

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED

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

## APPLICATION FOR PERMIT TO DRILL OR REENTER

SEP 16 2004

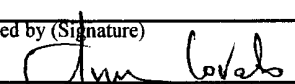
Bureau of Land Management  
Farmington Field Office

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. SF-080538
1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other: CBM <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator CONOCOPHILLIPS COMPANY Contact: VICKI WESTBY E-Mail: Vicki.R.Westby@conocophillips.com		7. If Unit or CA Agreement, Name and No.
3a. Address 4001 PENBROOK, SUITE 346 ODESSA, TX 79762	3b. Phone No. (include area code) Ph: 915.368.1352	8. Lease Name and Well No. SAN JUAN 30-5 UNIT 259A
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SENW 1504FNL 1806FWL At proposed prod. zone		9. API Well No. 30-039-29227
14. Distance in miles and direction from nearest town or post office*		10. Field and Pool, or Exploratory BASIN FRUITLAND COAL
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	11. Sec., T., R., M., or Blk. and Survey or Area Sec 13 T30N R5W Mer NMP F
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth 3710 MD	12. County or Parish RIO ARRIBA
21. Elevations (Show whether DF, KB, RT, GL, etc. 6890 GL	22. Approximate date work will start	13. State NM
23. Estimated duration		17. Spacing Unit dedicated to this well W/2 320.00
20. BLM/BIA Bond No. on file		

## 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.
2. A Drilling Plan.
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).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature (Electronic Submission)	Name (Printed/Typed) VICKI WESTBY	Date 09/15/2004
Title AGENT		
Approved by (Signature) 	Name (Printed/Typed)	Date
Title Acting AFM	Office	6/8/06

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 #36112 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

NMOC

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

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

State of New Mexico  
Energy, Minerals & Natural Resources Department  
OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

Form C-102  
Revised June 10, 2003  
Submitted to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

SEP 16 2004

Bureau of Land Management  
Farmington Field Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-039-29227		Pool Code 71629	Pool Name BASIN FRUITLAND COAL (GAS)
Property Code 31327	Property Name SAN JUAN 30-5 UNIT		Well Number 259A
OCRID No. 217817	Operator Name CONOCOPHILLIPS COMPANY		Elevation 6890

Surface Location

UL or lot no.	Section	Township	Range	Lot 1/4	Feet from the North/South line	Feet from the East/West line	County
F	13	30N	05W		1504	NORTH 1806 WEST	RIO ARRIBA

Bottom Hole Location if Different From Surface

UL or lot no.	Section	Township	Range	Lot 1/4	Feet from the North/South line	Feet from the East/West line	County

Dedicated Acres 320.05	Joint or Infill	Consolidation Code	Order No.
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5/4-East 1/2

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

<p>16</p> <p>LEASE SF-080538</p> <p>LAT: 36°48.9400' N LONG: 107°18.8886' W DATUM: NAD83</p>	<p>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Vicki Westby (pf)</i> Signature Vicki Westby Printed Name Sr. Analyst Title and E-mail Address 9/15/04 Date</p> <p>18 SURVEYOR CERTIFICATION</p> <p>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.</p> <p>Date of Survey: 9/15/04 Signature: [Signature] Title: Registered Professional Surveyor Certificate Number: 11391</p>
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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. <b>30-03929227</b>
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name <b>San Juan 30-5</b>
8. Well Number <b>259A</b>
9. OGRID Number <b>217817</b>
10. Pool name or Wildcat <b>Basin Fruitland Coal</b>

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b> (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 <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other	
2. Name of Operator <b>ConocoPhillips Company</b>	
3. Address of Operator <b>4001 Penbrook, Odessa, TX 79762</b>	
4. Well Location Unit Letter <b>F</b> : <b>1504</b> feet from the <b>North</b> line and <b>1806</b> feet from the <b>West</b> line Section <b>13</b> Township <b>30 N</b> Range <b>5 W</b> NMPM <b>Rio Arriba</b> County	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) <b>6890</b> GL	
Pit or Below-grade Tank Application <input type="checkbox"/> or Closure <input type="checkbox"/>	
Pit type <b>Drill</b> Depth to Groundwater <b>7100'</b> Distance from nearest fresh water well <b>71000'</b> Distance from nearest surface water <b>200-1000'</b>	
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 ☐

**SUBSEQUENT REPORT OF:**

REMEDIAL WORK ☐ ALTERING CASING ☐  
COMMENCE DRILLING OPNS. ☐ P AND A ☐  
CASING/CEMENT JOB ☐

OTHER: Drill Pit Notification

☒

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.

ConocoPhillips Company's Generic Pit Plan is on file at NMOCD in Aztec, NM. See the attached diagram that details the location of the pit in reference to the proposed wellhead. The drill pit will be lined. The drill pit will be closed after the well has been completed. The solids left after the water has been disposed of will be sampled and NMOCD approval will be obtained prior to closure of this pit.

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 Vicki Westby (pj) TITLE SR. Analyst DATE 9/15/04

Type or print name Vicki Westby

E-mail address: Vicki.R.Westby@ConocoPhillips.com Telephone No. 432-368-1352

**For State Use Only**

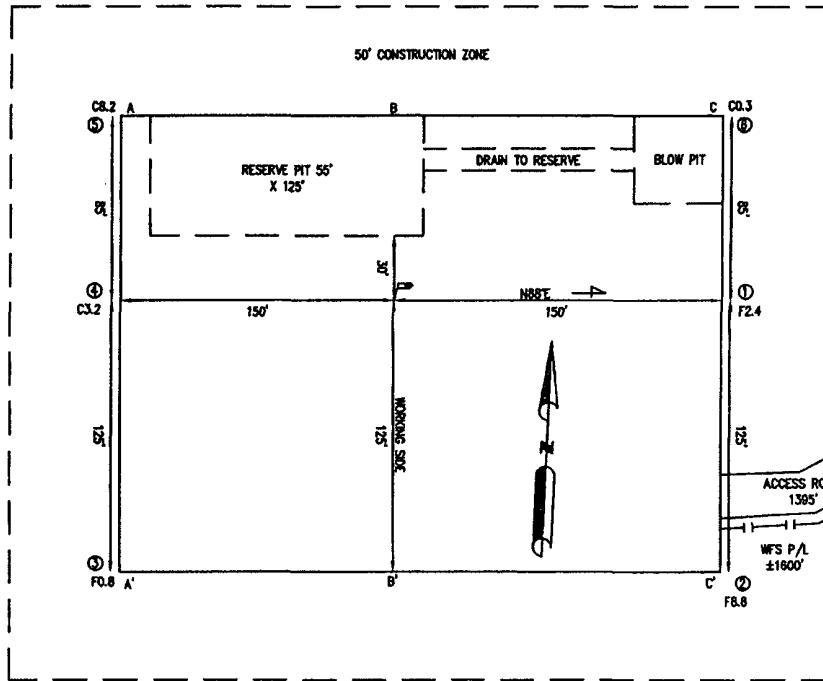
APPROVED BY: [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 8 DATE JUN 12 2006

Conditions of Approval (if any):

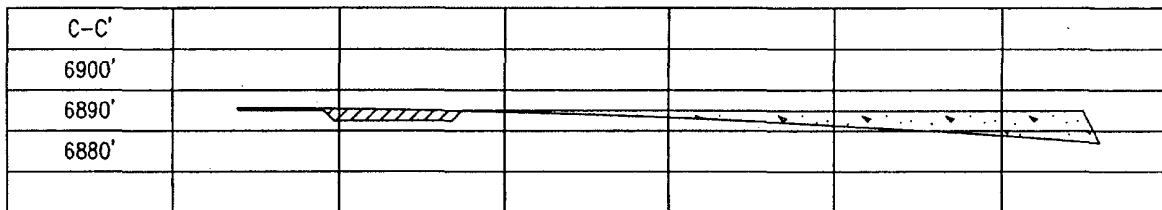
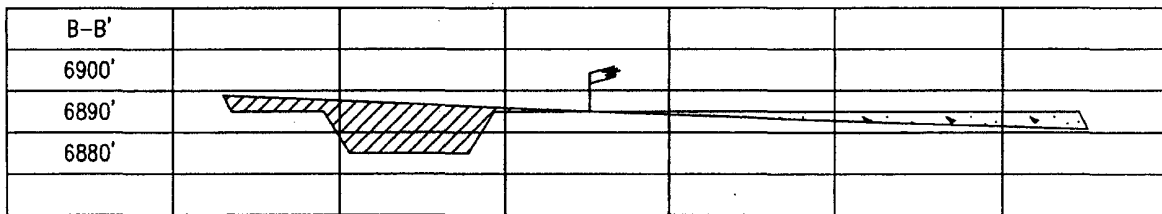
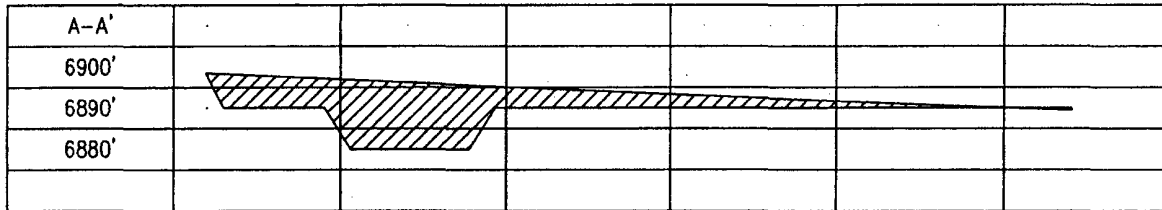
30, 48, 56. 42283  
107, 18, 39. 27375

LATITUDE: 36.81568° N  
LONGITUDE: 107.31151° W  
DATUM: WGS84

CONOCOPHILLIPS COMPANY SAN JUAN 30-5 UNIT #259A  
1504' FNL & 1806' FWL, SECTION 13, T30N, R05W, NMPM  
RIO ARRIBA COUNTY, NEW MEXICO ELEVATION: 6890'



PLAT NOTE:  
\*SURFACE OWNER\*  
BLM/FOREST SERVICE



# PROJECT PROPOSAL - New Drill / Sidetrack

**SAN JUAN 30-5 259A**

Lease:		AFE #:		AFE \$:	
Field Name: hPHILLIPS 30-5		Rig:	State: NM	County: RIO ARRIBA	API #:
Geoscientist: Cloud, Tom A		Phone: +1 832 486-2377	Prod. Engineer: Bergman, Pat W.		Phone: (832) 486-2358
Res. Engineer: Kolesar, James E.		Phone: (832) 486 - 2336	Proj. Field Lead:		Phone:
<b>Primary Objective (Zones)</b>					
Zone	Zone Name				
JCV	BASIN FRUITLAND COAL (GAS)				
<b>Location: Surface</b>					
Latitude: 36.82	Longitude: -107.31	X:	Y:	Section: 13	Range: 5W
Footage X: 1806 FWL		Footage Y: 1504 FNL		Elevation: 6890 (FT)	Township: 30N
Tolerance:					
Location Type:		Start Date (Est.):	Completion Date:	Date In Operation:	
Formation Data: Assume KB = 6903 Units = FT					
Formation Call & Casing Points	Depth (TVD in Ft)	SS (Ft)	Depletion (Yes/No)	BHP (PSIG)	BHT
SAN JOSE	13	6890	<input type="checkbox"/>		
Surface Casing	213	6690	<input type="checkbox"/>		12-1/4 hole. 9 5/8" 32.3 ppf, H-40, STC casing. Circulate cement to surface.
NCMT	1803	5100	<input type="checkbox"/>		
OJAM	3053	3850	<input type="checkbox"/>		Possible water flows.
KRLD	3163	3740	<input type="checkbox"/>		
FRLD	3393	3510	<input type="checkbox"/>		Possible gas.
Intermediate Casing	3503	3400	<input type="checkbox"/>		8 3/4" Hole. 7", 20 ppf, J-55, STC Casing. Circulate cement to surface.
BASE MAIN COAL	3623	3280	<input type="checkbox"/>	500	
PCCF	3653	3250	<input type="checkbox"/>		
Total Depth	3710	3193	<input type="checkbox"/>		6-1/4" hole possibly underreamed to 9.5". Optional Liner: 5.5", 15.5#, J-55 LTC - left uncemented.
<b>Reference Wells:</b>					
Reference Type	Well Name		Comments		
<b>Logging Program:</b>					
Intermediate Logs: <input type="checkbox"/> Log only if show <input type="checkbox"/> GR/ILD <input type="checkbox"/> Triple Combo					
TD Logs: <input type="checkbox"/> Triple Combo <input type="checkbox"/> Dipmeter <input type="checkbox"/> RFT <input type="checkbox"/> Sonic <input type="checkbox"/> VSP <input type="checkbox"/> TDT					
Additional Information:					

Comments: Zones - Carson National Forest

General/Work Description - Carson National Forest  
Requires 1600 ft of new access road and stay 1500' from nearest Fruitland well.

Mud Log from intermediate casing shoe to TD will be obtained.

**Drilling Mud Program:**

Surface: spud mud

Intermediate: fresh water mud with bentonite and polymer as needed

Below Intermediate: air/mist drilling media with foamer, polymer, & corrosion inhibitor as needed

## San Juan 30-5 # 259A

### SURFACE CASING :

Drill Bit Diameter	12.25"	
Casing Outside Diameter	9.625"	Casing Inside Diam. 9.001"
Casing Weight	32.3	ppf
Casing Grade	H-40	
Shoe Depth	230'	
Cement Yield	12	cuft/sk
Excess Cement	125	%
Cement Required	147	sx

SHOE 230', 9.625", 32.3 ppf, H-40 STC

### INTERMEDIATE CASING :

Drill Bit Diameter	8.75"	
Casing Outside Diameter	7"	Casing Inside Diam. 6.561"
Casing Weight	20	ppf
Casing Grade	J-55	
Shoe Depth	3503'	
Lead Cement Yield	291	cuft/sk
Lead Cement Excess	160	%
Tail Cement Length	315'	
Tail Cement Yield	133	cuft/sk
Tail Cement Excess	160	%
Lead Cement Required	411	sx
Tail Cement Required	100	sx

LINER TOP 3483'

SHOE 3503', 7", 20 ppf, J-55

LINER BOTTOM 3710' (Uncemented)

San Juan 30-5 #259A		
	Surf. Csg	Int. Csg
OD	9.825	7
ID	9.001	6.456
Depth	230	3503
Hole Diam	12.25	8.75
% Excess Lead		160
% Excess Tail	125	160
Lead Yield		2.91
Tail Yield	1.21	1.83
Ft of Tail Slurry	230	315
Top of Tail Slurry	0	3188
Top of Lead Slurry	N/A	0
Mud Wt (ppg)	8.9	9.0
Mud Type	WBM	WBM

Surface Casing						
	Ft	Cap	XS Factor	bbls	cuft	sx
Open Hole Annulus	230	0.055804	2.25	28.9	162.1	134.0
Shoe Track Volume	40	0.078735	1	3.1	17.7	13.3
Total				32.0	179.8	147.3

Intermediate Casing						
	Ft	Cap	XS Factor	bbls	cuft	sx
Lead Open Hole Annulus	2958	0.026786	2.6	206.0	1156.6	397.5
Lead Cased Hole Annulus	220	0.031116	1	6.8	38.4	13.2
Lead Total				212.8	1195.0	410.7
Tail Open Hole Annulus	315	0.026786	2.6	21.9	123.2	92.6
Tail Shoe Track Volume	42	0.040505	1	1.7	9.6	7.2
Tail Total				23.6	132.7	99.8

San Juan 30-6 #259A		
9-5/8 Surface Casing		
Cement Recipe	Class C Standard Cement	
	+ 3% Calcium Chloride	
	+0.25 lb/sx Flocele	
Cement Volume	4.7	sc
Cement Yield	1.21	cuff/sx
Slurry Volume	179.8	cuff
	32.0	bbbls
Cement Density	15.6	ppg
Water Required	5.29	gal/sx



San Juan 30-5 # 259A

7" Intermediate Casing		
Lead Slurry		
Cement Recipe	Standard Cement	
	+ 3% Econolite (Lost Circulation Additive)	
	+ 10 lb/sx Gilsonite (Lost Circ. Additive)	
	+ 0.25 lb/sx Flocele (Lost Circ. Additive)	
Cement Required	4.1	sx
Cement Yield	2.91	cuft/sx
Slurry Volume	195.0	cuft
	212.8	bbls
Cement Density	11.5	ppg
Water Required	16.88	gal/sx

7" Intermediate Casing		
Tail Slurry		
Cement Slurry	50 / 50 POZ Standard Cement	
	+ 2% Bentonite (Light Weight Additive)	
	+ 5 lbm/sk Gilsonite (Lost Circ. Additive)	
	+ 0.25 lbm/sk Flocele (lost Circ. Additive)	
	+ 2% Calcium Chloride (Accelerator)	
Cement Required	100	sx
Cement Yield	1.33	cuft/sx
Slurry Volume	132.7	cuft
	23.6	bbls
Cement Density	13.5	ppg
Water Required	5.36	gal/sx

## San Juan 30-5 #259A

### SURFACE CASING :

Drill Bit Diameter	12.25 "	
Casing Outside Diameter	9.625 "	9.001
Casing Weight	32.3 ppf	
Casing Grade	H-40	
Shoe Depth	230 '	40 '
Cement Yield	118 cuft/sk	
Excess Cement	125 %	
Casing Capacity	0.0787 bbl/ft	0.4419 cuft/ft
Hole / Casing Annulus Capacity	0.0558 bbl/ft	0.3132 cuft/ft

Cement Required 147 sx

SHOE 230 ', 9.625 ", 32.3 ppf, H-40

### INTERMEDIATE CASING :

Drill Bit Diameter	8.75 "	
Casing Outside Diameter	7 "	6.456
Casing Weight	20 ppf	
Casing Grade	J-55	
Shoe Depth	3503 '	
Lead Cement Yield	1261 cuft/sk	
Lead Cement Excess	160 %	
Tail Cement Length	300 '	42 '
Tail Cement Yield	1127 cuft/sk	
Tail Cement Excess	160 %	
Casing Capacity	0.0405 bbl/ft	0.2273 cuft/ft
Casing / Casing Annulus Capacity	0.0311 bbl/ft	0.1746 cuft/ft
Hole / Casing Annulus Capacity	0.0268 bbl/ft	0.1503 cuft/ft

Lead Cement Required 461 sx

Tail Cement Required 100 sx

LINER TOP 3483 '

SHOE 3503 ', 7 ", 20 ppf, J-55

LINER BOTTOM 3710' (Uncemented)

San Juan 30-5 #259A		
9 5/8" Surface Casing		
Cement Slurry	Class G	
	+ 2% S001 Calcium Chloride	
	+ 0.25 lb/sx D029 Cellophane Flakes	
Cement Volume	147	sx
Cement Yield	1.16	cuft/sx
Cement Volume	170.59	cuft
Cement Density	15.8	ppg
Water Required	4.983	gal/sx
Compressive Strength		
12 hr	1174	psi
36 hr	2763	psi

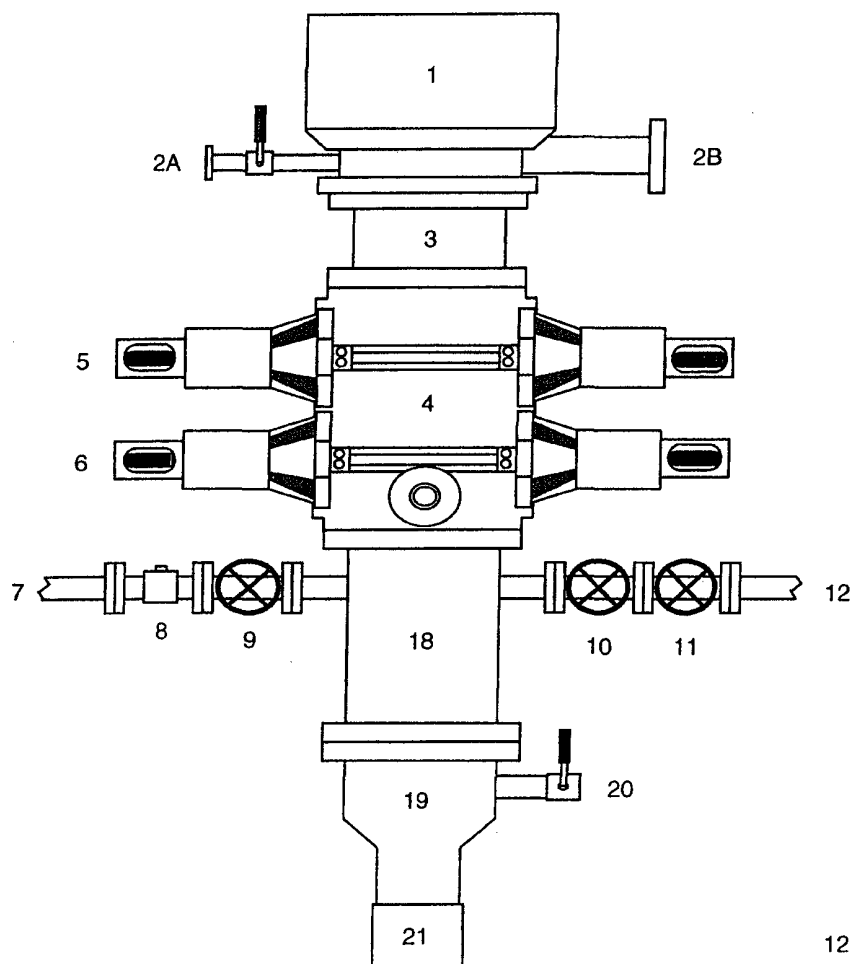
San Juan 30-5 #259A

7" Intermediate Casing		
Lead Slurry		
Cement Slurry	Class G	
	+ 3% D079 Extender	
	+ 0.25 lb/sx D029 Cellophane Flakes	
	+ 0.2% D046 Antifoam	
Cement Volume	461	sx
Cement Yield	2.61	cuft/sx
Cement Volume	1202.10	cuft
Cement Density	11.7	ppg
Water Required	15.876	gal/sx
Compressive Strength		
2 hr 37 min	50	psi
39 hr 40 min	500	psi

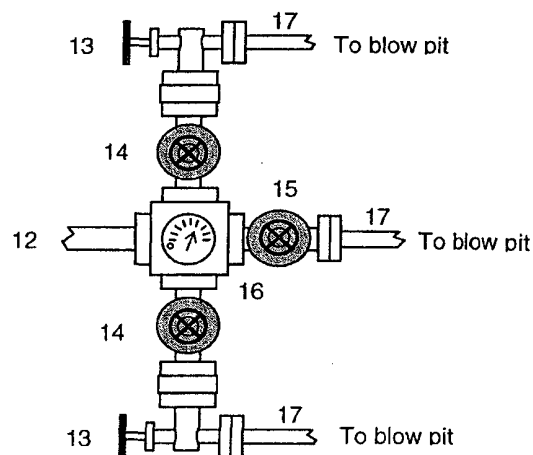
7" Intermediate Casing		
Tail Slurry		
Cement Slurry	50% POZ / 50% Class G cement	
	+ 2% D020 Bentonite	
	+ 2% S001 Calcium Chloride	
	+ 0.25 lb/sx D029 Cellophane Flakes	
	+ 5 lb/sx Gilsonite Extender	
	+ 0.2% D046 Antifoam	
Cement Volume	100	sx
Cement Yield	1.27	cuft/sx
Cement Volume	126.80	cuft
Cement Density	13.5	ppg
Water Required	5.182	gal/sx
Compressive Strength		
24 hr	908	psi
48 hr	1950	psi

# 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



A 12-1/4" hole will be drilled to approximately 220' and the 9-5/8" surface casing will be run and cemented. 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. A test plug will be set in the wellhead and the pipe rams and choke manifold will be tested to 200 psi to 300 psi (low pressure test) for 10 minutes and to 1000 psi (high pressure test) for 10 minutes. Then the test plug will be removed, and the **9-5/8" casing will be pressure tested** against closed blind rams to 200 psi to 300 psi for 10 minutes and to **1000 psi for 30 minutes** (this value is one 44% of the minimum internal yield pressure of the 9-5/8" casing). (Note: per regulatory requirements we will wait on cement at least 8 hrs after placement before testing the 9-5/8" surface casing). Then an 8-3/4" hole will be drilled to intermediate casing point and 7" intermediate casing will be run and cemented.

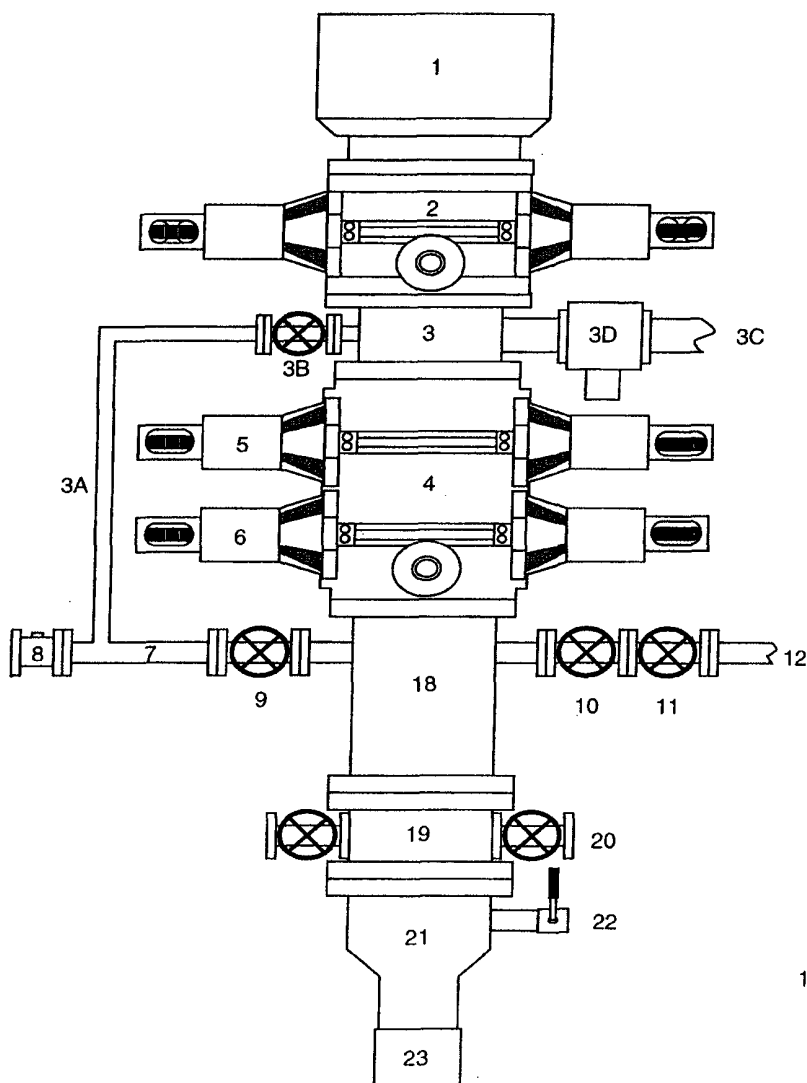
In addition to the equipment in the above diagram the following equipment will comprise the BOP system:

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

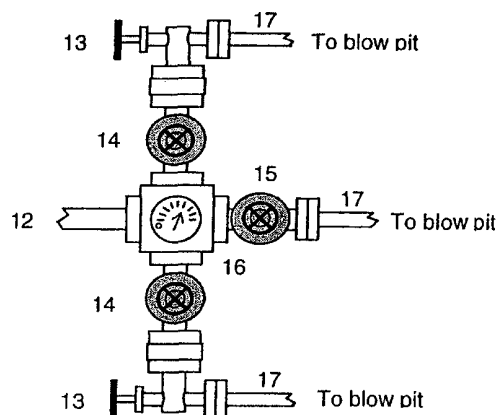
Revision Date: September 1, 2004

## BLOWOUT PREVENTER ARRANGEMENT & PROGRAM

For Cavitation Program



1. Stripping Head
2. Single Ram BOP (7-1/16", 3M)
3. Mud Cross
- 3A. Equalizing Line (2")
- 3B. Wing Valve (2-1/16", 3M)
- 3C. Blooie Line (2 ea, 5" OD)
- 3D. HCR Valve (1 ea per line, 4-1/16")
4. Double Ram BOP (7-1/16", 3M)
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. Vent Line (2")
18. Spacer Spool
19. Tubing Head
20. Tubing Head Valves (2- 9/16")
21. Casing Head "A" Section
22. Casing Head "A" Section 2" Valve
23. 9-5/8" Casing Collar



This BOP arrangement and test program is for the cavitation program. The BOP will be installed on the tubing head. The 7" casing will be pressure tested against closed blind rams to 200 psi to 300 psi for 10 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. The pipe rams and choke manifold will be tested to 200 psi to 300 psi (low pressure test) for 10 minutes and to 1800 psi (high pressure test) for 10 minutes - This test will be done with a test plug or possibly without a test plug (ie against casing). If we conduct this test without a test plug we will ensure that we have sufficient drillstring weight in the hole to exceed the upward force generated by the test.

We use a power swivel and air/mist to drill the 6-1/4" hole in our cavitation program. We do not use a kelly. In addition to the equipment in the above diagram the following equipment will comprise the BOP system:

1. String floats will be used inside the drillpipe
2. Stab-in TIW valve for all drillstrings in use
3. Each blooie line is equipped with a hydraulically controlled valve (HCR valve).

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