

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work DRILL	5. Lease Number SF-078580 Unit Reporting Number MV-8910010510 DK-891001051B
1b. Type of Well GAS	6. If Indian, All. or Tribe RECEIVED JUN 7 53
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 Woodriver 9. Well Number #2B
4. Location of Well 1755' FNL, 805' FWL Latitude 36° 49.6825'N, Longitude 107° 41.1840'W	10. Field, Pool, Wildcat Blanco Mesaverde/Basin Dakota 11. Sec., Twn, Rge, Mer. (NMPM) E Sec. 9, T30N, R08W API # 30-045-33773
14. Distance in Miles from Nearest Town 20.9 miles to Aztec, NM	12. County San Juan 13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 805'	
16. Acres in Lease	17. Acres Assigned to Well N/2 320 MV/DK
18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease 1065'	
19. Proposed Depth 7691'	20. Rotary or Cable Tools Rotary
21. Elevations (DF, FT, GR, Etc.) 6282' GR	22. Approx. Date Work will Start
23. Proposed Casing and Cementing Program See Operations Plan attached	
24. Authorized by: <u>Joni Clark</u> Regulatory Specialist	<u>6/1/06</u> 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 form is subject to technical and  
review pursuant to 43 CFR 3165.3  
and 43 CFR 3165.4

NMOC

BLM OPERATIONS AUTHORIZED ARE  
SUBJECT TO COMPLIANCE WITH ATTACHED  
FEDERAL REQUIREMENTS.

DISTRICT I  
1636 N. French Dr., Hobbs, N.M. 88240

DISTRICT II  
811 South First, Artesia, N.M. 86210

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

DISTRICT IV  
2040 South Pacheco, Santa Fe, NM 87506

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102  
Revised August 15, 2000

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

OIL CONSERVATION DIVISION

2040 South Pacheco  
Santa Fe, NM 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-045-33773		Well Code 7231971599	Pool Name Blanco Mesa Verde - Basin Dakota
Property Code 7645	Property Name WOODRIVER		Well Number 2B
OGRD No. 14538	Operator Name BURLINGTON RESOURCES OIL AND GAS COMPANY LP		Elevation 6282'

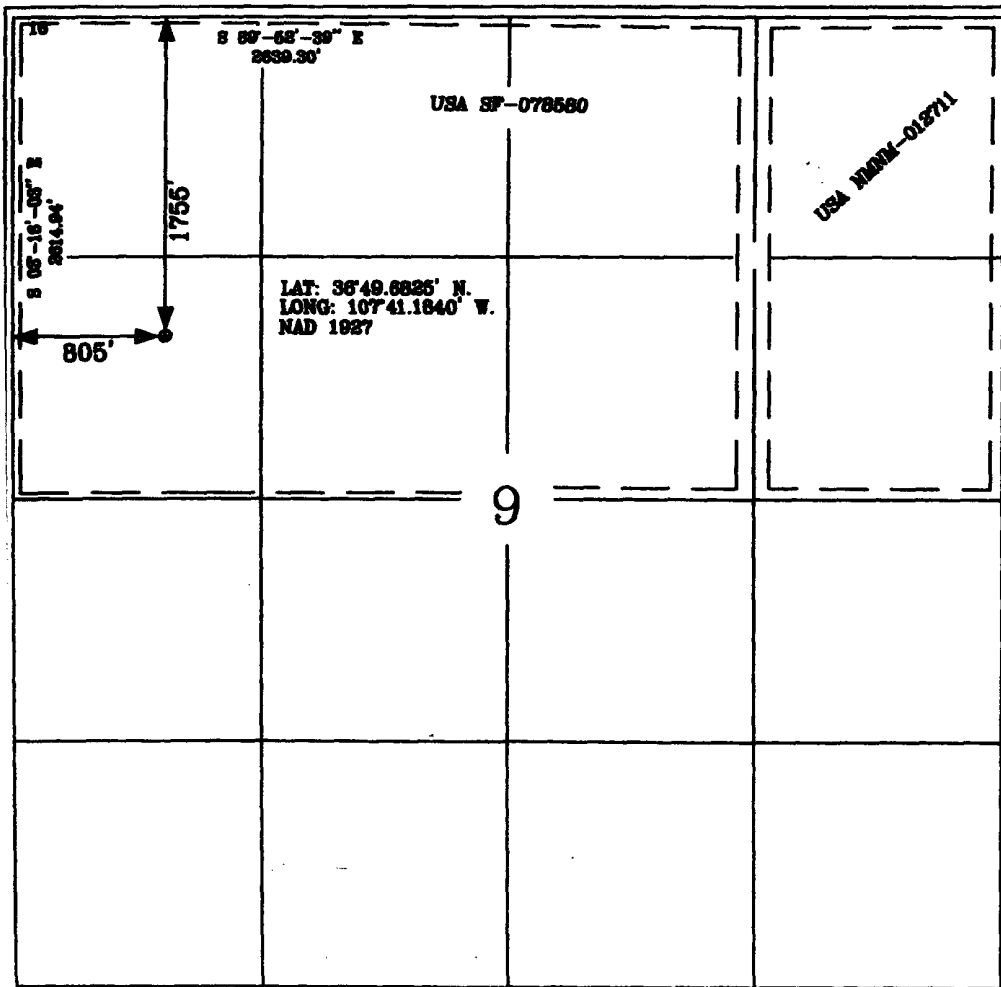
<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	9	30-N	8-W		1755'	NORTH	805'	WEST	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
E									
Dedicated Acres MV/DK -320 ac N2			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



<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.

*Patsy Clugston*  
Signature  
Patsy Clugston  
Printed Name  
Sr. Regulatory Specialist  
Title  
01/24/2006  
Date

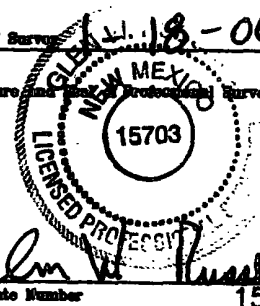
<sup>18</sup> SURVEYOR CERTIFICATION

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.

Date of Survey 1-18-06

Signature and Seal of Professional Surveyor

*C. L. Russell*  
Certificate Number 15703



Submit 3 Copies To Appropriate District Office

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

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

WELL API NO.	30-045-33773
5. Indicate Type of Lease	STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No.	NMSF-078580
7. Lease Name or Unit Agreement Name	Woodriver
8. Well Number	#2B
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 : 1755 feet from the North line and 805 feet from the West line  
Section 9 Township 30N Rng 8W NMPM County San Juan

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
6715'

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: n/a mill 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: New Drill Pit ☒

**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, Unlined:

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 ☐.

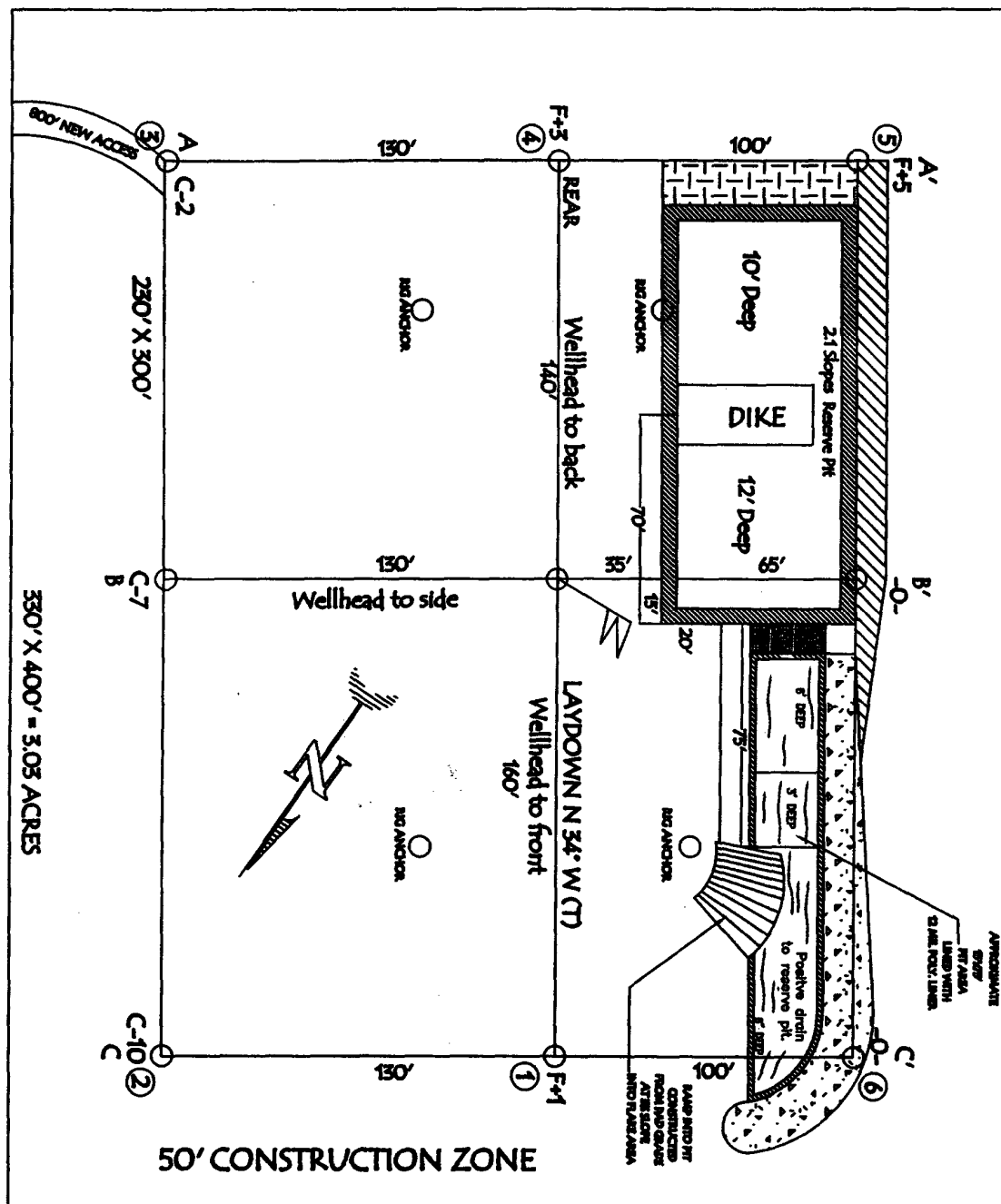
SIGNATURE Joni Clark TITLE Sr. Regulatory Specialist DATE 1/30/2006

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

APPROVED BY [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 7 DATE JUN 1 2006  
Conditions of Approval (if any):

**BURLINGTON RESOURCES OIL & GAS COMPANY LP**  
**WOODRIVER 2B, 1755' FNL & 805' FWL**  
**SECTION 9, T-30-N, R-8-W, NMPM, SAN JUAN COUNTY, NM**  
**GROUND ELEVATION: 6282', DATE: DECEMBER 22, 2005**

RESERVE PIT DIKE: TO BE 8' ABOVE DEEP SIDE (OVERFLOW - 3' WIDE AND 1' ABOVE SHALLOW SIDE).

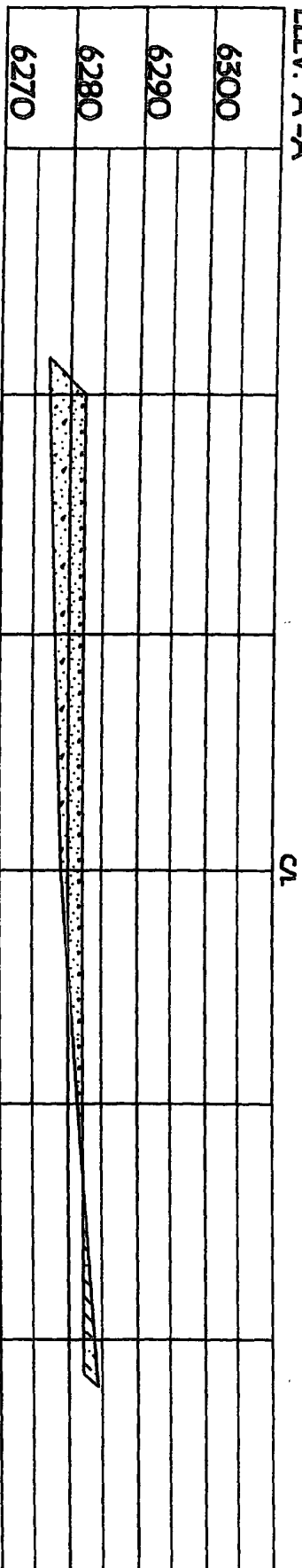


NOTE: VECTOR SURVEYS IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES.  
 CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED  
 PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

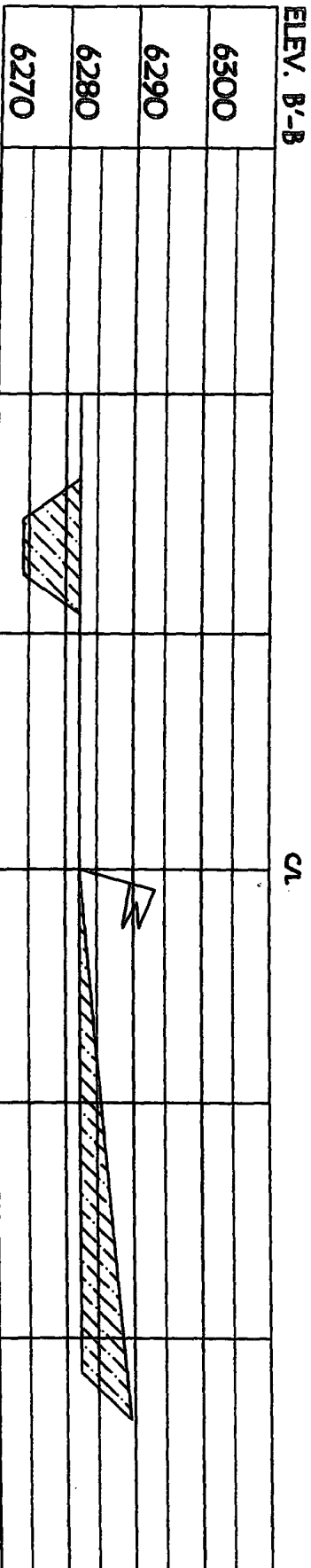
LATITUDE: 36° 49.6825' N LONGITUDE: 107° 41.1840' W NAD27

**BURLINGTON RESOURCES OIL & GAS COMPANY LP**  
**WOODRIVER 2B, 1755' FNL & 805' FWL**  
**SECTION 9, T-30-N, R-8-W, NMPM, SAN JUAN COUNTY, NM**  
**GROUND ELEVATION: 6282', DATE: DECEMBER 22, 2005**

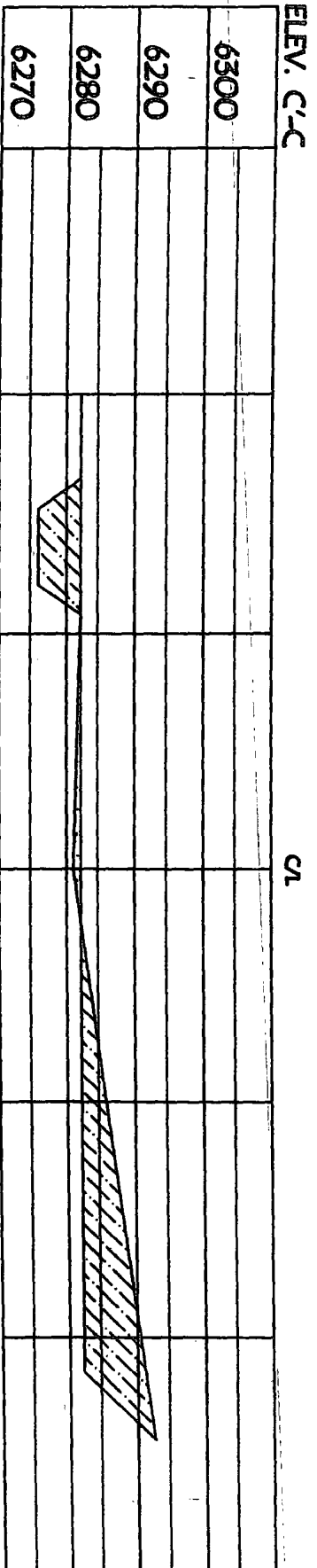
**ELEV. A'-A**



**ELEV. B'-B**



**ELEV. C'-C**



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) WEEKS PRIOR TO CONSTRUCTION.

## OPERATIONS PLAN

Well Name: WOODRIVER 2B  
Location: 1755' FNL & 805' FWL, Section 09 T30N R08W  
San Juan County, New Mexico  
Formation: Blanco Mesaverde/Basin Dakota  
Elevation: 6282' GL

<u>Formation Tops:</u>	<u>Top</u>	<u>Bottom</u>	<u>Contents</u>
Surface	San Jose	1970'	
Ojo Alamo	1970'	2111'	aquifer
Kirtland	2111'	2794'	gas
Fruitland	2794'	3108'	gas
Pictured Cliffs	3108'	3248'	gas
Lewis	3248'	3809'	
Huerfanito Bentonite	3809'		
Chacra	4154'	4911'	gas
Massive Cliff House	4911'	4974'	gas
Menefee	4974'	5301'	gas
Massive Point Lookout	5301'	5629'	gas
Mancos Shale	5629'	6629'	
Upper Gallup	6629'	7338'	gas
Greenhorn	7338'	7389'	gas
Graneros	7389'	7454'	gas
Two Wells	7454'	7527'	gas
Paguate	7527'	7554'	gas
Upper Cubero	7554'	7577'	gas
Lower Cubero	7577'	7644'	gas
Encinal	7644'	7691'	gas
Total Depth:	7691'		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:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Vis.</u>	<u>Fluid Loss</u>
0 - 120'	Spud MUD/Air/Air Mist	8.4 - 9.0	40 - 50	no control
120 - 3348'	LSND	8.4 - 9.0	30 - 60	no control
3348 - 7691'	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'	9 5/8"	32.3#	H-40
8 3/4"	0' - 3348'	7"	20/23#	J-55
6 1/4"	0' - 7691'	4 1/2"	10.5#	J-55

**Tubing Program:**

<u>Depth Interval</u>	<u>Csg. Size</u>	<u>Wt.</u>	<u>Grade</u>
0' - 7691'	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 293 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/32 sacks Premium Lite cement with 3% calcium chloride, .25 pps celloflake, 5 pps LCM-1, 0.4% fluid loss. Tail w/90 sxs Type III cmt w/1% calcium chloride, 0.25 pps Celloflake, 0.2% fluid loss. Second stage: 261 sacks Premium Lite cement with 3% calcium chloride, .25 pps celloflake, 5 pps LCM-1, 0.4% fluid loss, 0.4% sodium metasilicate (556 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 @ 2111'. Two turbolating centralizers at the base of the Ojo Alamo @ 2111'. 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 284 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 (563 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:

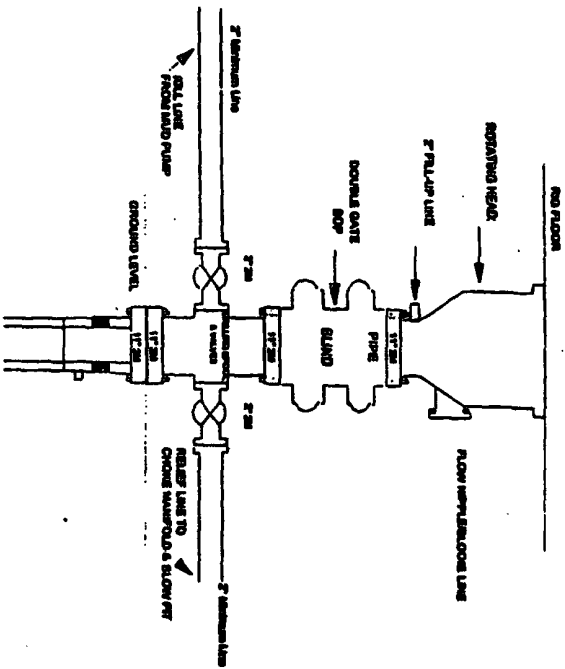
Fruitland Coal	300 psi
Pictured Cliffs	600 psi
Mesa Verde	700 psi
Dakota	2000 psi
- Sufficient LCM will be added to the mud system to maintain well control, if lost circulation is encountered below the top of the Pictured Cliffs.
- The north half of Section 9s dedicated to the Mesa Verde formation and Dakota formation.
- This gas is dedicated.

  
Drilling Engineer

  
Date 1/31/06

# Burlington Resources

## Drilling Rig 2000 psi System



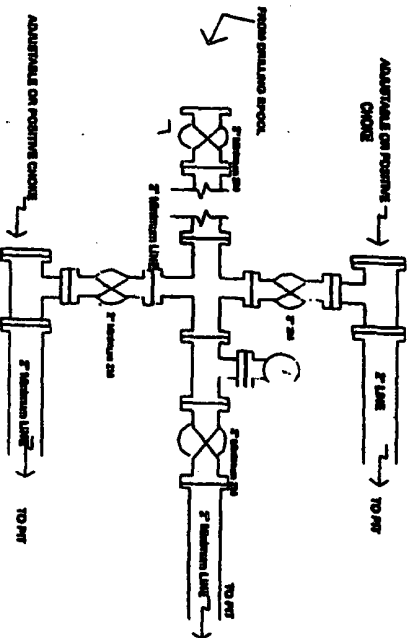
BOP installation from Surface Casing Point to Total Depth. 17\"/>

Figure #1

4-20-01

# BURLINGTON RESOURCES

## Drilling Rig Choke Manifold Configuration 2000 psi System



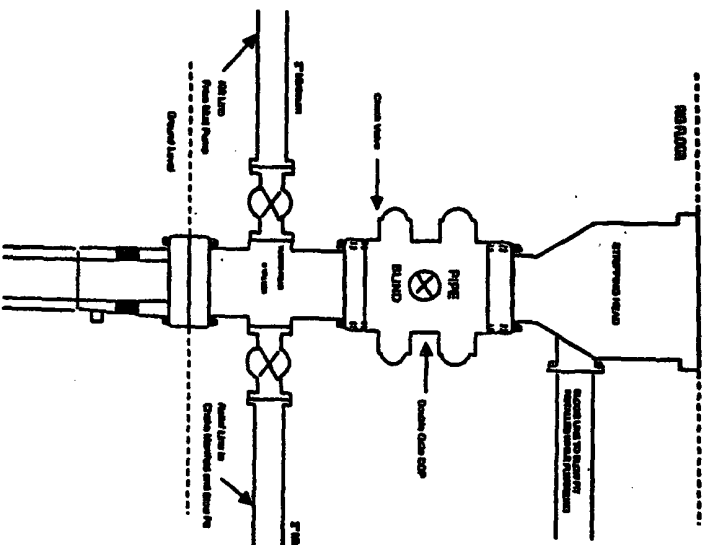
Choke manifold installation from Surface Casing Point to Total Depth. 2,000psi working pressure equipment with two chokes.

Figure #3

4-20-01

# BURLINGTON RESOURCES

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



Minimum BOP installation for all Completion/Workover Operations. 7-1/16\"/>

Figure #2

4-20-01