UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

MAY 2006

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

2006 MAR 7 PM 2 23
RECEIVED
070 FARMINGTON NM

1a. **Type of Work**
DRILL

5. **Lease Number**
SF-079491
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**
San Juan 27-5 Unit

3. **Address & Phone No. of Operator**
PO Box 4289, Farmington, NM 87499
(505) 326-9700

8. **Farm or Lease Name**
San Juan 27-5 Unit

9. **Well Number**
102P

4. **Location of Well**
1085' FSL, 1800' FWL Surface
850' FSL, 300'FWL Bottomhole M

Surface - Lat. 36°35.0286'N, Longitude 107°18.7062'W
Bottomhole - Lat. 36°35.0133'N, Longitude 107°19.0134' W

10. **Field, Pool, Wildcat**
Blanco Mesaverde / Basin Dakota

11. **Sec., Twn, Rge, Mer. (NMPM)**
N Sec. 12, T27N, R5W

API # 30-039-29827

14. **Distance in Miles from Nearest Town**
17 miles to Gobernador, NM

12. **County**
Rio Arriba

13. **State**
NM

15. **Distance from Proposed Location to Nearest Property or Lease Line**
1085'

16. **Acres in Lease**

17. **Acres Assigned to Well**
320ac S2 DK 320 ac W2 MV

18. **Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease**
95'

19. **Proposed Depth**
8246' TVD

20. **Rotary or Cable Tools**
Rotary

21. **Elevations (DF, FT, GR, Etc.)**
6951'

22. **Approx. Date Work will Start**

23. **Proposed Casing and Cementing Program**
See Operations Plan attached

24. **Authorized by:** Joni Clark
Sr. Regulatory Specialist

3/7/06
Date

PERMIT NO.

APPROVAL DATE

APPROVED BY [signature] **TITLE** AFM **DATE** 3/20/06

Archaeological Report attached
Threatened and Endangered Species Report attached PA

HOLD C104 FOR Directional Survey

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.

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

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

OPERATOR

District I
PO Box 1980, Hobbs, NM 88241-1980

District II
PO Drawer DD, Artesia, NM 88211-0719

District III
1000 Rio Brazos Rd., Aztec, NM 87410

District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

2006 MAR 7 PM 2 23

RECEIVED

Form C-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹API Number	²Pool Code	³Pool Name
30-039-29827	71599/72319	Blanco Mesaverde/ Basin Dakota

⁴Property Code	⁵Property Name	⁶Well Number
7454	SAN JUAN 27-5 UNIT	102P

⁷OGRID No.	⁸Operator Name	⁹Elevation
14538	BURLINGTON RESOURCES OIL & GAS COMPANY, LP	6951'

¹⁰ Surface Location

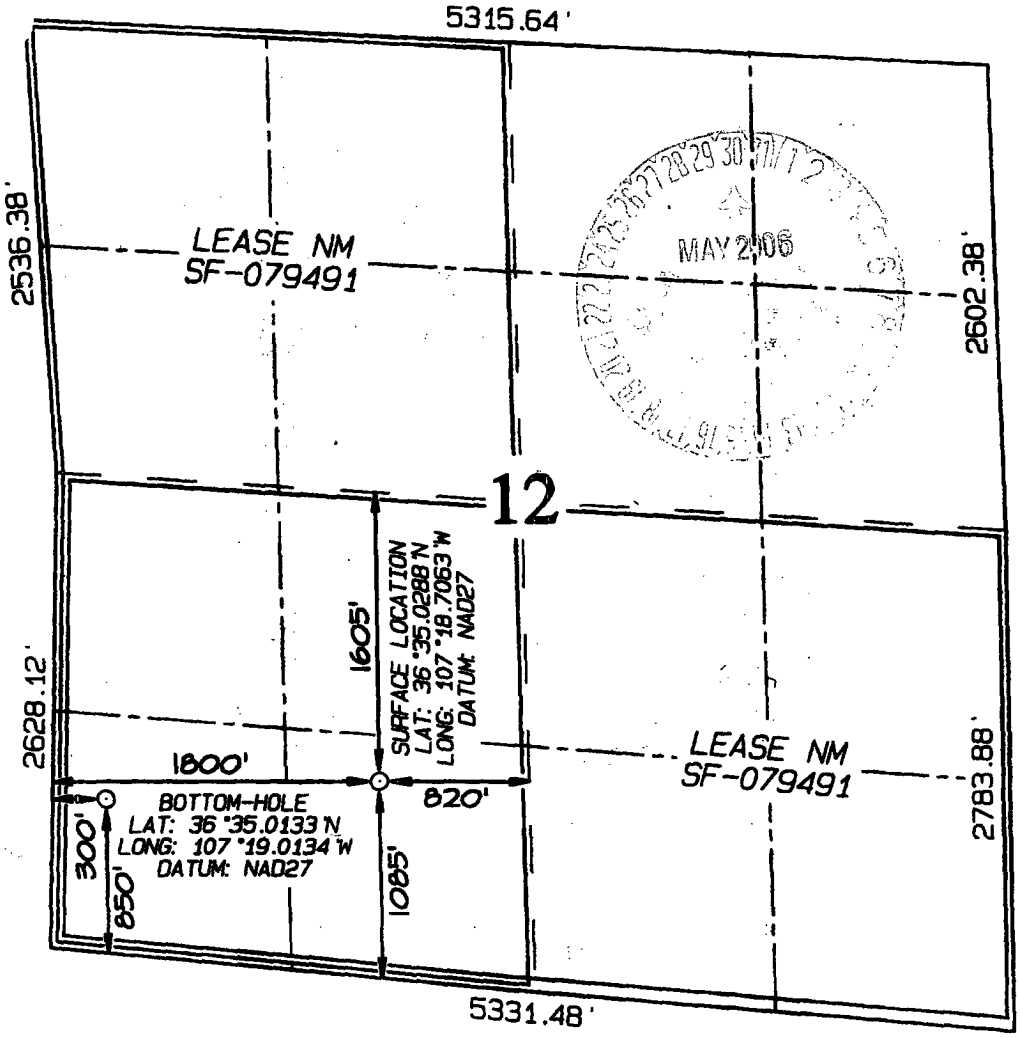
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	12	27N	5W		1085	SOUTH	1800	WEST	RIO ARRIBA

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
M	12	27N	5W		850	SOUTH	300	WEST	RIO ARRIBA

¹²Dedicated Acres	¹³Joint or Infill	¹⁴Consolidation Code	¹⁵Order No.
DK 320 S2 MV 320 W2			

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

Amanda Sandoval

Printed Name

Regulatory Assistant III

Title

3-3-06

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.

Date Revised: NOVEMBER 16, 2005
Date of Survey: JULY 26, 2005

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

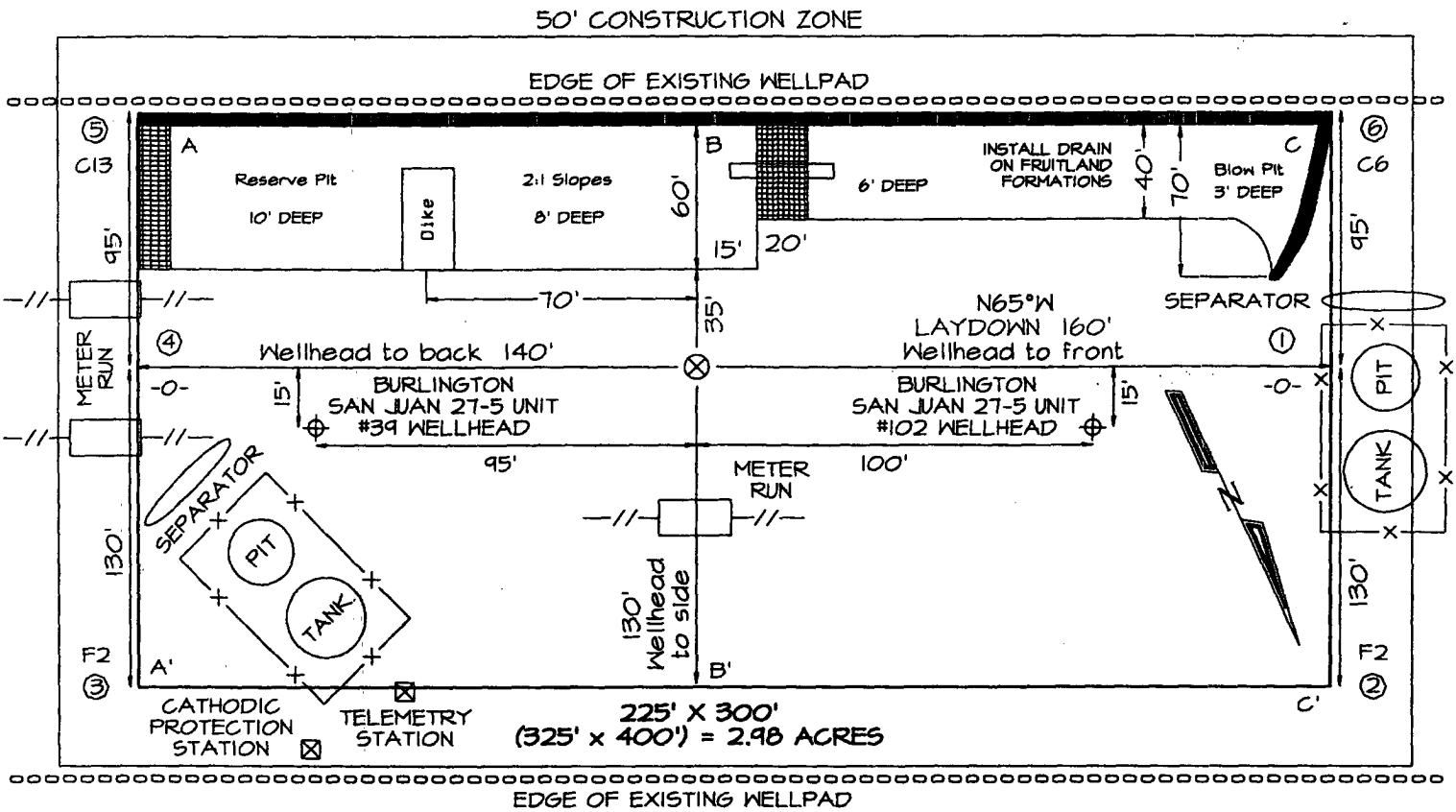
JASON C. EDWARDS

Certificate Number 15269

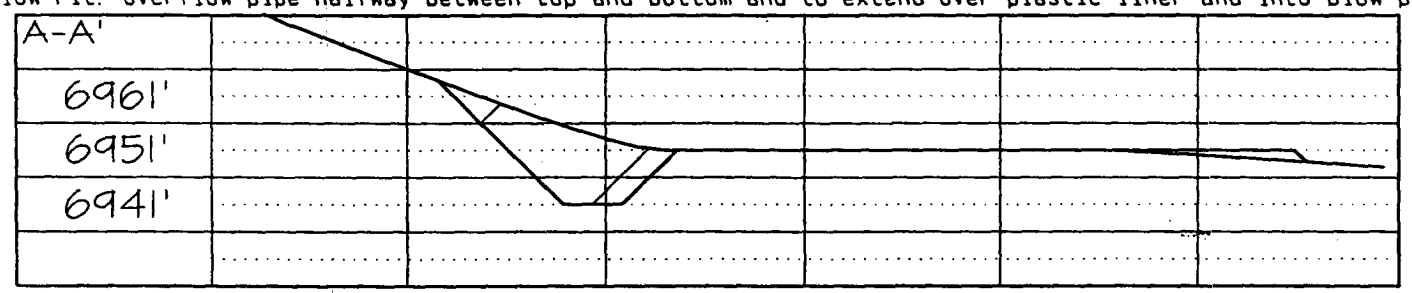
PLAT #1

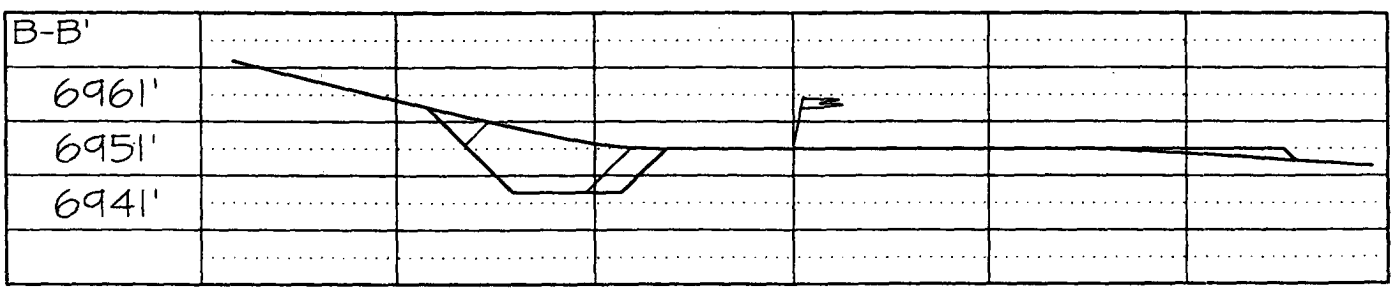
BURLINGTON RESOURCES OIL & GAS COMPANY, LP
SAN JUAN 27-5 UNIT #102P, 1085' FSL & 1800' FWL
SECTION 12, T27N, R5W, NMPM, RIO ARRIBA COUNTY, NM
GROUND ELEVATION: 6951' DATE: AUGUST 31, 2005

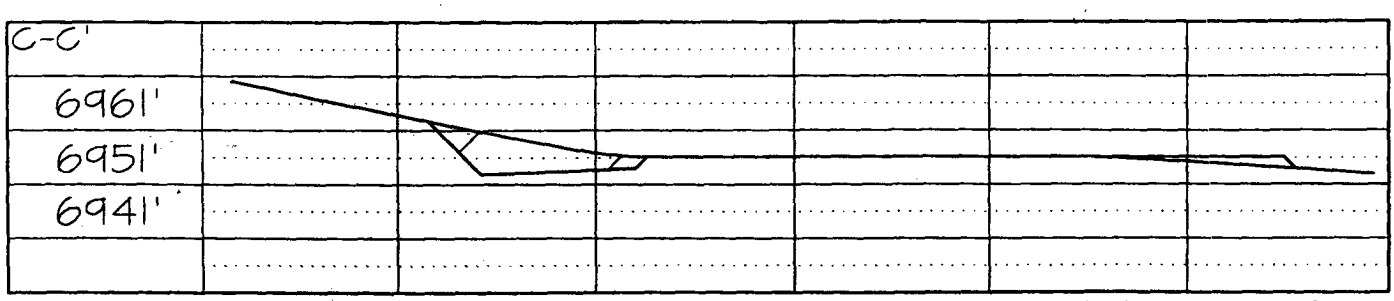
LATITUDE: 36°35'02"
LONGITUDE: 107°18'42"
DATUM: NAD1927



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: 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

SAN JUAN 27-5 UNIT #102PN OPERATIONS PLAN

Well Name: San Juan 27-5 Unit #102P

Location Rio Arriba County, New Mexico
Surface: 1085' FSL, 1800' FWL, Section 12, T-27-N, R-5-W
Latitude 36° 35.0286'N, Longitude 107° 18.7062'W
Bottom Hole: 850' FSL, 300' FWL, Section 12, T-27-N, R-5-W
Latitude 36° 35.0133'N, Longitude 107° 19.0134'W

Formation Blanco Mesa Verde/Basin Dakota

Elevation 6951' GL

Formation Tops	***Top (TVD)***	***Top (TMD)***	***Contents***
Surface	San Jose		
Ojo Alamo	3203'	3372'	aquifer
Kirtland	3355'	3534'	gas
Fruitland	3638'	3837'	gas
Pictured Cliffs	3843'	4056'	gas
Lewis	4003'	4227'	gas
Huerfanito Bentonite	4232'	4472'	gas
Chacra	4764'	5027'	gas
Intermediate set point: 150' into Chacra			
Massive Cliff House	5484'	5747'	gas
Menefee	5612'	5875'	gas
Massive Point Lookout	5962'	6225'	gas
Mancos	6487'	6750'	gas
Gallup	7137'	7400'	gas
Greenhorn	7910'	8173'	gas
Graneros	7972'	8235'	gas
Two Wells	8004'	8267'	gas
Upper Cubero	8120'	8383'	gas
Lower Cubero	8160'	8424'	gas
Encinal	8246'	8509'	gas
TD	**8246'**	**8509'**	**gas**

Logging Program
Cased Hole – CBL-GR- TD to surface
Open Hole - None

Mud Program

Interval (TMD)	Type	Weight	Vis.	Fluid Loss
0- 350'	Spud	8.4-9.0	40-50	no control
350- 5177	Non-dispersed	8.4-9.0	30-60	less than 8
5177'- 8509'	Air/Air Mist/Nitrogen	n/a	n/a	n/a

Drilling (Reference Plot #1)

Surface Hole
Drill to surface casing point of 350' and set 9 5/8" casing.

Intermediate Hole
Mud drill to kick off point of 400'. At this point the well will be directionally drilled by building 4.0 degrees per 100' with an azimuth of 266.23 degrees. The end of the build will be at a TVD of 906', a TMD of 917', a reach of 92.22', and an angle of 20.67 degrees. This angle and azimuth will be held to a TVD of 4408', a TMD of 4660', and a reach of 1414'. At this point the well will be drilled with a drop of 4.0 degrees per 100'. The end of the drop will be at a TVD of 4914', a TMD of 5177', a reach of 1506', and an angle of 0.0 degrees. 7" casing will be set at this point.

Production Hole
From the shoe of the intermediate string, the well will be drilled vertically with an air hammer to a TMD of 8509' (TVD of 8246'). 4 ½" casing will be set at this point.

Materials

Casing program

Hole Size	Interval (TMD)	Csg. Size	Weight	Grade
12 1/4"	0' - 350'	9 5/8"	32.3#	H-40
8 3/4"	350' - 5177'	7"	23#	L-80
6 1/4"	5177' - 8509'	4 ½"	11.6#	L-80

Tubing Program

Hole Size	Interval (TMD)	Csg. Size	Weight	Grade
2 3/8"	0' – 8509'	2 3/8"	4.7#	J-55

Wellhead Equipment

9 5/8" x 7" X 4 1/2" x 2 3/8" – 11" (2000 psi) wellhead assembly

Cementing:

9 5/8" surface casing conventionally drilled: ***200% excess cement to bring cement to surface***
Run **329 ft^3 (257 sks)** Type III cement with 3% $CaCl_2$ and 1/4 pps celloflake (1.28 sks/ ft^3). Wait on cement appropriate time until cement achieves 250 psi compressive strength at 60° 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.

7" production casing: ***50% excess cement to bring cement to surface***
Lead with **1043 ft^3 (490 sks)** Premium Lite w/ 3% $CaCl_2$, 0.25 pps Cello-Flake, 5 pps LCM-1, 0.4% FL-52 and 0.4% SMS (2.13 sks/ft^3). Tail with **124 ft^3 (90 sks)** Type III cmt. w/ 1% $CaCl_2$, 0.25 pps Cello-Flake and 0.2% FL-52 (1.38 sks/ft^3). If cement does not circulate to surface, a CBL or a temperature survey will be run to determine TOC.

4 ½" production casing: ***30% excess cement to achieve 100' overlap with intermediate casing***
Run **456 ft^3 (230 sks)** Premium Lite HS FM + 0.25pps Cello-Flake, 0.3% CD-32, 6.25pps LCM-1, 1% FL-52 (1.98 sks/ft^3).

Saw tooth guide shoe on bottom. Bowspring centralizers will be run in accordance with Onshore Order #2.

BOP and Tests:

Surface to production TD – 11", 2000 psi double gate BOP stack (Reference Figure #1).
Prior to drilling out surface casing, test rams and casing to 600 psi for 30 minutes.
Surface to Total Depth – choke manifold (Reference Figure #2).
Pipe rams will be actuated at least once each day and blind rams will be actuated once each trip to test proper functioning. A Kelly cock valve and drill string safety valves to fit each drill string will be maintained and available on the rig floor.
BOPE tests will be performed using an appropriately sized test plug and test pump and will be recorded using calibrated test gauges and a properly calibrated strip or chart recorder. The test will be recorded in the driller's log and will include a low pressure test requirement of 250 psig held for five minutes and a high pressure test requirement held for ten minutes as described in Onshore Order No. 2 or otherwise noted in the APD. A successful BOPE test using a test plug is considered when no pressure drop occurs over the duration of the test. Test gauges and recorders must be of the proper range and resolution commensurate with the authorized test pressure. Where the intermediate casing strings are used, only one BOPE test will be necessary contingent upon the test being conducted to the highest approved test pressure to which BOPE will be exposed. Casing pressure tests must be held for 30 minutes with no more than 10 percent pressure drop during the duration of the test.

Additional Information:

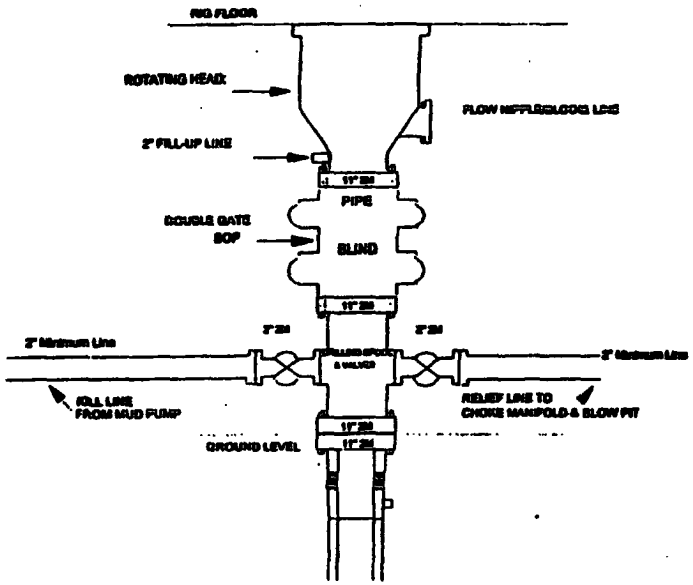
- This gas is dedicated.
- The West and South half of section 12 is dedicated to the Mesaverde and Dakota of this well.
- New casing will be utilized.
- Pipe movement (reciprocation) will be done if hole conditions permit.
- No abnormal pressure zones are expected.
- BHP is expected to be 2000 psi.

3/3/06

Drilling Engineer Date

Burlington Resources

Drilling Rig
2000 psi System



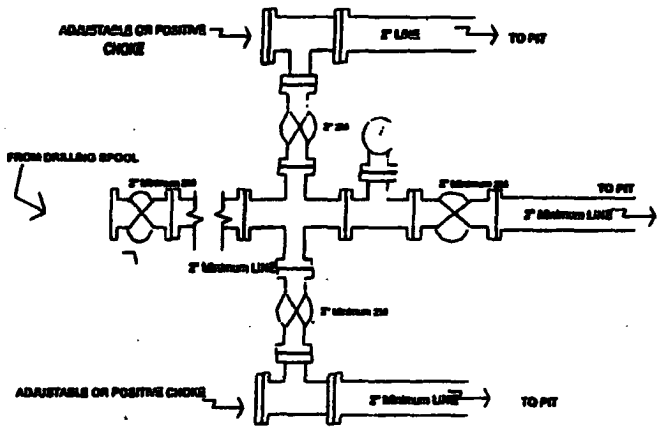
BOP installation from Surface Casing Point to Total Depth. 11" Bore 10" Nominal, 2000 psi working pressure double gate BOP to be equipped with blind rams and pipe rams. A 500 psi rousting head on top of ram preventers. All BOP equipment is 2,000 psi working pressure

Figure #1

4-20-01

BURLINGTON RESOURCES

Drilling Rig
Choke Manifold Configuration
2000 psi System

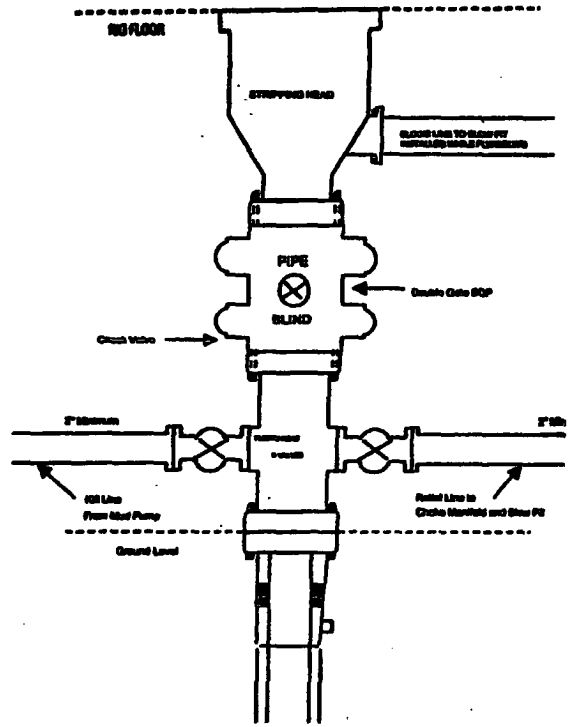


Choke manifold installation from Surface Casing Point to Total Depth. 2,000psi working pressure equipment with two chokes.

Figure #3

BURLINGTON RESOURCES

Completion/Workover Rig
BOP Configuration
2,000 psi System



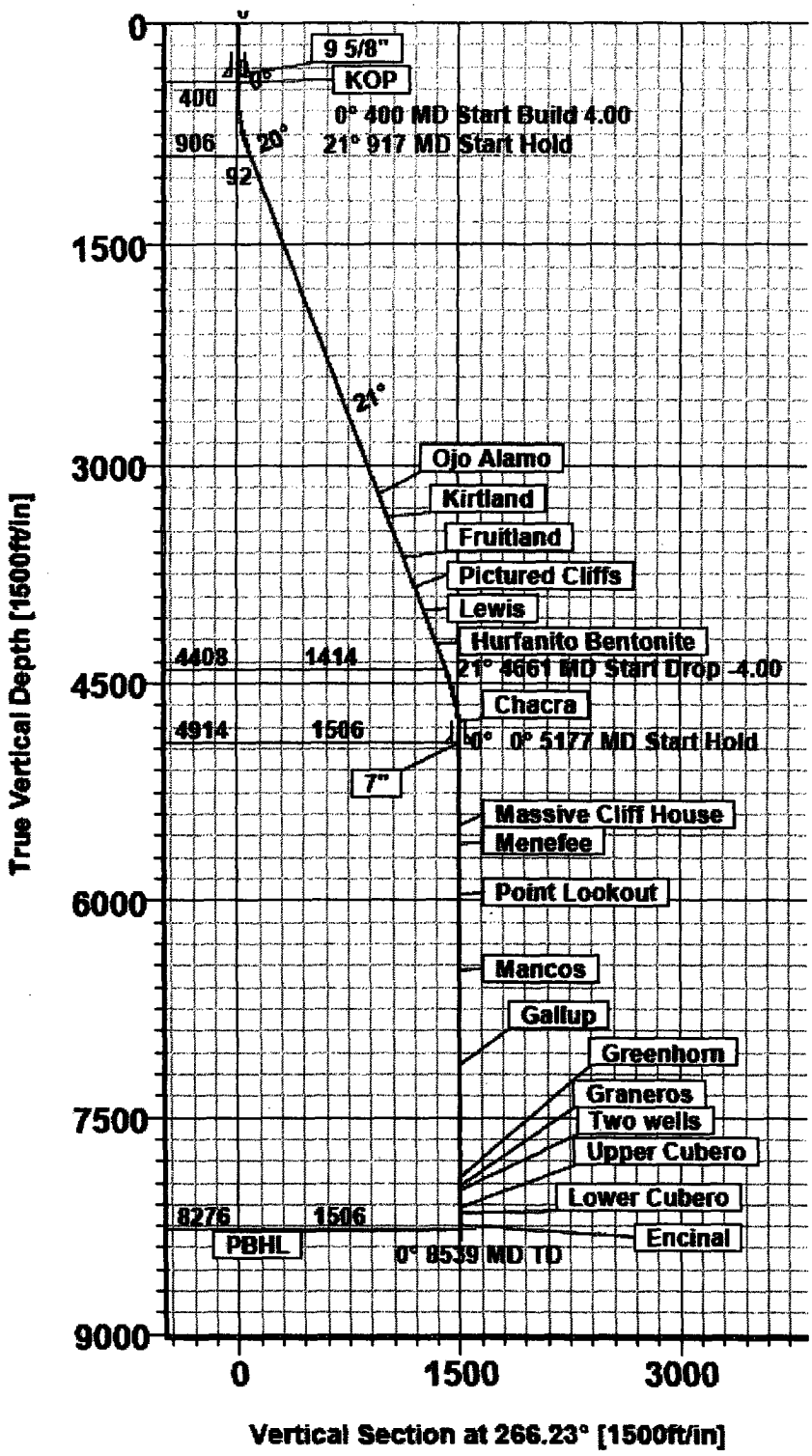
Minimum BOP installation for all Completion/Workover Operations. 7-1/16" bore, 2000 psi minimum working pressure double gate BOP to be equipped with blind and pipe rams. A stripping head to be installed on the top of the BOP. All BOP equipment is 2000 psi working pressure or greater excluding 500 psi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

Figure #2

4-20-01

EFFECTIVE: JUNE 1, 2005

Blow-out Preventor Equipment (BOPE) tests must be performed using an appropriately sized test plug. The BOPE test must be performed and recorded using a test pump, calibrated test gauges and a properly calibrated strip or chart recorder. The test must be recorded in the driller's log and will include a low pressure test requirement of 250 psig held for five minutes and a high pressure test requirement held for ten minutes as described in Onshore Order No. 2 or otherwise authorized in the Application for Permit to Drill (APD). A successful BOPE test using a test plug is considered when no pressure drop occurs over the duration of the test. Test gauges and recorders must be of the proper range and resolution commensurate with the authorized test pressure. Where intermediate casing strings are used, only one BOPE test will be necessary contingent upon the test being conducted to the highest approved test pressure to which the BOPE will be exposed. Casing pressure tests must be held for 30 minutes with no more than 10 percent pressure drop during the duration of the test.



Plot 1: Directional plan for SJ 27-5 102 P

Scientific Drilling
Directional Drilling Operations

Field: Rio Arriba, NM
Site: SECTION 27-5
Well: 27-5 UNIT 102P
Wellpath: OH
Plan: Plan #1

BURLINGTON™ RESOURCES

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	
3	916.79	20.67	266.23	905.66	-6.07	-92.02	4.00	0.00	92.22	
4	4660.51	20.67	266.23	4408.34	-93.06	-1410.74	0.00	0.00	1413.81	
5	5177.31	0.00	0.00	4914.00	-99.13	-1502.76	4.00	180.00	1506.03	
6	8539.31	0.00	0.00	8276.00	-99.13	-1502.76	0.00	0.00	1506.03	PBHL

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
27-5 UNIT 102P	137.05	97.62	2032172.210	653131.090	36°35'01.716N	107°18'42.372W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	8276.00	-99.13	-1502.76	2032073.080	651628.330	Circle (Radius: 100)