

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0136  
Expires November 30, 2000

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMSF078278
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator CONOCOPHILLIPS COMPANY		7. If Unit or CA Agreement, Name and No.
Contact: PATSY CLUGSTON E-Mail: pclugs@ppco.com		8. Lease Name and Well No. SAN JUAN 29-6 UNIT 104M
3a. Address 5525 HWY. FARMINGTON, NM 87401	3b. Phone No. (include area code) Ph: 505.599.3454 Fx: 505-599-3442	9. API Well No. 3003927592
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SWSE 355FSL 1445FEL 36.71938 N Lat, 107.42768 W Lon At proposed prod. zone		10. Field and Pool, or Exploratory BASIN DK & BLANCO MV
14. Distance in miles and direction from nearest town or post office* 35 MILES EAST OF BLOOMFIELD, NM		11. Sec., T., R., M., or Blk. and Survey or Area 0 Sec 14 T29N R6W Mer NMP SME: BLM
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of Acres in Lease	12. County or Parish RIO ARRIBA
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth 7951 MD 7951 TVD	13. State NM
21. Elevations (Show whether DF, KB, RT, GL, etc.) 6528 GL	22. Approximate date work will start 04/01/2004	17. Spacing Unit dedicated to this well 320.00 S2 DK E2 MV
20. BLM/BIA Bond No. on file ES0085		23. Estimated duration 30 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- |   |  |
|---|--|
| 1. Well plat certified by a registered surveyor.  | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).    |
| 2. A Drilling Plan.   | 5. Operator certification  |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature (Electronic Submission)	Name (Printed/Typed) PATSY CLUGSTON	Date 02/10/2004
Title AUTHORIZED REPRESENTATIVE		
Approved by (Signature) <i>[Signature]</i>	Name (Printed/Typed)	Date 8-12-04
Title AFM	Office FFO	

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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 representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

Electronic Submission #27754 verified by the BLM Well Information System  
For CONOCOPHILLIPS COMPANY, sent to the Farmington

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

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

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

NMOC

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

District II  
PO Drawer 00, 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

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

*API Number <b>30-039-21592</b>		*Pool Code 2319 \ 71599	*Pool Name BLANCO MESAVERDE \ BASIN UAKOTA
*Property Code 31326	*Property Name SAN JUAN 29-6 UNIT		*Well Number 104M
*OGRID No. 217817	*Operator Name CONOCOPHILLIPS COMPANY		*Elevation 6528

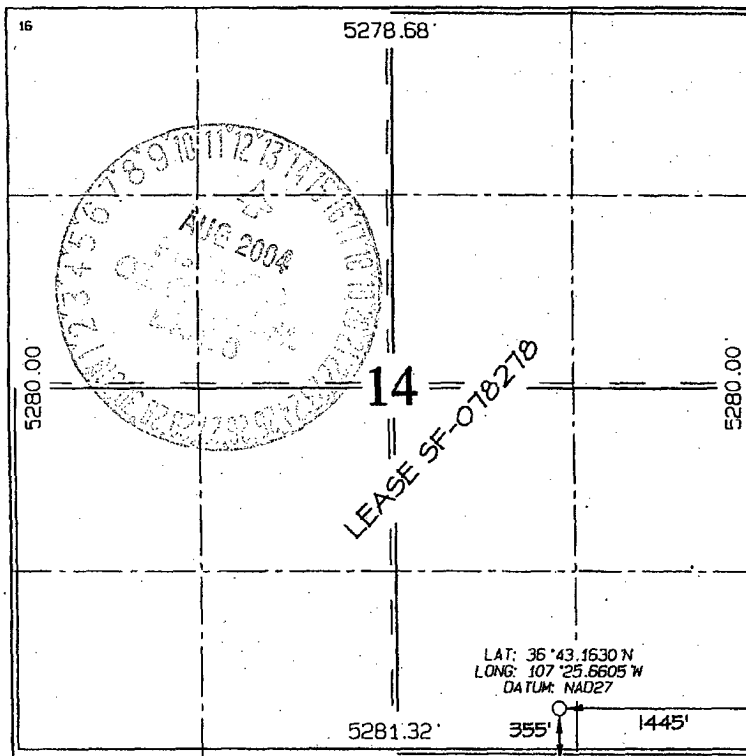
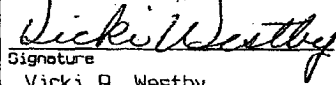
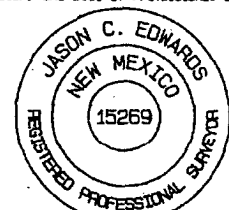
<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot 1st	Feet from the	North/South line	Feet from the	East/West line	County
0	14	29N	6W		355	SOUTH	1445	EAST	RIO ARriba

<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot 1st	Feet from the	North/South line	Feet from the	East/West line	County
<sup>12</sup> Dedicated Acres 320.0 Acres - E/2 (MV) 320.0 Acres - S/2 (DK)					<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>17</sup> OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.  Signature Vicki R. Westby Printed Name Sr. Analyst Title Date <u>February 10, 2004</u>
	<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. Survey Date: DECEMBER 1, 2003 Signature and Seal of Professional Surveyor  <u>JASON C. EDWARDS</u> Certificate Number 15269

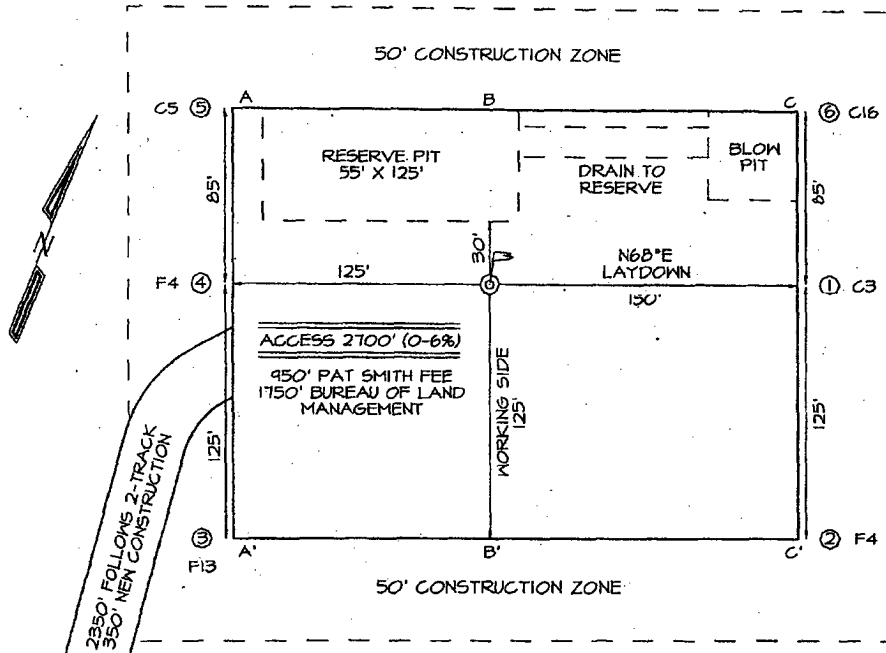
**Additional Operator Remarks:**

See attached for the Surface Use Plan, Drilling Prognosis, maps, plats, cut & fill diagram, BOP and cathodic detail

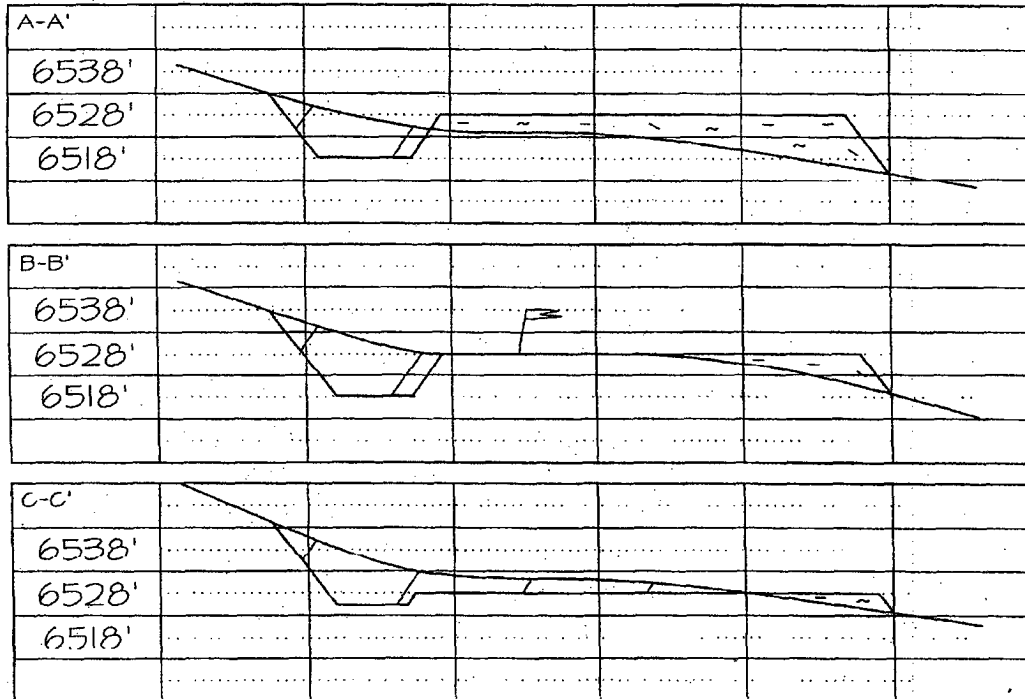
ConocoPhillips Company will be DHCing the MV and DK intervals of the subject well per Order 11363. A DHCing application (C103) will be submitted prior to commingling. Once production tests are conducted, we will be submitting the allocation factors we will be using to report both gas and oil production for this well.

APD/ROW - Williams

**CONOCOPHILLIPS COMPANY SAN JUAN 29-6 UNIT #104M**  
**355' FSL & 1445' FEL, SECTION 14, T29N, R6W, NMPM**  
**RIO ARriba COUNTY, NEW MEXICO ELEVATION: 6528'**



LATITUDE: 36.71938° N  
 LONGITUDE: 107.42768° W  
 DATUM: NAD1983



FILENAME: 296140T

SHEET 2 OF 6

NCE SURVEYS, INC.

DRAWN BY: EDO

CHECKED BY: JCE

CONOCOPHILLIPS COMPANY

WELL NAME: San Juan 29-6 Unit #104M (MV/DK)

DRILLING PROGNOSIS

1. Location of Proposed Well: Unit O, 355 FSL & 1445 FEL  
Section 14, T29N, R6W
2. Unprepared Ground Elevation: @ 6528' (unprepared)
3. The geological name of the surface formation is San Jose.
4. Type of drilling tools will be rotary.
5. Proposed drilling depth is 7951'.
6. The estimated tops of important geologic markers are as follows:

<u>Nacimiento - 1316'</u>	<u>Menefee - 5331'</u>
<u>Ojo Alamo - 2591'</u>	<u>Pt. Lookout - 5636'</u>
<u>Kirtland Sh - 2741'</u>	<u>Mancos Shale - 5886'</u>
<u>Fruitland Fm. - 3181'</u>	<u>Gallup - 6891'</u>
<u>Pictured Cliffs - 3431'</u>	<u>Greenhorn - 7601'</u>
<u>Lewis Shale - 3631'</u>	<u>Two Wells - 7731'</u>
<u>Chacra - 4431'</u>	<u>Cubero - 7791'</u>
<u>Cliffhouse - 5241'</u>	<u>Intermediate Casing - 3731'</u>
	<u>T.D. - 7951'</u>
7. The estimated depths at which anticipated water, oil, gas or other mineral bearing formations are expected to be encountered are as follows:

Water:	<u>Ojo Alamo - 2591' - 2741'</u>
Gas & Water:	<u>Fruitland - 3181' - 3431'</u>
Gas:	<u>Pictured Cliffs - 3431' - 3631'</u>
	<u>Mesaverde - 3631' - 5886'</u>
	<u>Dakota - 7731' - 7951'</u>
8. The proposed casing program is as follows: *circulate cement*  
Surface String: 9-5/8", 32.3# H-40 @ 208' \*  
Intermediate String: 7", 20#, J-55 @ 3731' *circulate cement*  
(J-55 will be used, unless the K-55 is the only casing available)  
Production String: 4-1/2", 11.6#, I-80 @ 7951' (TD)  
\* The surface casing will be set at a minimum of 200', but could be set deeper if required to maintain hole stability.

## 9. Cement Program:

Surface String: 135 sx 50/50 POZ, + 2% Bentonite, 3% CaCl<sub>2</sub>, 5#/sx Gilsonite, 0.25#/sx Cellophane flakes, & 0.2% CFR-3 Friction Reducer (1.34 yield = 180.6 cf); Cement density – 13.5 ppg. Water required 5.39 gal/sx. Compressive Strength – Sample cured at 70 deg F for 8 hours; 3 hrs 05 min. 50 psi; 7 hrs 45 min 500 psi; cement to surface w/150% excess of casing/hole annulus volume.

Intermediate String: **Lead Cement:** 376 sx Standard cement + 3% Econolite (extender) + 10#/sx Pheno-seal; (2.88 yield = 1082.4 cf). Cement Density 11.5 ppg; Water required – 16.91 gal/sx. Compressive strength – Sample cured at 130 deg F for 24 hrs – 1 hr 47 min – 50 psi; 12 hrs – 350 psi; 24 hrs – 450 psi; Cement to surface with 150% excess of casing/hole annulus volume.

**Tail Cement:** 218 sx 50/50 POZ – Standard cement + 2% Bentonite + 6#/sx Pheno Seal; (1.33 yield = 290.1 cf); Cement Density – 13.5 ppg; Water required – 5.52 gal/sx; Compressive strength – Sample cured at 130 deg F for 24 hrs – 2 hrs 5 min – 50 psi; 2 hr 6 min – 500 psi; 12 hr – 1250 psi; 24 hrs – 1819 Cement to surface with 150% excess of casing/hole annulus volume.

Production String \*: **Cement:** 464 sx 50/50 POZ – Standard cement + 3% Bentonite + 5#/sx PhenoSeal + 0.2% CFR-3 Friction Reducer + 0.1% HR-5 Retarder + 0.8% Halad-9 Fluid Loss Additive (1.45 Yield – 673.1 cf) Cement density – 13.1 ppg; Water required 6.47 gal/sx; Compressive Strength – Sample cured at 200 de F for 23 hrs; 9 hr 50 min – 50 psi; 13 hrs 45 min – 500 psi; 16 hrs – 1500 psi; 23 hrs 2525 psi.

\*The production casing cement is calculated to cover the openhole interval with 50% excess and annular volume 200' within intermediate shoe. Depending on hole conditions, the well may be cemented in a single stage or two staged.

Centralizer Program:

Surface: Total four (4) - 1<sup>st</sup> joint - 10' above the shoe & 1 at the top of the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> joints latched over the casing collar

Intermediate: Total seven (9) – 10' above shoe, top of 2<sup>nd</sup>, 4<sup>th</sup>, 6<sup>th</sup>, & 8<sup>th</sup>, 10<sup>th</sup> jts & 10<sup>th</sup> 1 jt. above surface casing, and on first two casing collars below the wellhead.

Production: None planned.

Turbulators: Total Three (3) – on intermediate casing at 1<sup>st</sup> jt. below the Ojo Alamo and next 2 jts up.

10. The minimum specifications for pressure control equipment which are to be used, a schematic diagram thereof showing sizes, pressure ratings (or) API series and the testing procedure and testing frequency are enclosed within the APD packet.
11. Drilling Mud Prognosis: Surface - spud mud on surface casing.  
Intermediate - spud mud generated from natural clays with gel sweeps pretreated w/LCM before entering coal interval.  
Below Intermediate - air or gas drilled.
12. The testing, logging, and coring programs are as follows:  
D.S.T.s or cores: \_\_\_\_\_  
Logs: Cased hole TDT with GR to surface
13. Anticipated no abnormal pressures or temperatures to be encountered or any other potential hazards such as Hydrogen Sulfide Gas. Low risk H<sub>2</sub>S equipment will be used.  
  
Estimated Bottomhole pressure:  
Dakota - 3300 psi  
Mesaverde - 1300 psi
14. The anticipated starting date is approximately April 1, 2004 with duration of drilling / completion operations for approximately 20 days thereafter.

**San Juan 29-6 Unit #104M (MV/DK)**

**SURFACE CASING :**

Drill Bit Diameter	9.625"		
Casing Outside Diameter	9.625"		Casing Inside Diam. 7.000"
Casing Weight	32.3	ppf	
Casing Grade	H-40		
Shoe Depth	208	'	
Cement Yield	32.3	cuft/sk	
Excess Cement	15	%	
Cement Required	15	sx	

SHOE 208', 9.625", 32.3 ppf, H-40 STC

**INTERMEDIATE CASING :**

Drill Bit Diameter	9.625"		
Casing Outside Diameter	9.625"		Casing Inside Diam. 7.000"
Casing Weight	20	ppf	
Casing Grade	J-55		
Shoe Depth	3731	'	
Lead Cement Yield	20	cuft/sk	
Lead Cement Excess	10	%	
Tail Cement Length	3731	'	= 20% of setting depth
Tail Cement Yield	20	cuft/sk	
Tail Cement Excess	10	%	
Lead Cement Required	10	sx	
Tail Cement Required	10	sx	

SHOE 3731', 7", 20 ppf, J-55 STC

**PRODUCTION CASING :**

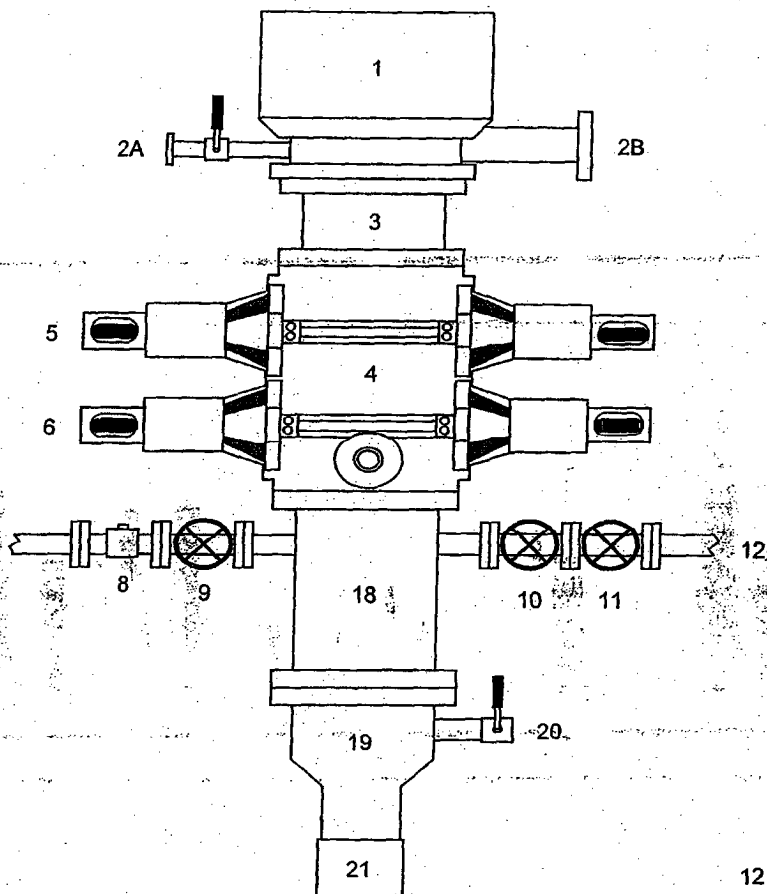
Drill Bit Diameter	4.5"		
Casing Outside Diameter	4.5"		Casing Inside Diam. 4.000"
Casing Weight	11.6	ppf	
Casing Grade	I-80		
Top of Cement	3631	'	200' inside intermediate casing
Shoe Depth	7951	'	
Cement Yield	11.6	cuft/sk	
Cement Excess	20	%	
Cement Required	11.6	sx	

SHOE 7951', 4.5", 11.6 ppf, I-80 LTC

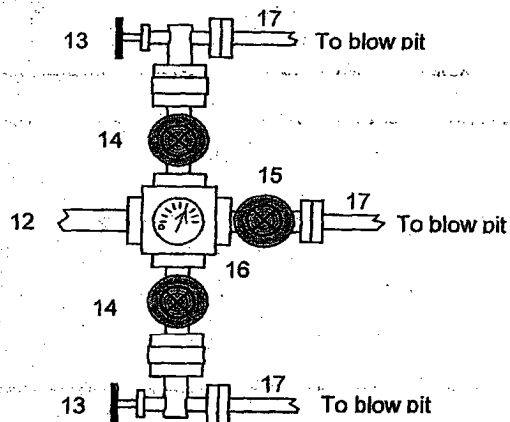


# BLOWOUT PREVENTER ARRANGEMENT & PROGRAM

For Drilling to Intermediate Casing Point & Setting 7" Intermediate Casing



1. Rotating Head
- 2A. Fill-up Line & valve
- 2B. Flowline
3. Spacer Spool
4. Double Ram BOP (11", 3000 psi)
5. Pipe Rams
6. Blind Rams
7. Kill Line
8. Kill Line Check Valve
9. Kill Line Valve
10. Inner Choke Line Valve (3")
11. Outer Choke Line Valve (3")
12. Choke Line (3")
13. Variable Choke
14. Choke Line Valve (2")
15. Panic Line Valve (3")
16. Choke Manifold Pressure Gauge
17. Choke Line (2")
18. Mud/Cross Spacer Spool
19. Casing Head "A" Section
20. Casing Head "A" Section 2" Valve
21. 9 5/8" Casing Collar



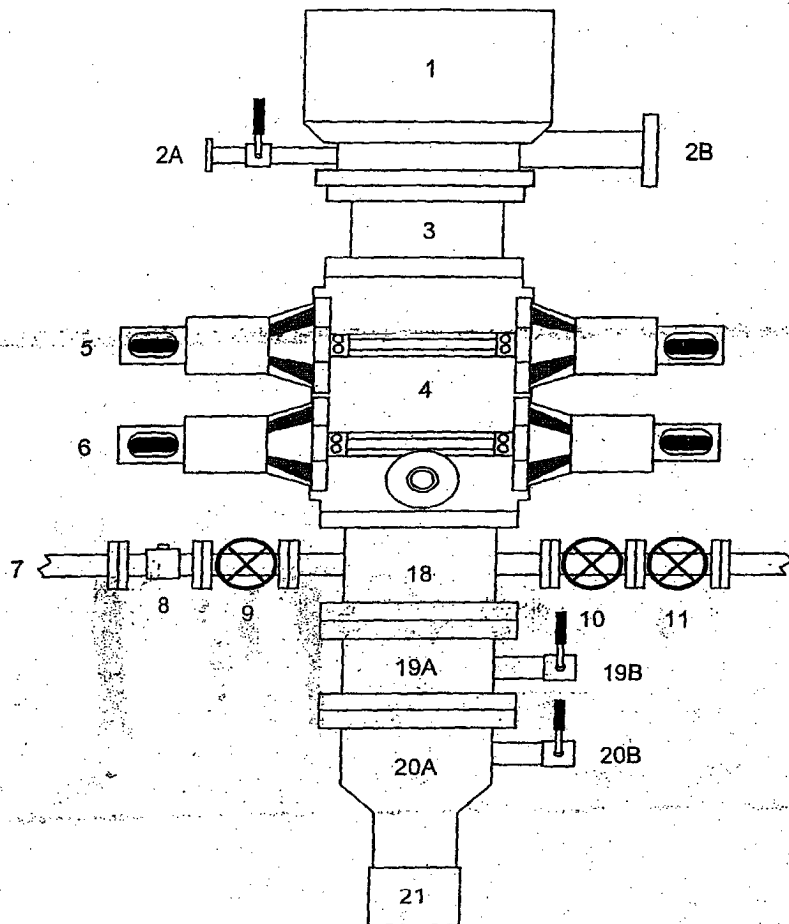
This BOP arrangement is for the drilling operations from the time the 9-5/8" surface casing is set through the setting of the 7" intermediate casing. The Casing Head "A" Section will be screwed onto the 9-5/8" surface casing stub. The BOP will be installed on the Casing Head "A" Section. The Pipe Rams, Blind Rams, Choke Manifold, and 9-5/8" surface casing will be tested to a low pressure test of 200 psi to 300 psi and to a high pressure test of **1000 psi** (this value is 44% of the minimum internal yield pressure of the 9-5/8" casing). We will drill the 8-3/4" hole to intermediate casing point and run and cement the 7" intermediate casing. Then we will nipple down the BOP, install a trash cap, & move out the drilling rig. We will install the casing spool on the 7" stub after the drilling rig is moved off location. At a later date we will move in the cavitation rig for the cavitation program.

In addition to the equipment in the above diagram the following equipment will comprise the BOP system:

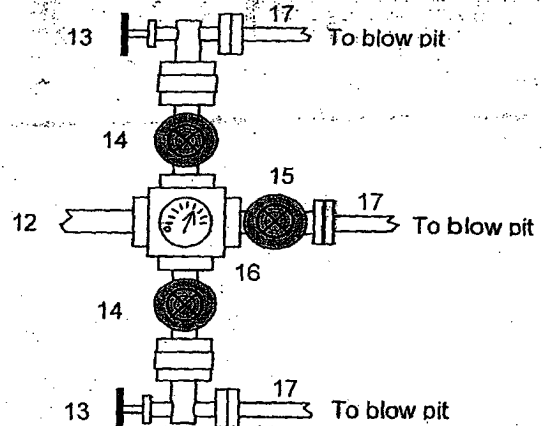
1. Upper Kelly cock Valve with handle
2. Stab-in TIW valve for all drillstrings in use

# BLOWOUT PREVENTER ARRANGEMENT & PROGRAM

For Drilling to TD and Setting 4.5 inch Casing



1. Rotating Head
- 2A. Fill-up Line & valve
- 2B. Bleeie Line (for Air Drilling)
3. Spacer Spool
4. Double Ram BOP (11", 3000 psi)
5. Pipe Rams
6. Blind Rams
7. Kill Line
8. Kill Line Check Valve
9. Kill Line Valve
10. Inner Choke Line Valve (3")
11. Outer Choke Line Valve (3")
12. Choke Line (3")
13. Variable Choke
14. Choke Line Valve (2")
15. Panic Line Valve (3")
16. Choke Manifold Pressure Gauge
17. Choke Line (2")
18. Mud Cross Spacer Spool
- 19A Csg Spool "B" Section (11", 3M)
- 19B "B" Section Csg Valve (2", 3M)
- 20A, Csg Head "A" Section (11", 3M)
- 20B "A" Section Csg Valve (2", 3M)
21. 9.5/8" Casing Collar



After the 7" intermediate casing has been run and cemented, the Casing Spool ("B" Section) will be installed on the wellhead ("A" Section) and the BOP will be installed on the Casing Spool. A test plug will be set in the wellhead and the pipe rams, blind rams, and choke manifold will be tested to 200 psi to 300 psi (low pressure test) for 2-3 minutes and to 3000 psi (high pressure test) for 10 minutes. Then the test plug will be removed and the 7" casing will be pressure tested against closed blind rams to 200 psi to 300 psi for 2-3 minutes and to 1800 psi for 30 minutes - this test pressure is 48% of the minimum internal yield strength of 3740 psi for the 7", 20#, J-55, STC casing. Then we will air drill the 6-1/4" hole to TD and run and cement the 4-1/2" casing.

In addition to the equipment in the above diagram the following equipment will comprise the BOP system:

1. Upper Kelly cock Valve with handle
2. Stab-in TIW valve for all drillstrings in use

**San Juan 29-6 Unit #104M  
NMSF078278; Unit O, 355 FSL & 1445 FEL  
Section 14, T29N, R6W; Rio Arriba County, NM**

**Cathodic Protection**

ConocoPhillips proposes to drill a cathodic protection deep well groundbed for the subject well. Will drill a 6-7/8" hole to an anticipated minimum depth of 300' (maximum depth of 500'). Cement plugs will not be used unless more than one water zone is encountered. Prior drilling history for the area indicates only one zone to that depth. If more than one water zone is encountered, notification will be made and details of cement and casing will be provided.

All drilling activity will remain on existing well pad and a Farmington based company will be doing the drilling for ConocoPhillips.

See attached drawing on proposed placement of groundbed & underground AC & DC cables and rectifier.