

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. SF-078999
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: VICKI WESTBY E-Mail: VICKI.R.WESTBY@CONOCOPHILLIPS.COM		8. Lease Name and Well No. SAN JUAN 31-6 UNIT 216A
3a. Address 4001 PENBROOK ODESSA, TX 79762	3b. Phone No. (include area code) Ph: 915.368.1352	9. API Well No. 30-039-29409
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface SESE 1002 FSL 1404 FEL 2-30N-6W At proposed prod. zone SESE 1002 FSL 1404 FEL 30-35-31N-6W		10. Field and Pool, or Exploratory BASIN FRUITLAND COAL
14. Distance in miles and direction from nearest town or post office*		11. Sec., T., R., M., or Blk. and Survey or Area Sec 2 30N Sec 25 31N R6W Mer NMP
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 2560.00	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 3343 MD 3359 TVD 3586 MD	13. State NM
21. Elevations (Show whether DF, KB, RT, GL, etc.) 6428 GL 6383	22. Approximate date work will start	17. Spacing Unit dedicated to this well 320 E 2 Sec 35-31N-6W
23. Estimated duration		

24. Attachments

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

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- 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 Ph: 915.368.1352	Date 01/17/2005
Title AGENT		
Approved by (Signature) <i>[Signature]</i>	Name (Printed/Typed)	Date 5/14/06
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)

HOLD C164 FOR Directional Survey

Electronic Submission #52960 verified by the BLM Well Information System  
For CONOCOPHILLIPS COMPANY, sent to the Farmington

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

NMOCD B

**Additional Operator Remarks:**

ConocoPhillips Company proposes to drill a vertical wellbore to the Basin Fruitland Coal formation. This well will be drilled and equipped in accordance with the attachments submitted herewith.

ConocoPhillips will have mudloggers on location and they will pick the TD to prevent us from accessing the PC.

This application is for APD/ROW.

This well does not require HPA notification.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB No. 1004-0137  
Expires: March 31, 2007

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE- Other instructions on reverse side

1. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. SF-078999
2. Name of Operator CONOCOPHILLIPS CO.		6. If Indian, Allottee or Tribe Name
3a. Address 4001 PENBROOK, ODESSA, TX 79762	3b. Phone No. (include area code) 432-368-1230	7. If Unit or CA/Agreement, Name and/or No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 1092 FSL - 1191 FEL, SECTION 35, T31N, R6W		8. Well Name and No. SAN JUAN 31-6 UNIT #216A
		9. API Well No. 3003929409
		10. Field and Pool, or Exploratory Area BASIN FRUITLAND COAL
		11. County or Parish, State RIO ARRIBA COUNTY, NM

## 12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other <u>MOVE SURF. LOC</u>
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	<u>DIRECTIONAL</u>
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

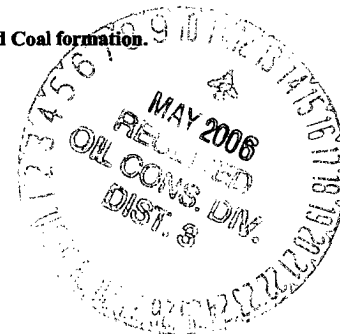
ConocoPhillips Company requests to move the location of this well and drill directionally to the Fruitland Coal formation.

New surface location: NENE of Section 2, T30N, R6W, 98' FNL - 1086' FEL, Rio Arriba County

New bottom hole location: SESE of Section 35, T31N, R6W, 1000' FSL - 1210' FEL, Rio Arriba County

Revised supporting documents are attached to this sundry.

The original APD for this well was filed 01/14/2005 and has not yet been approved.



14. I hereby certify that the foregoing is true and correct  
Name (Printed/Typed)

Peggy James

Title Senior Associate

Signature

Date

04/06/2006

## THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

Conditions of approval: If any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

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.

(Instructions on page 2)

HOLD C104 FOR

Directional Survey  
NMOCD

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

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-29409		*Pool Code 71629		*Pool Name BASIN FRUITLAND COAL (GAS)	
*Property Code 31328		*Property Name SAN JUAN 31-6 UNIT			*Well Number 216A
*OGRID No. 217817		*Operator Name CONOCOPHILLIPS COMPANY			*Elevation 6383

<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
A	2	30N	06W	98	NORTH	1086	RIO ARRIBA

<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
P	35	31N	06W	1000	SOUTH	1210	RIO ARRIBA

*Dedicated Acres E/2 320.0	*Joint or Infill	*Consolidation Code	*Order No.
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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><sup>16</sup></p> <p>WEST</p> <p>5280.00'</p> <p>5286.60'</p> <p>5280.00'</p> <p>5272.74'</p> <p>5264.16'</p> <p>N89°47'E</p>	<p><sup>17</sup>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>Virgil Chavez</i></p> <p>Signature</p> <p>Virgil Chavez</p> <p>Printed Name</p> <p>Projects &amp; Operations Lead</p> <p>Title and E-mail Address</p> <p>March 23, 2006</p> <p>Date</p>
	<p><sup>18</sup>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: 02/23/06</p> <p>Signature and Seal of Professional Surveyor:</p> <p>Certificate Number: NM-11393</p>

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-1 03  
May 27, 2004

WELL API NO. <b>30-039-29409</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 SAN JUAN 31-6 UNIT	
8. Well Number	216A
9. OGRID Number	217817
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  
ConocoPhillips Company

3. Address of Operator  
4001 Penbrook, Odessa, TX 79762

4. Well Location  
Unit Letter A 98 feet from the NORTH line and 1086 feet from the EAST line  
Section 2 Township 30N Range 6W NMPM RIO ARRIBA County

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
6383' GL

Pit or Below-grade Tank Application ☒ Closure ☐

Pit type DRILL Depth to Groundwater 75' Distance from nearest fresh water well >1000' Distance from nearest surface water 715'

Liner Thickness: 12 mil Below-Grade Tank: Volume: 4400 bbls; Construction Material: Synthetic

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 11.03. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

The pit will be constructed and closed in accordance with Rule 50 and as per COPC June 2005 General Pit Plan on file with the NMOCDD. 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

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 Peggy James

TITLE Senior Associate

DATE 04/06/2006

Type or print name

E-mail address peggy.s.james@conocophillips.com

Telephone No.: (432)368-1230

**For State Use Only**

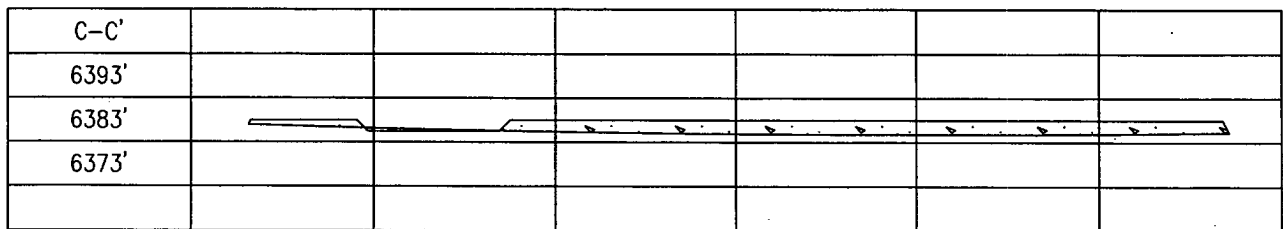
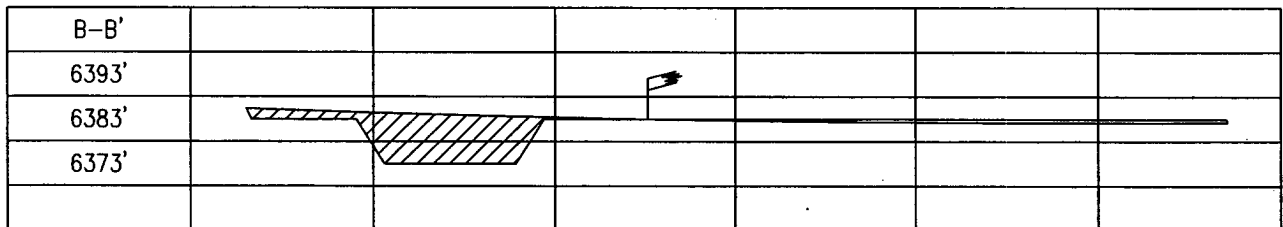
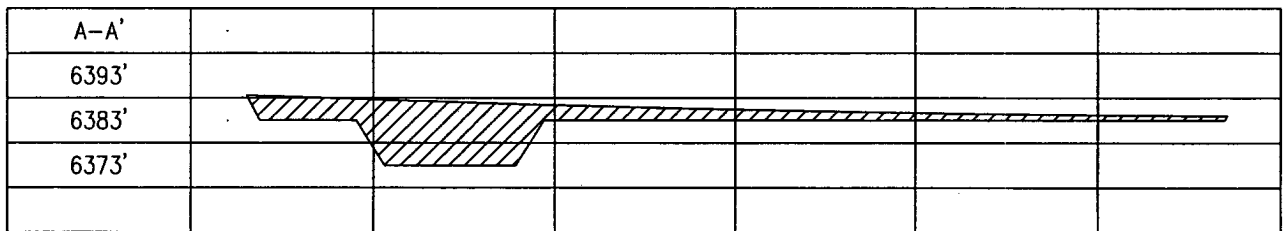
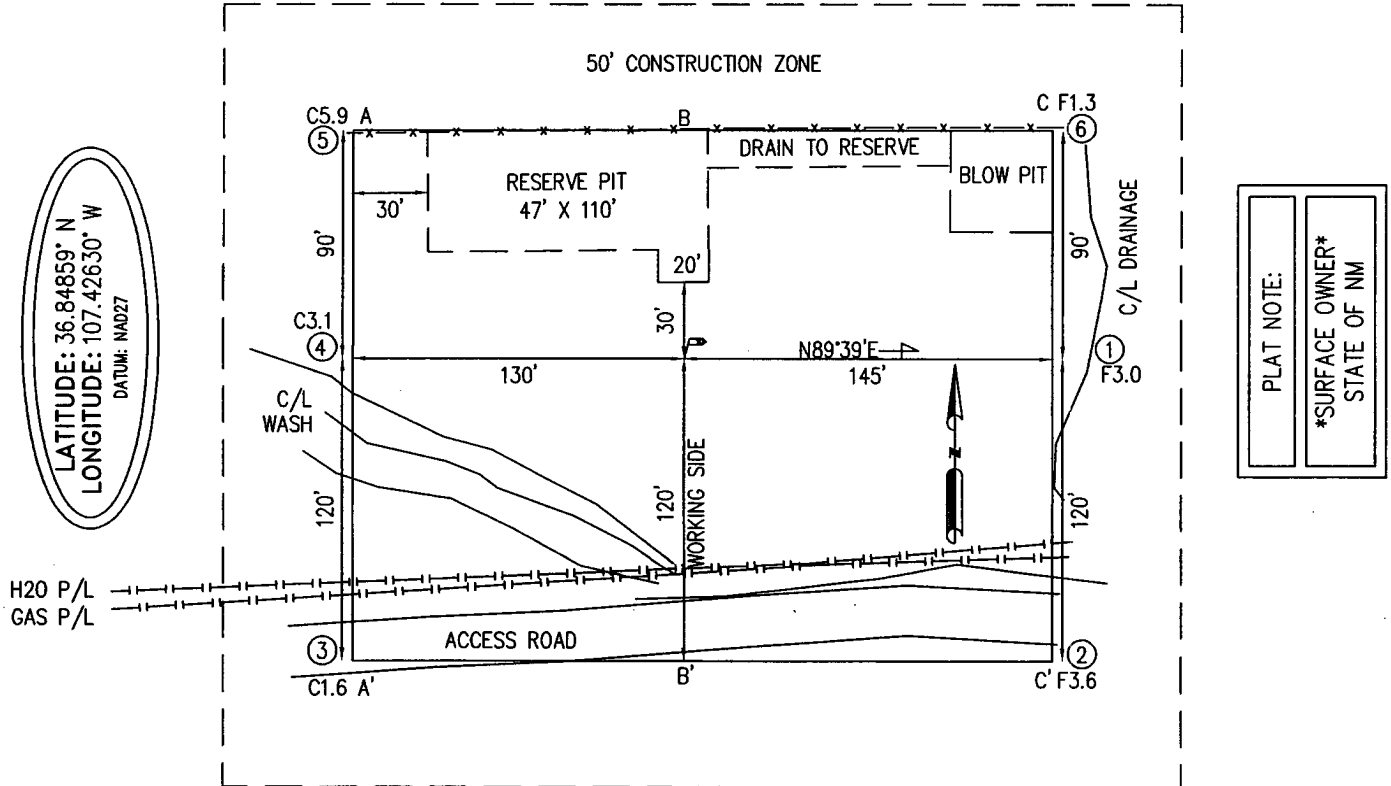
APPROVED BY: [Signature]

TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 43

DATE MAY 12 2006

Conditions of Approval (if any):

CONOCOPHILLIPS COMPANY SAN JUAN 31-6 UNIT #216A  
 98' FNL & 1086' FEL, SECTION 2, T30N, R06W, NMPM  
 RIO ARRIBA COUNTY, NEW MEXICO ELEVATION: 6383'



# PROJECT PROPOSAL - New Drill / Sidetrack

San Juan Business Unit

SAN JUAN 31-6 216A

Lease:		AFE #: WAN.CBM.6110		AFE \$:	
Field Name: 31-6	Rig: 320-2419	State: NM	County: RIO ARRIBA	API #:	
Geoscientist: Wentz, Robert M.	Phone: 832-486-2056	Prod. Engineer: Bergman, Pat W.	Phone: (832) 486-2358		
Res. Engineer: Stasney, Janet F.	Phone: +832 486-2359	Proj. Field Lead:	Phone:		

## Primary Objective (Zones):

Zone	Zone Name
JCV	BASIN FRUITLAND COAL (GAS)

Location: Surface		Datum Code: NAD 27		Deviated	
Latitude: 36.848590	Longitude: -107.426300	X:	Y:	Section: 2	Range: 6W
Footage X: 1086 FEL	Footage Y: 98 FNL	Elevation: 6383	(FT)	Township: 30N	

Tolerance:

Location: Bottom Hole		Datum Code: NAD 27		Deviated	
Latitude: 36.851675	Longitude: -107.426690	X:	Y:	Section: 35	Range: 6W
Footage X: 1210 FEL	Footage Y: 1000 FSL	Elevation:	(FT)	Township: 31N	

Tolerance: 100

Location Type:	Start Date (Est.):	Completion Date:	Date In Operation:
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Formation Data: Assume KB = 6399 Units = FT

Formation Call & Casing Points	Depth (TVD in Ft)	SS (Ft)	Depletion (Yes/No)	BHP (PSIG)	BHT	Remarks
SAN JOSE	16	6383	<input type="checkbox"/>			
Surface Casing	216	6183	<input type="checkbox"/>			12-1/4 hole. 9 5/8" 32.3 ppf, H-40, STC casing. Circulate cement to surface.
NCMT	1329	5070	<input type="checkbox"/>			
CJAM	2419	3980	<input type="checkbox"/>			Possible water flows.
KRLD	2509	3890	<input type="checkbox"/>			
FRLD	2929	3470	<input type="checkbox"/>			Possible gas.
Intermediate Casing	3049	3350	<input type="checkbox"/>			8 3/4" Hole. 7", 23 ppf, J-55, LTC Casing, Special Drift to 6.25". Circulate cement to surface.
TOP COAL	3079	3320	<input type="checkbox"/>			
BASE MAIN COAL	3229	3170	<input type="checkbox"/>	330		
Total Depth	3309	3090	<input type="checkbox"/>			6-1/4" hole possibly underreamed to 9.5". Optional Liner: 5.5", 15.5#, J-55 LTC - left uncemented.
PC TONGUE	3339	3060	<input type="checkbox"/>			
BASE LOWEST COAL	3349	3050	<input type="checkbox"/>			
PCCF	3359	3040	<input type="checkbox"/>			

## Reference Wells:

Reference Type	Well Name	Comments
Intermediate	31-6 #217	
Intermediate	31-6 #217A	
Intermediate	31-6 #215	
Intermediate	Rosa Unit #5A	
Intermediate	31-6 #211A	
Intermediate	31-6 #218	
Intermediate	31-6 #202A	

# PROJECT PROPOSAL - New Drill / Sidetrack

San Juan Business Unit

SAN JUAN 31-6 216A

## Logging Program:

Intermediate Logs: ☐ Log only if show ☐ GR/ILD ☐ Triple Combo

TD Logs: ☐ Triple Combo ☐ Dipmeter ☐ RFT ☐ Sonic ☐ VSP ☐ TDT

## Additional Information:

Log Type	Stage	From (Ft)	To (Ft)	Tool Type/Name	Remarks
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Comments: Location/Tops/Logging - Non-prospective lowest coal.

Zones - Drill and complete Fruitland Coal well.  
Current Lat/Longs are incorrectly located in section 36. Need to be corrected.

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

General/Work Description - Provide funds to drill and complete the Fruitland Coal formation in the San Juan 31-6 #216A, located in the SE 1/4 of Section 35, T31N, R6W, Basin Fruitland Coal Field, Rio Arriba County, New Mexico.

Location revised to a directional well drilled from section 2 to 1000' FSL & 1210" FEL of 31-6 section 35. The well has a BHL hardline = 1310' FSL and 1310" FEL (100' target radius).

The GL elevation = 6383' from survey plat and tops have been edited for a 6399' KB elevation (RKB=16').

Total depth must be above the PCCF formation as "formation tops" indicate.

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

TD includes 80 feet sump/rathole & COPC will comply with the BLM's Conditions of Approval for the proposed sump/rathole in this non-producing Pictured Cliffs formation



**TOPSET FRUITLAND COAL Wells:** (topset casing above coal to prepare for cavitation/DO/UR)

**Drilling Mud Program:**

Surface: spud mud

Intermediate: fresh water mud with bentonite and polymer as needed

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

**Centralizer Program:**

Surface: centralizers placed 10' above the shoe latched over a stop collar and at the top of the 2<sup>nd</sup>, 3<sup>rd</sup>, & 4<sup>th</sup> joints

Intermediate: centralizers placed 10' above the shoe latched over a stop collar and at the top of the 2<sup>nd</sup>, 4<sup>th</sup>, 6<sup>th</sup>, 8<sup>th</sup>, & 10<sup>th</sup> joints

Turbolizers placed one per joint from the top of the Ojo Alamo to the top of the Kirtland Shale

Below Intermediate: no centralizers used in air holes. In mud holes centralizers are spaced out appropriately

**CASE & FRAC FRUITLAND COAL Wells:** (casing set below coal to prepare for frac completion)

**Drilling Mud Program:**

Surface: spud mud

Production: fresh water mud with bentonite and polymer as needed

**Centralizer Program:**

Surface: centralizers placed 10' above the shoe latched over a stop collar and at the top of the 2<sup>nd</sup>, 3<sup>rd</sup>, & 4<sup>th</sup> joints

Production: centralizers placed 10' above the shoe latched over a stop collar and at the top of the 2<sup>nd</sup>, 4<sup>th</sup>, 6<sup>th</sup>, 8<sup>th</sup>, & 10<sup>th</sup> joints

Turbolizers placed one per joint from the top of the Ojo Alamo to the top of the Kirtland Shale

**MESA VERDE Wells:**

**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

**Centralizer Program:**

Surface: centralizers placed 10' above the shoe latched over a stop collar and at the top of the 2<sup>nd</sup>, 3<sup>rd</sup>, & 4<sup>th</sup> joints

Intermediate: centralizers placed 10' above the shoe latched over a stop collar and at the top of the 2<sup>nd</sup>, 4<sup>th</sup>, 6<sup>th</sup>, 8<sup>th</sup>, & 10<sup>th</sup> joints

Turbolizers placed one per joint from the top of the Ojo Alamo to the top of the Kirtland Shale

Below Intermediate: no centralizers used in air holes. In mud holes centralizers are spaced out appropriately

**DAKOTA Wells:**

**Drilling Mud Program:**

Surface: spud mud

Intermediate: fresh water mud with bentonite and polymer as needed

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

**Centralizer Program:**

Surface: centralizers placed 10' above the shoe latched over a stop collar and at the top of the 2<sup>nd</sup>, 3<sup>rd</sup>, & 4<sup>th</sup> joints

Intermediate: centralizers placed 10' above the shoe latched over a stop collar and at the top of the 2<sup>nd</sup>, 4<sup>th</sup>, 6<sup>th</sup>, 8<sup>th</sup>, & 10<sup>th</sup> joints

Turbolizers placed one per joint from the top of the Ojo Alamo to the top of the Kirtland Shale

Below Intermediate: no centralizers used in air holes. In mud holes centralizers are spaced out appropriately



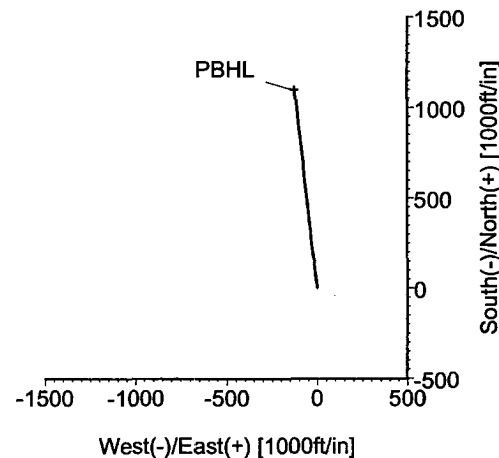
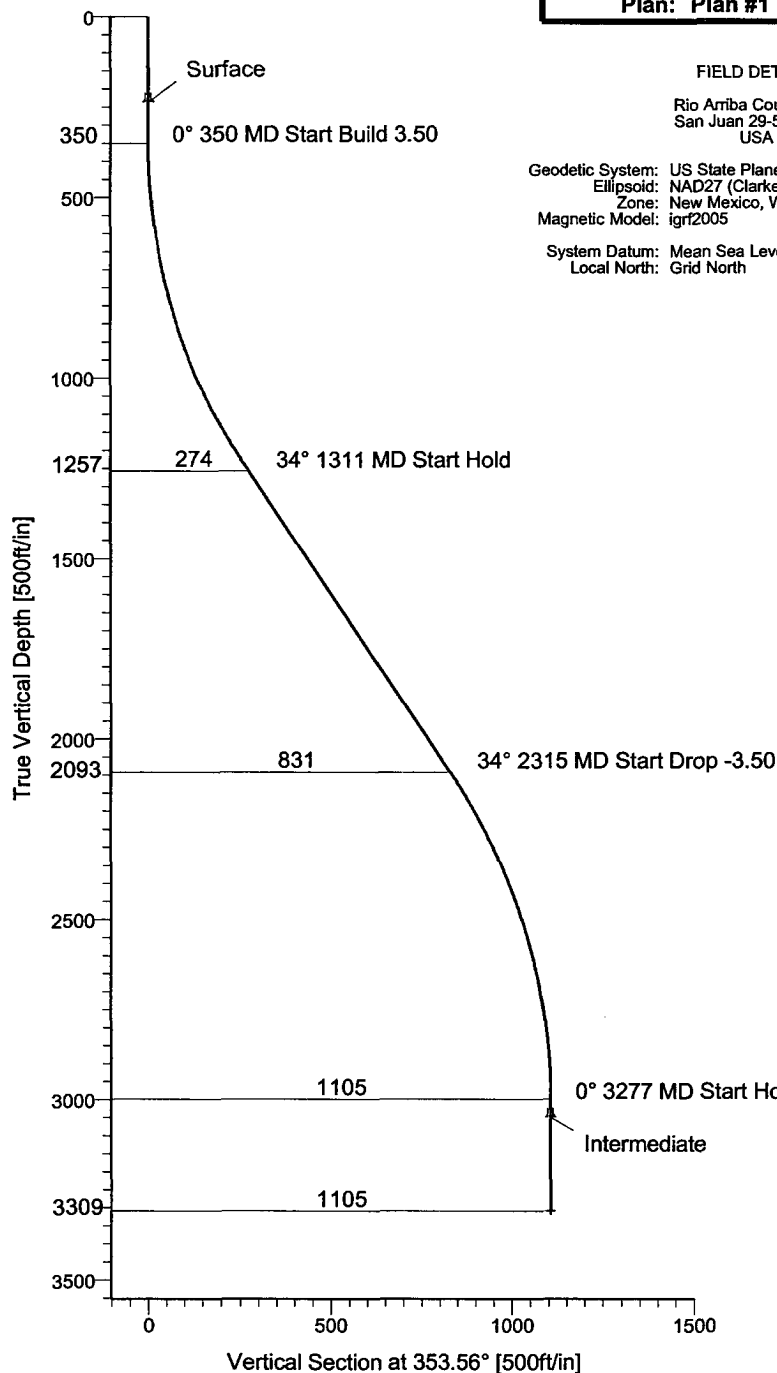
## ConocoPhillips

Field: Rio Arriba County, NM  
Site: San Juan 31-6 No. 216A  
Well: Well #216A  
Wellpath: Original Hole  
Plan: Plan #1



Azimuths to Grid North  
True North: 0.00°  
Magnetic North: 0.00°

Magnetic Field  
Strength: 0nT  
Dip Angle: 0.00°  
Date: 3/28/2006  
Model: igr2005



### WELLPATH DETAILS

Original Hole			
Rig:	SITE		
Ref. Datum:	0.00ft		
V.Section Angle	Origin +N/-S	Origin +E/-W	Starting From TVD
353.56°	0.00	0.00	3309.00

### CASING DETAILS

No.	TVD	MD	Name	Size
1	235.00	235.00	Surface	9.625
2	3049.00	3325.90	Intermediate	7.000

### TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
PBHL	3309.00	1098.00	-124.00	Point

### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	353.56	0.00	0.00	0.00	0.00	0.00	0.00	
2	350.00	0.00	353.56	350.00	0.00	0.00	0.00	0.00	0.00	
3	1311.46	33.65	353.56	1257.13	272.59	-30.78	3.50	353.56	274.32	
4	2315.44	33.65	353.56	2092.87	825.41	-93.22	0.00	0.00	830.66	
5	3276.90	0.00	353.56	3000.00	1098.00	-124.00	3.50	180.00	1104.98	
6	3585.90	0.00	353.56	3309.00	1098.00	-124.00	0.00	0.00	1104.98	PBHL



HOLE: 13.5 "  
 CSG OD: 9.625 "  
 CSG ID: 9.001 "  
 WGT: 32.3 ppf  
 GRADE: H-40  
 EXCESS: 125 %  
 DEPTH: 235'

### SURFACE:

Option 1  
 222 sx  
 46.2 bbls  
 259.5 cuft  
 1.17 ft<sup>3</sup>/sx  
 15.8 ppg  
 4.973 gal/sx  
 Class G Cement  
 + 3% S001 Calcium Chloride  
 + 0.25 lb/sx D029 Cellophane Flakes

Option 2  
 214 sx  
 46.2 bbls  
 259.5 cuft  
 1.21 ft<sup>3</sup>/sx  
 15.6 ppg  
 5.29 gal/sx  
 Standard Cement  
 + 3% Calcium Chloride  
 + 0.25 lb/sx Flocele

Comp. Strength  
 6 hrs 250 psi  
 8 hrs 500 psi

### INTERMEDIATE LEAD:

Option 1  
 434 sx  
 201.7 bbls  
 1132.4 cuft  
 2.61 ft<sup>3</sup>/sx  
 11.7 ppg  
 15.876 gal/sx  
 Class G Cement  
 + 0.25 lb/sx D029 Cellophane Flakes  
 + 3% D079 Extender  
 + 0.20% D046 Antifoam

Option 2  
 389 sx  
 201.7 bbls  
 1132.4 cuft  
 2.91 ft<sup>3</sup>/sx  
 11.5 ppg  
 16.88 gal/sx  
 Standard Cement  
 + 3% Econolite (Extender)  
 + 0.25 lb/sx Flocele  
 + 10 lb/sx Gilsontite

Comp. Strength  
 12 hrs 306 psi  
 24 hrs 433 psi  
 48 hrs 531 psi

HOLE: 8.75 "  
 CSG OD: 7 "  
 CSG ID: 6.456 "  
 WGT: 20 ppf  
 GRADE: J-55  
 EXCESS: 160 %  
 TAIL: 300'  
 DEPTH: 3326'

### INTERMEDIATE TAIL:

Option 1  
 100 sx  
 22.6 bbls  
 126.9 cuft  
 1.27 ft<sup>3</sup>/sx  
 13.5 ppg  
 5.182 gal/sx  
 50/50 Poz: Class G Cement  
 + 0.25 lb/sx D029 Cellophane Flakes  
 + 2% S001 Calcium Chloride  
 + 2% D020 Bentonite  
 + 5.0 lb/sx D024 Gilsontite Extender  
 + 0.2% D046 Antifoamer

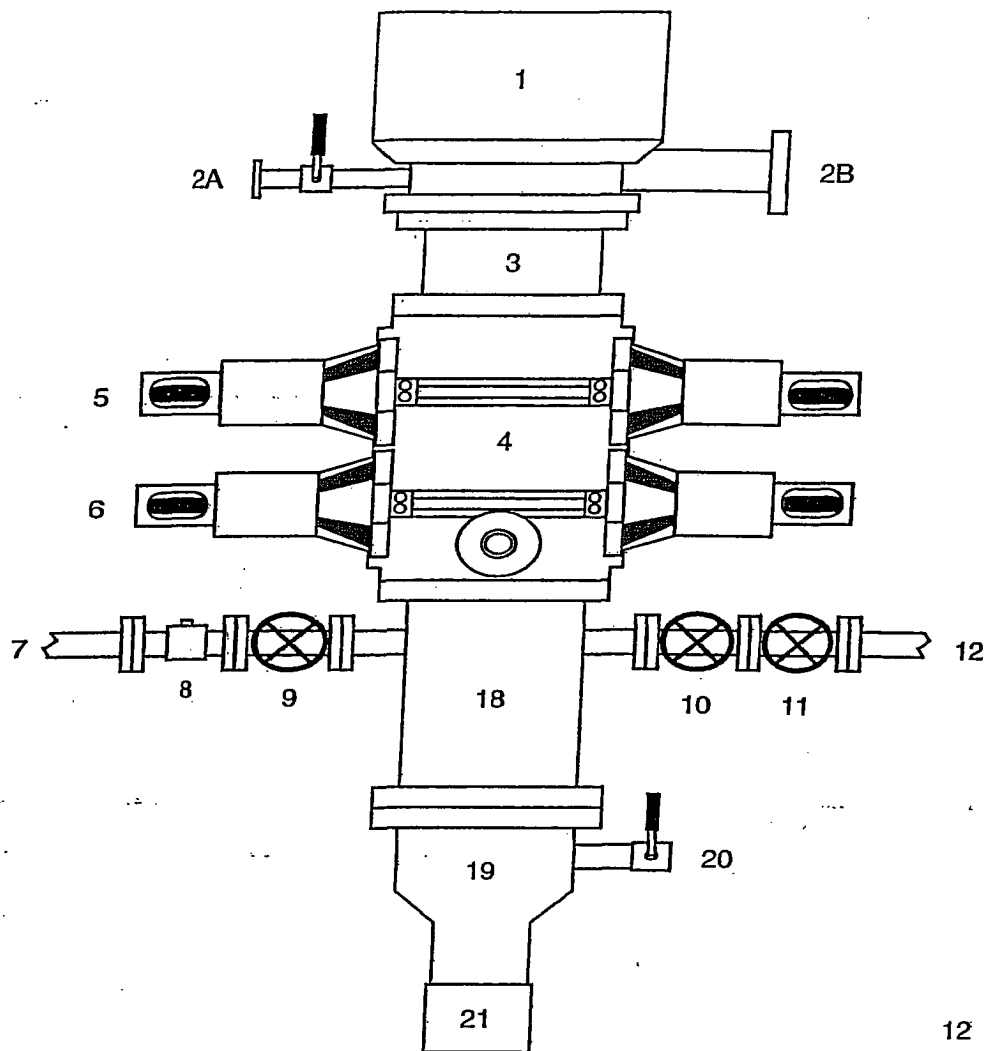
Option 2  
 95 sx  
 22.6 bbls  
 126.9 cuft  
 1.33 ft<sup>3</sup>/sx  
 13.5 ppg  
 5.36 gal/sx  
 50/50 Poz: Standard Cement  
 + 2% Bentonite  
 + 0.25 lb/sx Flocele  
 + 5.0 lb/sx Gilsontite  
 + 2% Calcium Chloride

Comp. Strength  
 3:50 500 psi  
 12 hrs 1281 psi  
 24hrs 1950 psi

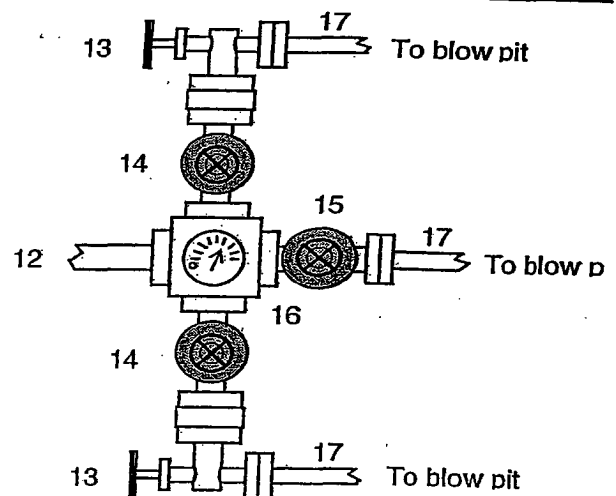
DEPTH: 3586'

# 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

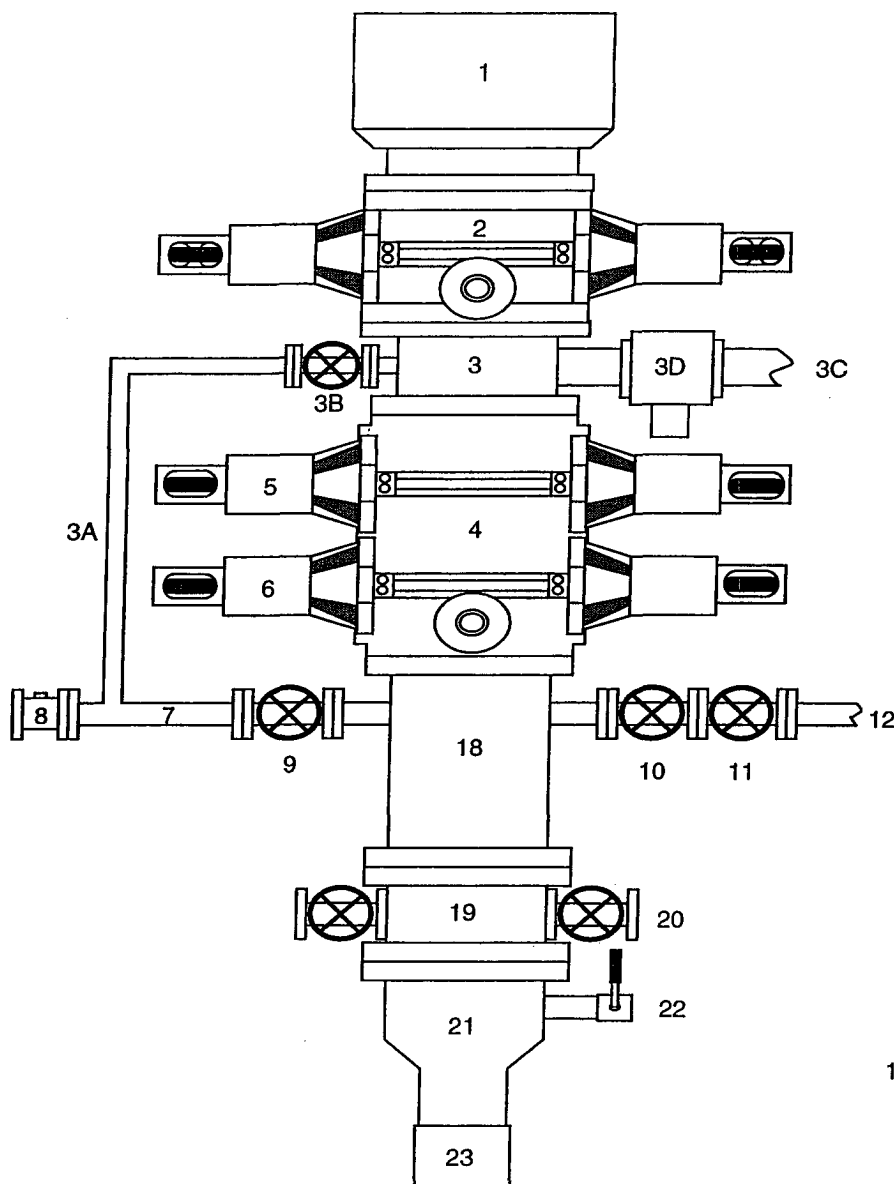


A 12-1/4" hole will be drilled to approximately 220' and the 9-5/8" surface casing will be run and cemented. The Casing Head "A" Section will be screwed onto the 9-5/8" surface casing stub. The BOP will be installed on the Casing Head "A" Section. A test plug will be set in the wellhead and the pipe 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.

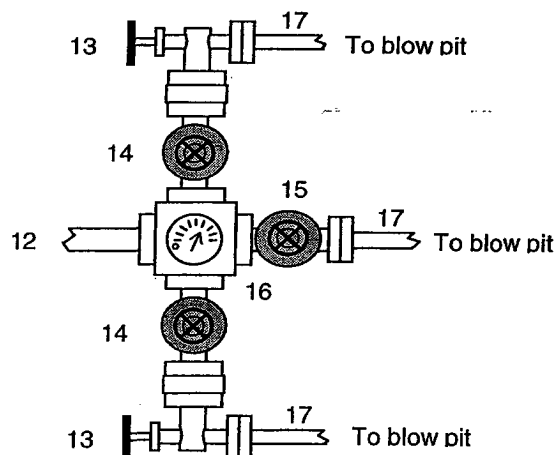
In addition to the equipment in the above diagram the following equipment will comprise the BOP system:

# 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).

**Property :** SAN JUAN 31-6 UNIT **Well #:** 216A

**Surface Location:**

**Unit:** A **Section:** 2 **Township:** 30N **Range:** 6W

**County:** RIO ARRIBA **State:** New Mexico

**Footage:** 98' **from the** NORTH **line,** 1086 **from the** EAST **line.**

**CATHODIC PROTECTION**

ConocoPhillips (COP) proposes to drill a cathodic protection deep well groundbed for the subject well. COP will drill a hole vertically at the surface large enough to accommodate 20 feet of 8 inch diameter PVC pipe for surface casing to assist in further drilling and loading. Casing may be cemented in place for stability if needed. COP 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 the existing well pad and a Farmington based company will be doing the drilling for ConocoPhillips.

**SAN JUAN 31-6 #216A**
**OPTION 1**

9-5/8 Surface Casing		
Cement Recipe	Class C Standard Cement	
	+ 3% Calcium Chloride	
	+0.25 lb/sx Flocele	
Cement Volume	147	sx
Cement Yield	1.21	cuft/sx
Slurry Volume	179.8	cuft
	32.0	bbls
Cement Density	15.6	ppg
Water Required	5.29	gal/sx

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	354	sx
Cement Yield	2.91	cuft/sx
Slurry Volume	132.7	cuft
	23.6	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

**OPTION 2**

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

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	398	sx
Cement Yield	2.61	cuft/sx
Cement Volume	1037.95	cuft
Cement Density	11.7	ppg
Water Required	15.876	gal/sx

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

**Property :** SAN JUAN 31-6 UNIT **Well #:** 216A

**Surface Location:**

**Unit:** P **Section:** 35 **Township:** 31N **Range:** 6W

**County:** Rio Arriba **State:** New Mexico

**Footage:** 1092 **from the** South **line,** 1191 **from the** East **line.**

**CATHODIC PROTECTION**

ConocoPhillips (COP) proposes to drill a cathodic protection deep well groundbed for the subject well. COP will drill a hole vertically at the surface large enough to accommodate 20 feet of 8 inch diameter PVC pipe for surface casing to assist in further drilling and loading. Casing may be cemented in place for stability if needed. COP 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 the existing well pad and a Farmington based company will be doing the drilling for ConocoPhillips.