

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM 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-079380
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 32-8 UNIT 267A
3a. Address 4001 PENBROOK ODESSA, TX 79762	3b. Phone No. (include area code) Ph: 915.368.1352	9. API Well No. 30-045-32886
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NESE 1597FSL 663FEL At proposed prod. zone NESE 1597FSL 663FEL		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 23 T32N R8W 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 1760.00	12. County or Parish SAN JUAN
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth 3693 MD	13. State NM
21. Elevations (Show whether DF, KB, RT, GL, etc.) 6750 GL	22. Approximate date work will start	17. Spacing Unit dedicated to this well EP
23. Estimated duration		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.<br>2. A Drilling Plan.<br>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).<br>5. Operator certification<br>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 Ph: 915.368.1352	Date 02/10/2005
Title AGENT		

Approved by (Signature) <i>[Signature]</i>	Name (Printed/Typed)	Date 2/31/05
Title Acting Field Manager - Minerals		Office

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 #53948 verified by the BLM Well Information System  
For CONOCOPHILLIPS COMPANY, sent to the Farmington

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

NMOC

State of New Mexico  
Energy, Minerals & Natural Resources Department  
OIL CONSERVATION DIVISION  
1220 South 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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-045-32886	<sup>2</sup> Pool Code 71629	<sup>3</sup> Pool Name BASIN-FRUITLAND COAL (GAS)
<sup>4</sup> Property Code 31330	<sup>5</sup> Property Name SAN JUAN 32-8 UNIT	<sup>6</sup> Well Number 267A
<sup>7</sup> OGRID No. 217817	<sup>8</sup> Operator Name CONOCOPHILLIPS COMPANY	<sup>9</sup> Elevation 6750

<sup>10</sup>Surface Location

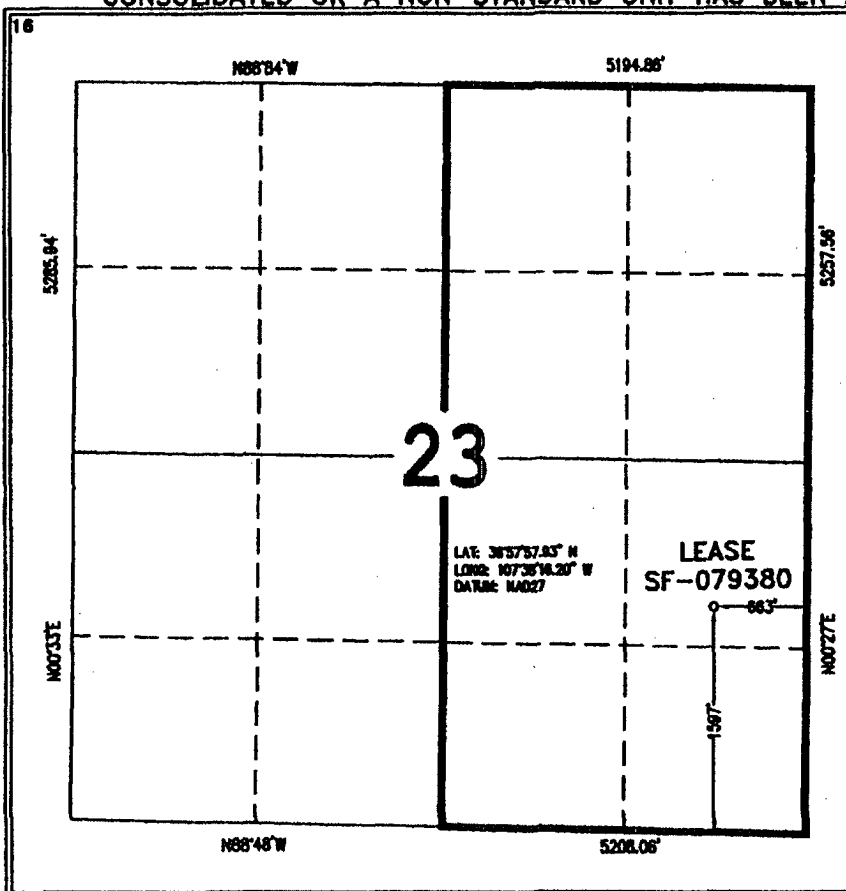
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	23	32N	08W		1597	SOUTH	663	EAST	SAN JUAN

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

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

<sup>12</sup> Dedicated Acres E/2 320.0	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> 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



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

*Vicki Westby (pj)*  
Signature

Vicki Westby  
Printed Name

Staff Agent  
Title and E-mail Address

2/10/05  
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 of Survey 10/14/04  
Signature and Seal of Professional Surveyor

*Henry P. Broadbent*  
HENRY P. BROADBENT, JR. J.R.  
REGISTERED PROFESSIONAL SURVEYOR  
Certificate Number: NM-11363

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

Form C-103  
May 27, 2004

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

WELL API NO.

5. Indicate Type of Lease

STATE ☐ FEE ☐

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name

San Juan 32-8 Unit

8. Well Number 267A

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 I 1597 feet from the South line and 663 feet from the East line  
Section 23 Township 32N Range 8W NMPM San Juan County

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
6750 GL

Pit or Below-grade Tank Application ☐ Closure ☐

Pit type DRILL Depth to Groundwater 100' Distance from nearest fresh water well >1 Mile Distance from nearest surface water 60'

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 ☐

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 the Nov. 1, 2004 Guidelines. 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

TITLE Staff Agent

DATE 2/10/05

Type or print name  
For State Use Only

E-mail address:

Telephone No.

APPROVED BY:   
Conditions of Approval (if any):

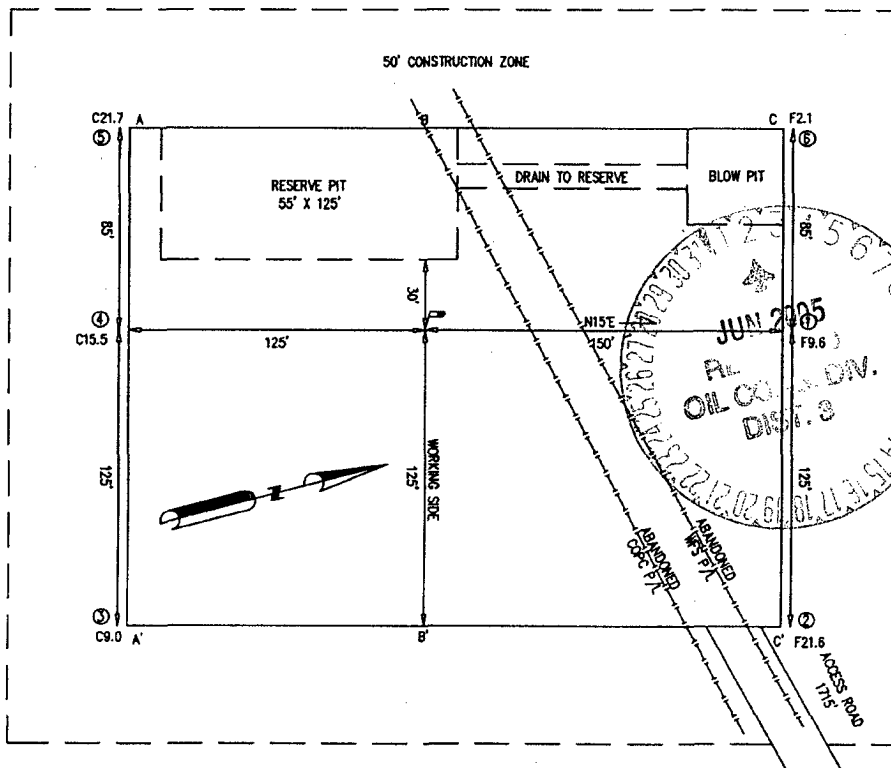
DEPUTY OIL & GAS INSPECTOR, DIST. IV  
TITLE

DATE

JUN - 2 2005

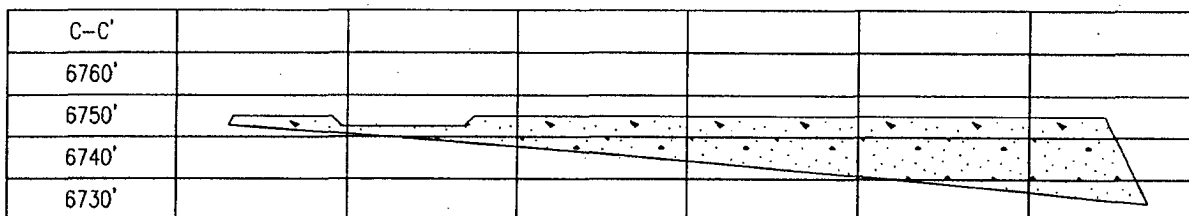
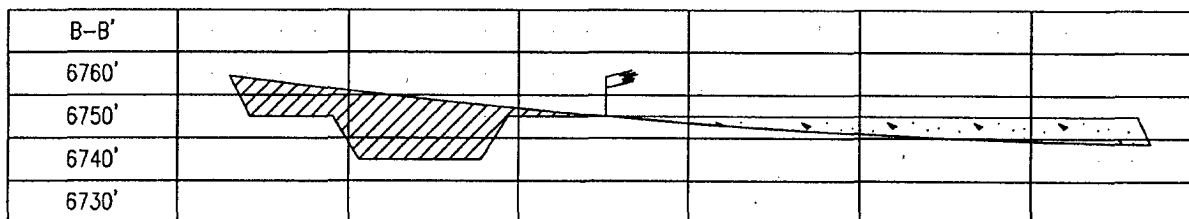
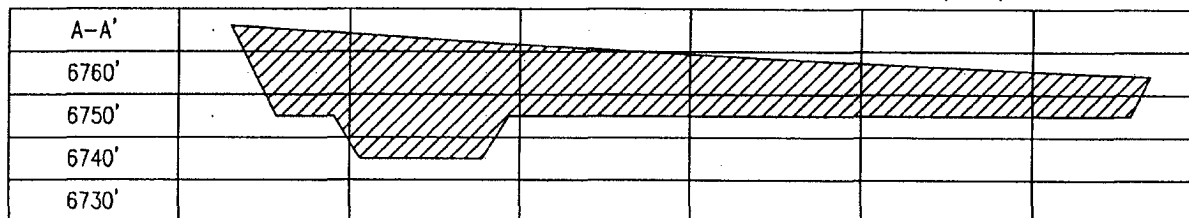
CONOCOPHILLIPS COMPANY SAN JUAN 32-8 UNIT #267A  
 1597' FSL & 663' FEL, SECTION 23, T32N, R08W, NMPM  
 SAN JUAN COUNTY, NEW MEXICO ELEVATION: 6750'

LATITUDE: 36°57'57.93" N  
 LONGITUDE: 107°38'16.20" W  
 DATUM: NAD27



PLAT NOTE:

\*SURFACE OWNER\*  
 BLM

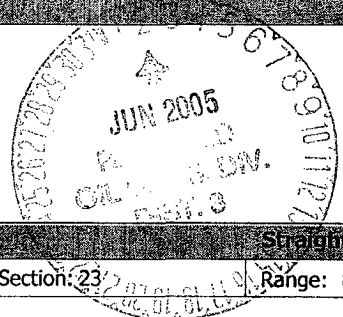




San Juan Business Unit

## PROJECT PROPOSAL - New Drill / Sidetrack

SAN JUAN 32-8 267A

Lease:		AFE #:		AFE \$:	
Field Name: hPHILLIPS 32-8		Rig:	State: NM	County: SAN JUAN	API #:
Geoscientist: Cloud, Tom A		Phone: +1 832 486-2377	Prod. Engineer:		Phone: 832-486-2254
Res. Engineer: Peterson, Brad T		Phone: 486-2055	Proj. Field Lead:		Phone:
<b>Primary Objective (Zones):</b>					
<b>Zone</b>	<b>Zone Name</b>				
JCV	BASIN FRUITLAND COAL (GAS)				
					
<b>Location:</b> Surface <span style="float: right;">Straight Hole</span>					
Latitude: 36.97	Longitude: -107.64	X:	Y:	Section: 23	Range: 8W
Footage X: 663 FEL	Footage Y: 1597 FSL	Elevation: 6750	(FT)	Township: 32N	
Tolerance:					
Location Type:		Start Date (Est.):	Completion Date:	Date In Operation:	
Formation Data: Assume KB = 6763 Units = FT					
Formation Call & Casing Points	Depth (TVD in Ft)	SS (Ft)	Depletion (Yes/No)	BHP (PSIG)	BHT
Remarks					
SAN JOSE	13	6750	<input type="checkbox"/>		
Surface Casing	213	6550	<input type="checkbox"/>		12-1/4 hole. 9 5/8" 32.3 ppf, H-40, STC casing. Circulate cement to surface.
NCMT	938	5825	<input type="checkbox"/>		
OJAM	2488	4275	<input type="checkbox"/>		Possible water flows.
KRLD	3039	3724	<input type="checkbox"/>		
FRLD	3193	3570	<input type="checkbox"/>		Possible gas.
Intermediate Casing	3238	3525	<input type="checkbox"/>		8 3/4" Hole. 7", 20 ppf, J-55, STC Casing. Circulate cement to surface.
TOP COAL	3268	3495	<input type="checkbox"/>		
BASE MAIN COAL	3428	3335	<input type="checkbox"/>	1350	
PC TONGUE	3506	3257	<input type="checkbox"/>		
BASE LOWEST COAL	3618	3145	<input type="checkbox"/>		
PCCF	3623	3140	<input type="checkbox"/>		
Total Depth	3693	3070	<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			
Intermediate	NWPL SJ 32-8 #37				
<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:					
Log Type	Stage	From (Ft)	To (Ft)	Tool Type/Name	Remarks

## PROJECT PROPOSAL - New Drill / Sidetrack

SAN JUAN 32-8 267A

Comments: General/Work Description - 4-8 ft coal just above PCCF. No PCCF PA.  
Final staked elevation.  
Notify geologist if graded location elevation differs from staked elevation.

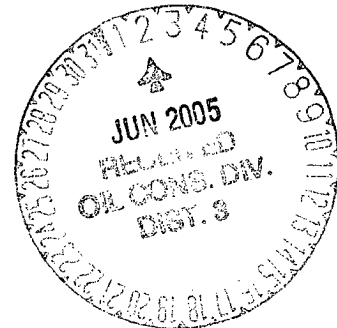
Mud Log from intermediate casing shoe to TD will be obtained.

**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



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB NO. 1004-0135  
Expires: November 30, 2000**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.**5. Lease Serial No.  
NMSF079380

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.  
NMNM78424B8. Well Name and No.  
SAN JUAN 32-8 UNIT 267A9. API Well No.  
30-045-32886-00-X110. Field and Pool, or Exploratory  
BASIN FRUITLAND COAL11. County or Parish, and State  
SAN JUAN COUNTY, NM**SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

CONOCOPHILLIPS COMPANY

Contact: VICKI WESTBY

E-Mail: vicki.r.westby@conocophillips.com

3a. Address

P O BOX 2197 WL 6106  
HOUSTON, TX 77252

3b. Phone No. (include area code)

Ph: 432.368.1352

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

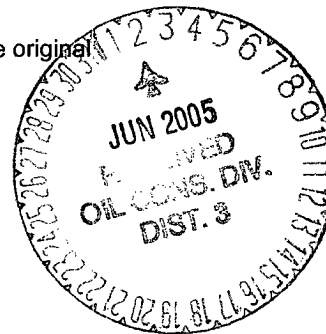
Sec 23 T32N R8W NESE 1597FSL 663FEL

**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
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Change to Original A
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	PD

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 submit revised cement information for this well. The original schematic and cement calculations submitted were in error.



14. I hereby certify that the foregoing is true and correct.

Electronic Submission #55509 verified by the BLM Well Information System  
For CONOCOPHILLIPS COMPANY, sent to the Farmington  
Committed to AFMSS for processing by ADRIENNE BRUMLEY on 03/29/2005 (05AXB0995SE)

Name (Printed/Typed) VICKI WESTBY

Title AGENT

Signature (Electronic Submission)

Date 03/28/2005

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By

Title

Date 5/31/05

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.

**\*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\***

NMOCd

**San Juan 32-8 # 267A**  
**Halliburton Cementing Program**

**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	1.21	cuft/sk
Cement Density	15.6	lb/gal
Excess Cement	125	%
Cement Required	141	sx

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

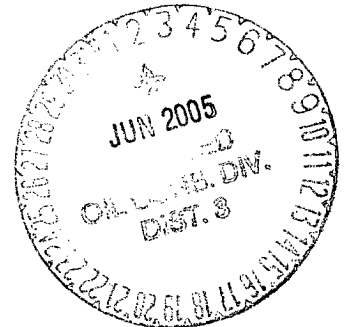
**INTERMEDIATE CASING :**

Drill Bit Diameter	8.75 "	
Casing Outside Diameter	7 "	Casing Inside Diam. 6.456 "
Casing Weight	20	ppf
Casing Grade	J-55	
Shoe Depth	3238 '	
Lead Cement Yield	2.91	cuft/sk
Lead Cement Density	11.5	lb/gal
Lead Cement Excess	160	%
Tail Cement Length	315 '	
Tail Cement Yield	1.33	cuft/sk
Tail Cement Density	13.5	lb/gal
Tail Cement Excess	160	%
Lead Cement Required	375	sx
Tail Cement Required	100	sx

LINER TOP 3218 '

SHOE 3238 ', 7 ", 20 ppf, J-55

LINER BOTTOM 3693 ' (Uncemented)





**SAN JUAN 32-8 #267A**

**HALLIBURTON OPTION**

9-5/8 Surface Casing		
Cement Recipe	Standard Cement	
	+ 3% Calcium Chloride	
	+ 0.25 lb/sx Flocele	
Cement Volume	141	sx
Cement Yield	1.21	cuft/sx
Slurry Volume	170.7	cuft
	30.4	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	375	sx
Cement Yield	2.91	cuft/sx
Slurry Volume	1090.9	cuft
	194.3	bbls
Cement Density	11.5	ppg
Water Required	16.88	gal/sx

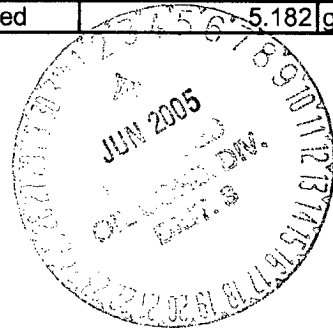
7" Intermediate Casing		
Tail Slurry		
Cement Slurry	50 / 50 POZ: Standard Cement	
	+ 2% Bentonite (Light Weight Additive)	
	+ 5 lbm/sk Gilsonite (Lost Circ. Additive)	
	+ 0.25 lbm/sk Flocele (lost Circ. Additive)	
	+ 2% Calcium Chloride (Accelerator)	
Cement Required	100	sx
Cement Yield	1.33	cuft/sx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

**SCHLUMBERGER OPTION**

9-5/8 Surface Casing		
Cement Recipe	Class G Cement	
	+ 3% S001 Calcium Chloride	
	+ 0.25 lb/sx D029 Cellophane Flakes	
Cement Volume	147	sx
Cement Yield	1.16	cuft/sx
Slurry Volume	170.7	cuft
	30.4	bbls
Cement Density	15.8	ppg
Water Required	4.983	gal/sx

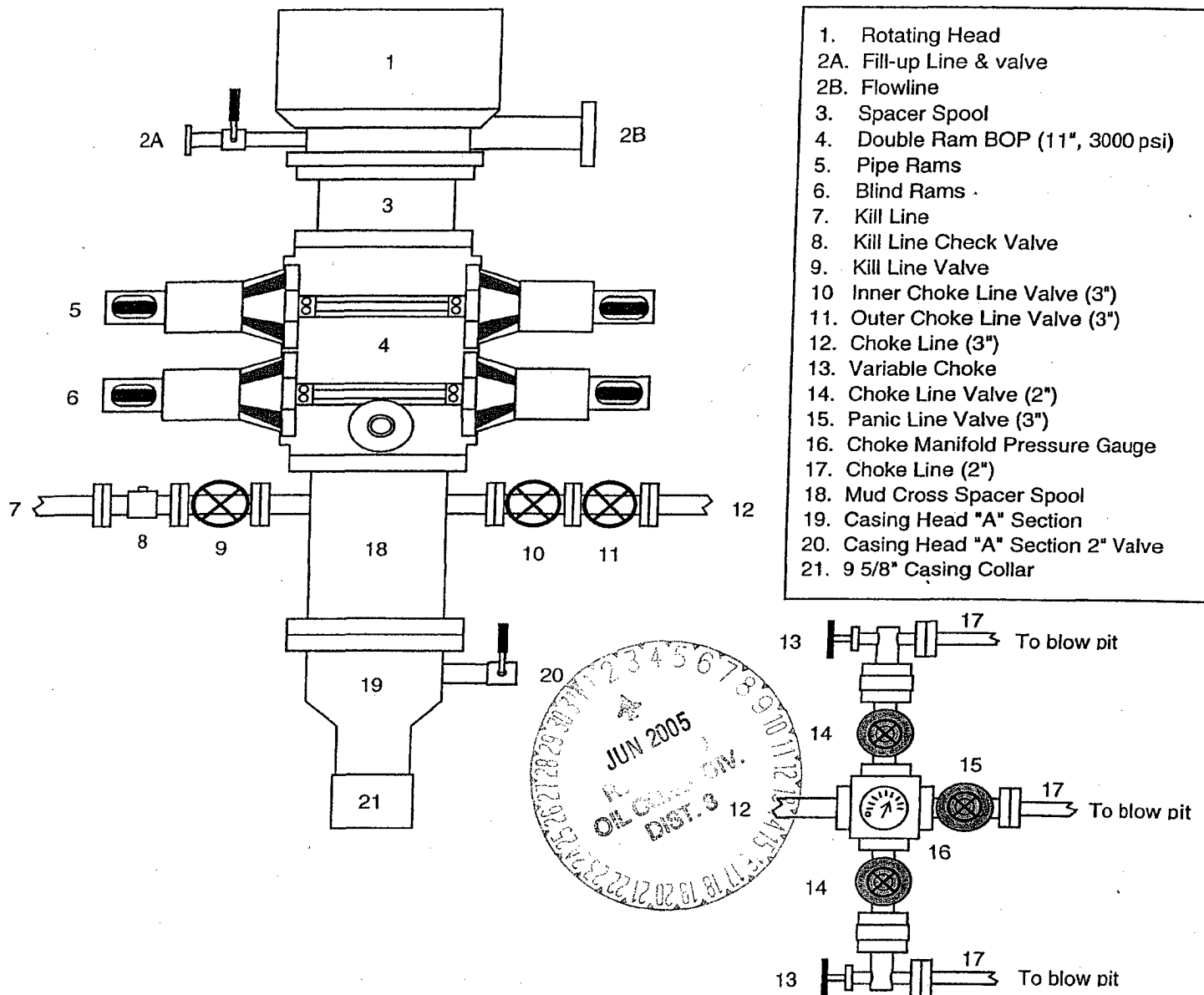
7" Intermediate Casing		
Lead Slurry		
Cement Recipe	Class G Cement	
	+ 3% D079 Extender	
	+ 0.25 lb/sx D029 Cellophane Flakes	
	+ 0.2% D046 Antifoam)	
Cement Required	420	sx
Cement Yield	2.61	cuft/sx
Slurry Volume	1096.8	cuft
	195.3	bbls
Cement Density	11.7	ppg
Water Required	15.876	gal/sx

7" Intermediate Casing		
Tail Slurry		
Cement Slurry	50 / 50 POZ : Class G Cement	
	+ 2% D020 Bentonite	
	+ 5 lb/sx D024 Gilsonite extender	
	+ 0.25 lb/sx D029 Cellophane Flakes	
	+ 2% S001 Calcium Chloride	
	+ 0.2% D046 Antifoam	
Cement Required	100	sx
Cement Yield	1.27	cuft/sx
Slurry Volume	126.9	cuft
	22.6	bbls
Cement Density	13.5	ppg
Water Required	5.182	gal/sx



# BLOWOUT PREVENTER ARRANGEMENT & PROGRAM

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



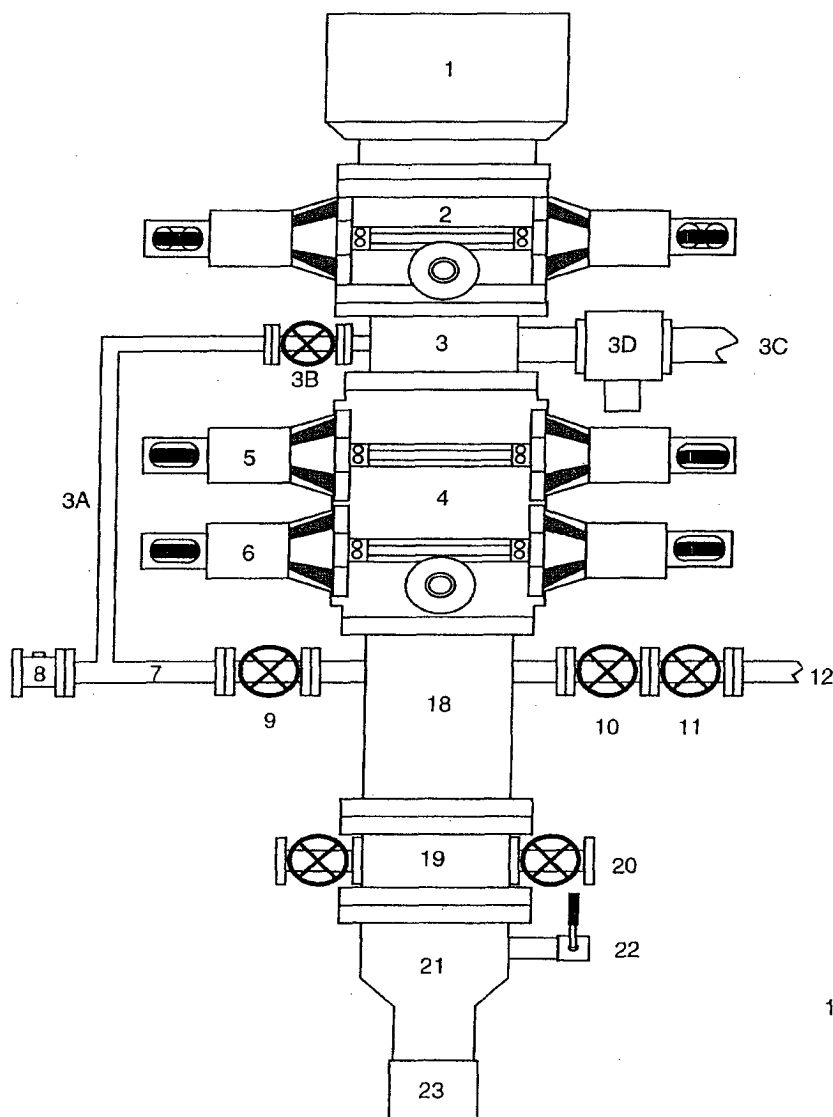
A 12-1/4" hole will be drilled to approximately 220' and the 9-5/8" surface casing will be run and cemented. The Casing Head "A" Section will be screwed onto the 9-5/8" surface casing stub. The BOP will be installed on the Casing Head "A" Section. A test plug will be set in the wellhead and the pipe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

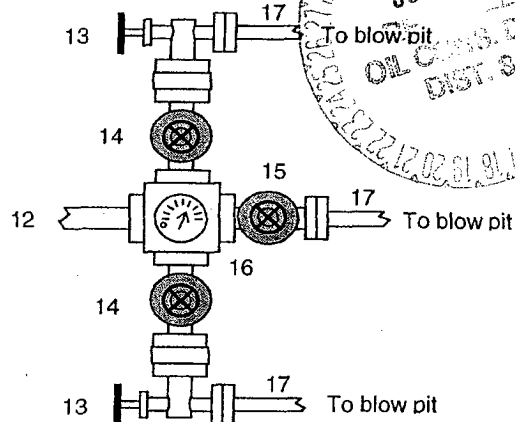
1. Upper Kelly cock Valve with handle
2. Stab-in TIW valve for all drillstrings in use

# 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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