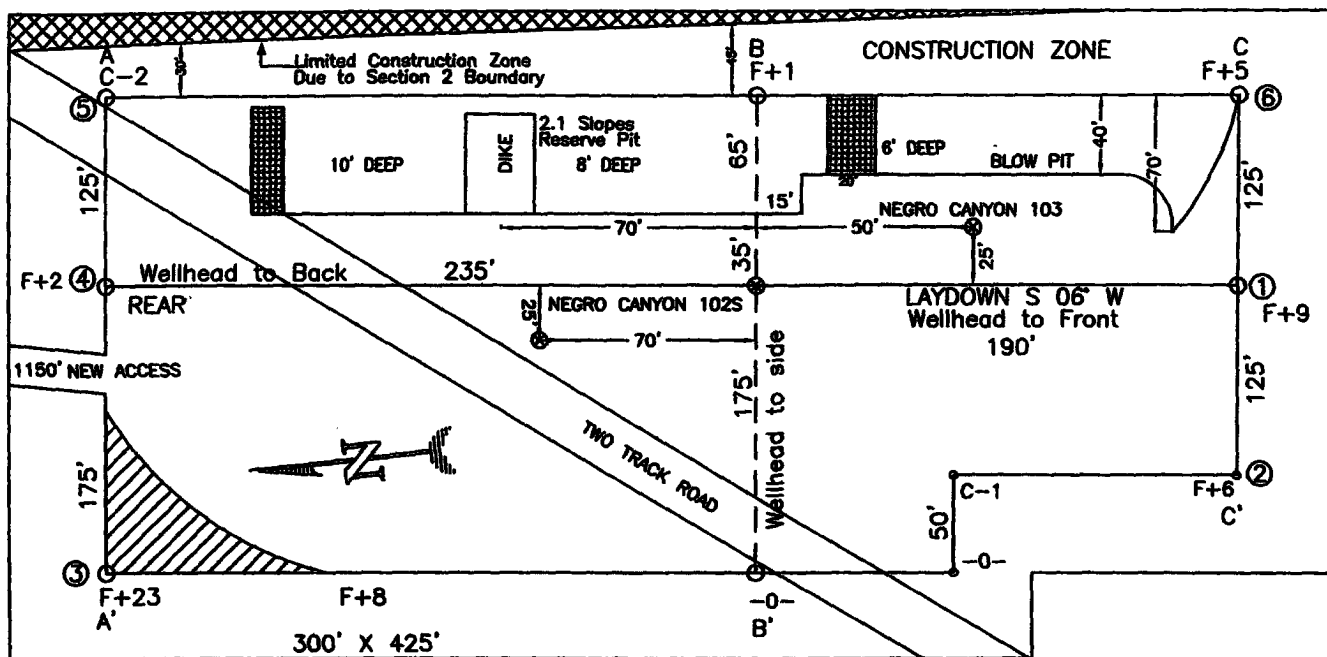
I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCDD guidelines ☐, a general permit ☒ or an (attached) alternative OCD-approved plan ☐.

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**

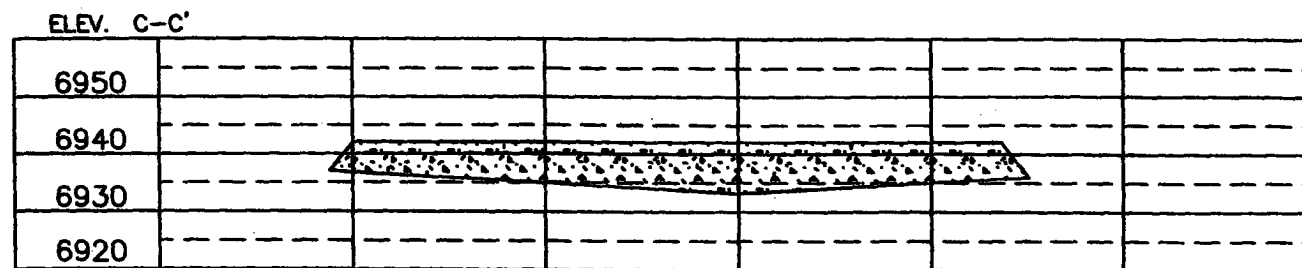
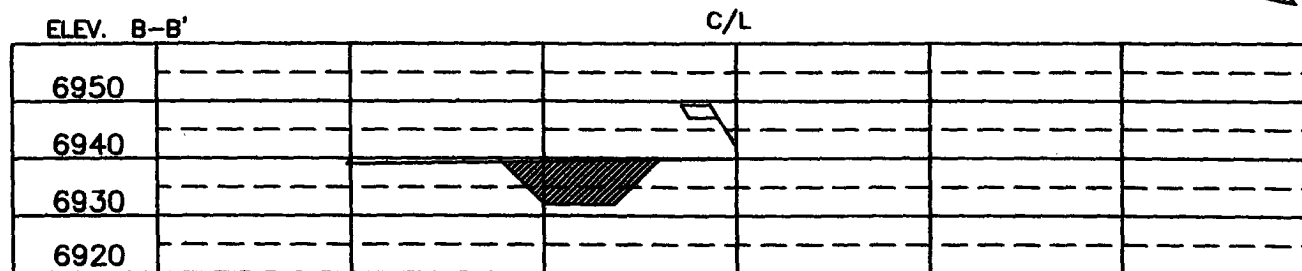
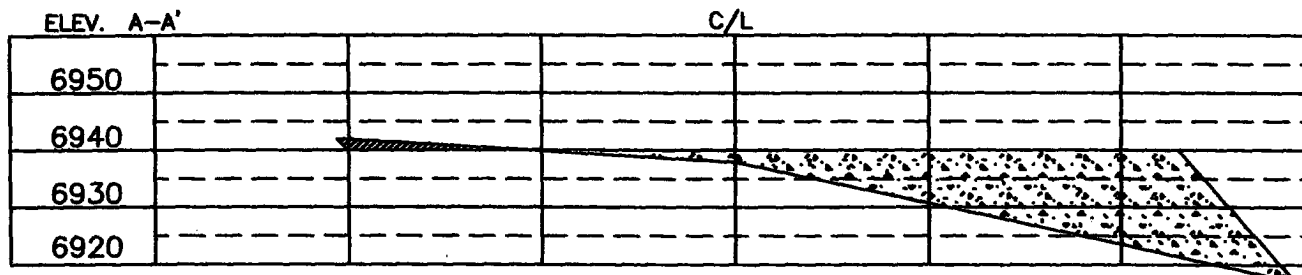
APPROVED BY [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 00 DATE JUN 17 2005  
Conditions of Approval (if any):

**BURLINGTON RESOURCES OIL & GAS COMPANY LP**  
**NEGRO CANYON #103S, 1395' FNL & 170' FEL**  
**SECTION 2, T-31-N, R-8-W, NMPM, SAN JUAN COUNTY, NM**  
**GROUND ELEVATION: 6940', DATE: JANUARY 24, 2005**



(400' X 525') = 4.58 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.



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 #103S  
**Location:** Surface - 1395' FNL, 170' FEL, Section 2, T-31-N, R-8-W  
Bottom Hole - 2510' FSL, 2425' FEL, Section 1, T-31-N, R-8-W  
San Juan County, New Mexico  
Surface - Latitude 36° 55.7380'N, Longitude 107° 38.1505'W  
Bottom Hole - Latitude 36° 55.5152'N, Longitude 107° 37.5874'W  
**Formation:** Basin Fruitland Coal  
**Elevation:** 6940' GL

<u>Formation Tops:</u>	<u>TVD</u>	<u>TMD</u>	<u>TVD Bottom</u>	<u>Contents</u>
Surface		San Jose	2664'	
Ojo Alamo	2664'	3957'	2764'	aquifer
Kirtland	2764'	4115'	3291'	gas
Fruitland	3291'	4618'	3491'	
Intermediate TD	<b>3451'</b>	<b>4882'</b>		
T/Coal	3491'	4922'	3829'	
B/Coal	3829'	5260'	3830'	
Pictured Cliffs	3830'	5261'		gas
TD	<b>3914'</b>	<b>5345'</b>		

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

**Logging Program:**

Mudlog from 7" csg to 3914' (TVD).

**Mud Program:**

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Vis</u>	<u>Fluid Loss</u>
0-200'	Spud Mud/air/air-mist	8.4-9.0	40-50	no control
200'-3451'	LSND	8.4-9.0	30-60	less than 12
3451'-3914'	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 300'. At this point the well will be directionally drilled by building 6.0 degrees per 100' with an azimuth of 116.11 degrees. The end of the build will be at a TVD of 1080', a TMD of 1212', and an angle of 54.74 degrees. This angle and azimuth will be held to a total depth of 2671' TVD and 3969' TMD. To enter the productive interval vertical, the well will be dropped 6.0 degrees per 100'. The well will be vertical at 7" casing point of 3451' TVD and 4882' TMD.

**Production Hole:**

Production hole will be drilled vertical from 3451' TVD to 3914' 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>
	<b>TOP</b>	<b>Bottom (TVD)</b>		
12 3/4"	0'	200'	9 5/8"	32.3# H-40
8 3/4"	0'	3451'	7"	20#/23.0# J-55/L-80
6 1/4"	3351'	3914'	5 1/2"	15.5# J-55

Casing program: (alternate)

<u>Hole Size</u>	<u>Interval</u>		<u>Size</u>	<u>Weight</u>	<u>Grade</u>
	<u>TOP</u>	<u>Bottom (TVD)</u>			
12 3/4"	0'	200'	9 5/8"	32.3#	H-40
8 3/4"	0'	3451'	7"	20#/23.0#	J-55/L-80

Tubing Program:

6 1/4"	0'	3914'	2 3/8"	4.7#	J-55
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Tubing Program: (alternate)

6 1/4"	0'	3914'	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 @ 2764' (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/458 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 (1101 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). ~~choke 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:**

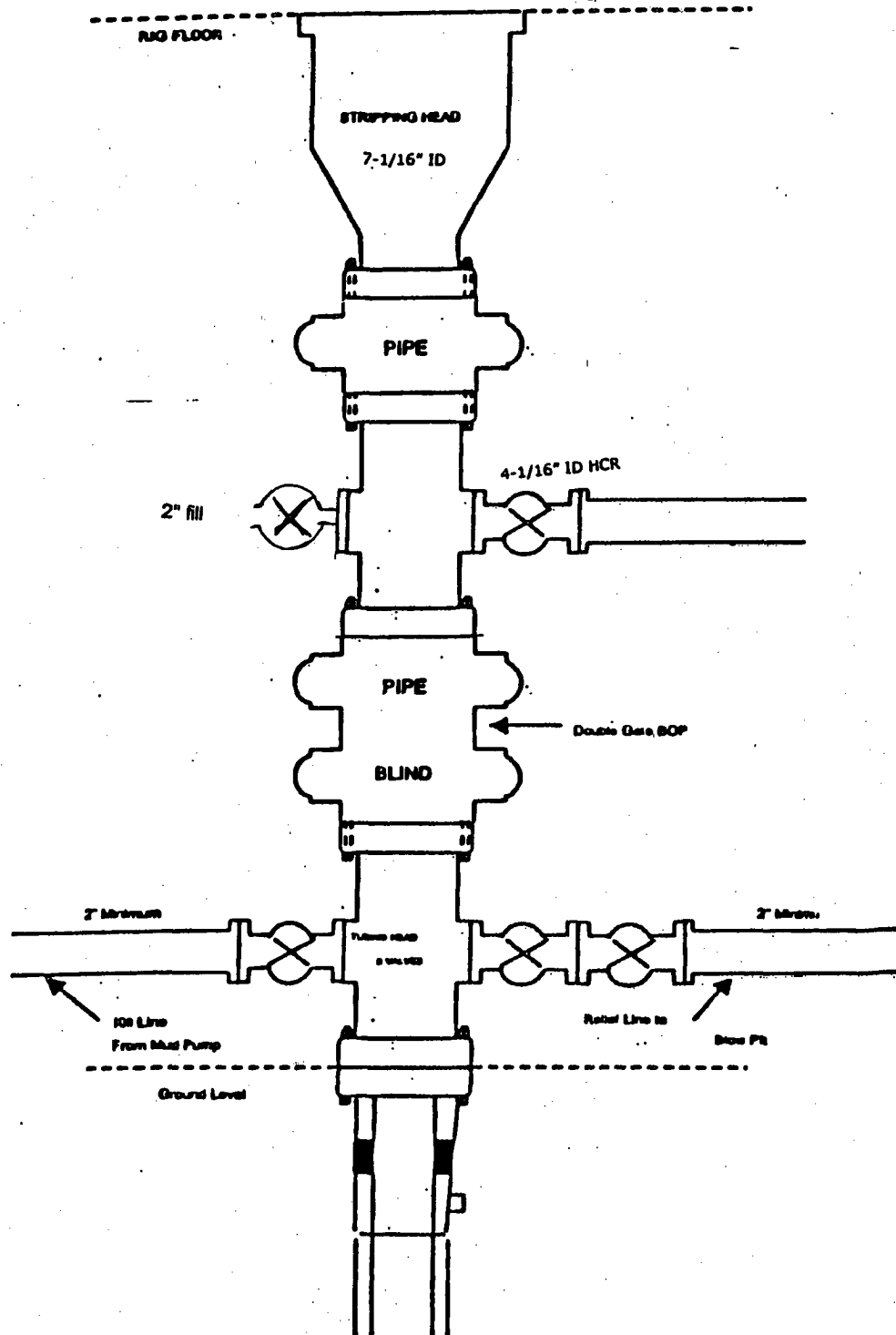
- \* The Fruitland Coal formation will be completed.
- \* Anticipated pore pressure for the Fruitland is less than 1600 psi.
- \* This gas is dedicated.
- \* The south half of Section 1 is dedicated to the Fruitland Coal.

  
Drilling Engineer

3-2-05  
Date

# BURLINGTON RESOURCES

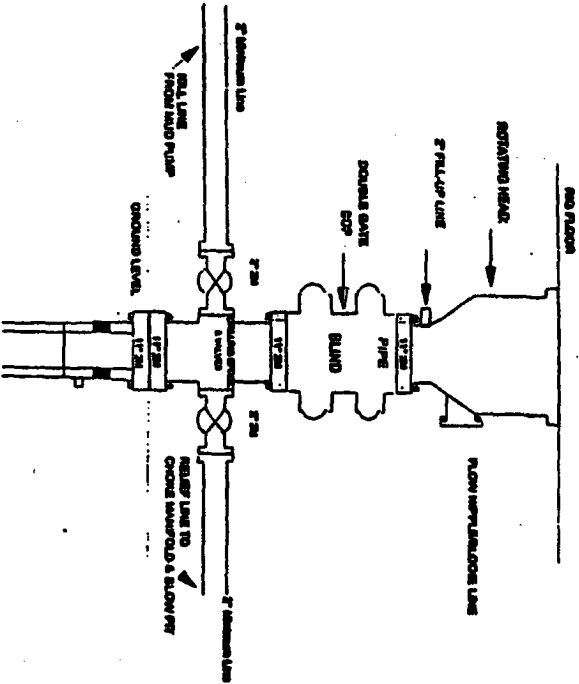
Figure #4  
Cavitation Rig  
BOP Configuration  
2,000 psi Minimum System





# Burlington Resources

## Drilling Rig 2000 psi System



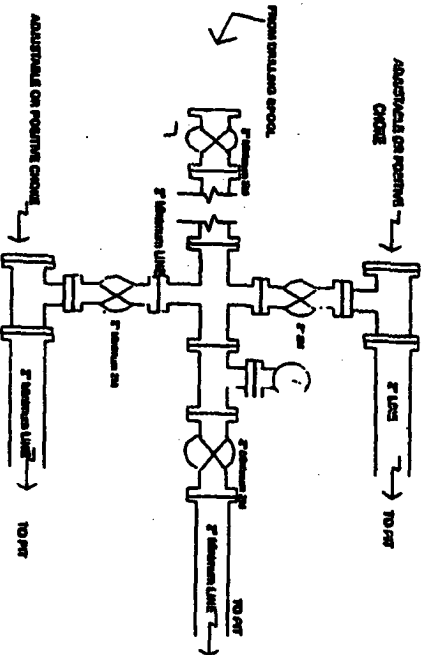
BCP Installation from Surface Casing Point to Total Depth, 17\"/>

Figure #1

4-20-01

# BURLINGTON RESOURCES

## Drilling Rig Choke Manifold Configuration 2000 psi System



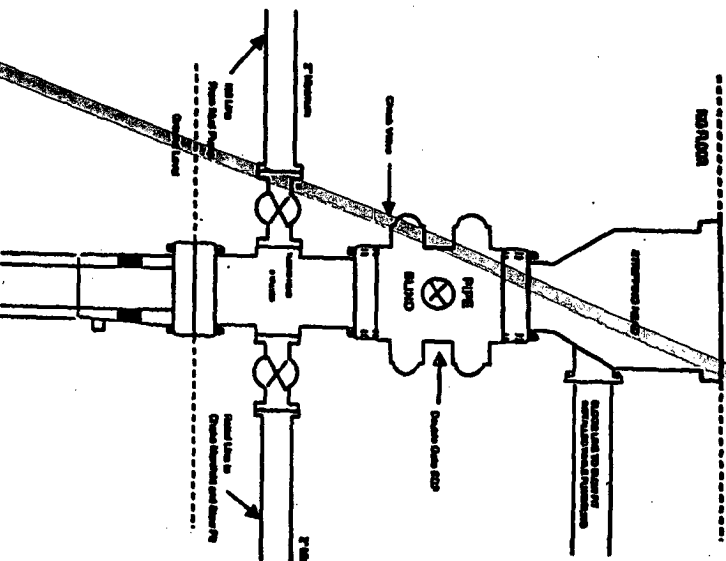
Choke manifold Installation from Surface Casing Point to Total Depth, 2,000psi working pressure equipment with two chokes.

Figure #3

4-20-01

# BURLINGTON RESOURCES

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



Minimum BCP Installation for all Completion/Workover Operations, 7-1/16\"/>

Figure #2