Form 3160-3
(August 1999)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
SF-078687

6. If Indian, Allottee or Tribe Name

1a. Type of Work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.

1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☐ Single Zone ☒ Multiple Zone

8. Lease Name and Well No.
SAN JUAN 32 FED 15 #2A

2. Name of Operator
CONOCOPHILLIPS COMPANY
Contact: VICKI WESTBY
E-Mail: VICKI.R.WESTBY@CONOCOPHILLIPS.COM

9. API Well No.
30-045-32831

3a. Address
4001 PENBROOK
ODESSA, TX 79762

3b. Phone No. (include area code)
Ph: 915.368.1352

10. Field and Pool, or Exploratory
BASIN FRUITLAND COAL

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface NENW ~~1239FNL 1464FWL~~ 942' FNL 661' FWL

At proposed prod. zone ~~NENW 1239FNL 1464FWL~~ Same

11. Sec., T., R., M., or Blk. and Survey or Area
Sec 15 T32N R9W Mer NMP

14. Distance in miles and direction from nearest town or post office*

12. County or Parish
SAN JUAN

13. State
NM

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
1305.10

17. Spacing Unit dedicated to this well
316.9 W/2

18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.

19. Proposed Depth
3663 MD

20. BLM/BIA Bond No. on file

21. Elevations (Show whether DF, KB, RT, GL, etc.
~~6849~~ GL 6867

22. Approximate date work will start

23. Estimated duration

RECEIVED
JUN 2005
OIL CONS. DIV.
DIST. 3

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 Ph: 915.368.1352

Date
01/12/2005

Title
AGENT

Approved by (Signature)

Name (Printed/Typed)

Date
6-1-05

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 #52912 verified by the BLM Well Information System
For CONOCOPHILLIPS COMPANY, sent to the Farmington

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

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

☐ AMMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-045-32831	71629	BASIN FRUITLAND COAL (GAS)

4 Property Code	5 Property Name	6 Well Number
31354	SAN JUAN 32 FED	15 #2A

7 OGRID No.	8 Operator Name	9 Elevation
217817	CONOCOPHILLIPS COMPANY	6867

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	15	32N	09W		1921	NORTH	661	WEST	SAN JUAN

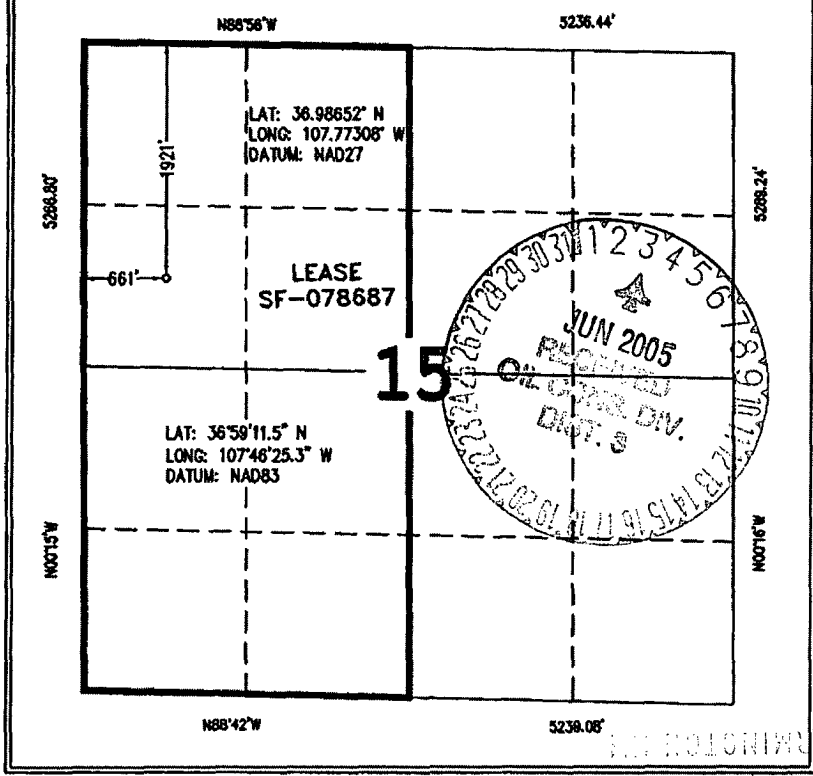
11 Bottom Hole Location If Different From Surface

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

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
316.90			

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

16



17 OPERATOR CERTIFICATION

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

Signature

Vicki Westby
Printed Name

Staff Agent
Title and E-mail Address

April 25, 2005
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: 03/24/05
Signature and Seal of Professional Surveyor:

HENRY P. BROADHURST, N.M.
NEW MEXICO
11393
4/21/05
REGISTERED PROFESSIONAL SURVEYOR

Certificate Number: NM 11393

RECEIVED
2005 MAY 10 PM 2 04
070 FARMINGTON NM

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.

5. Indicate Type of Lease STATE ☐ FEE ☐

6. State Oil & Gas Lease No.

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.)

7. Lease Name or Unit Agreement Name: San Juan 32 Fed 15

1. Type of Well: Oil Well ☐ Gas Well ☒ Other

8. Well Number: 2A

2. Name of Operator: ConocoPhillips Company

9. OGRID Number: 217817

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

10. Pool name or Wildcat: Basin Fruitland Coal

4. Well Location
Unit Letter E 1921 feet from the North line and 661 feet from the West line
Section 15 Township 32N Range 9W NMPM San Juan County

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)* 6867' GL

Pit or Below-grade Tank Application ☒ Closure ☐
Pit type Drill Depth to Groundwater 115' Distance from nearest fresh water well > 1 mile Distance from nearest surface water 290'
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:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
OTHER:	☐			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.

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.

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 ☐

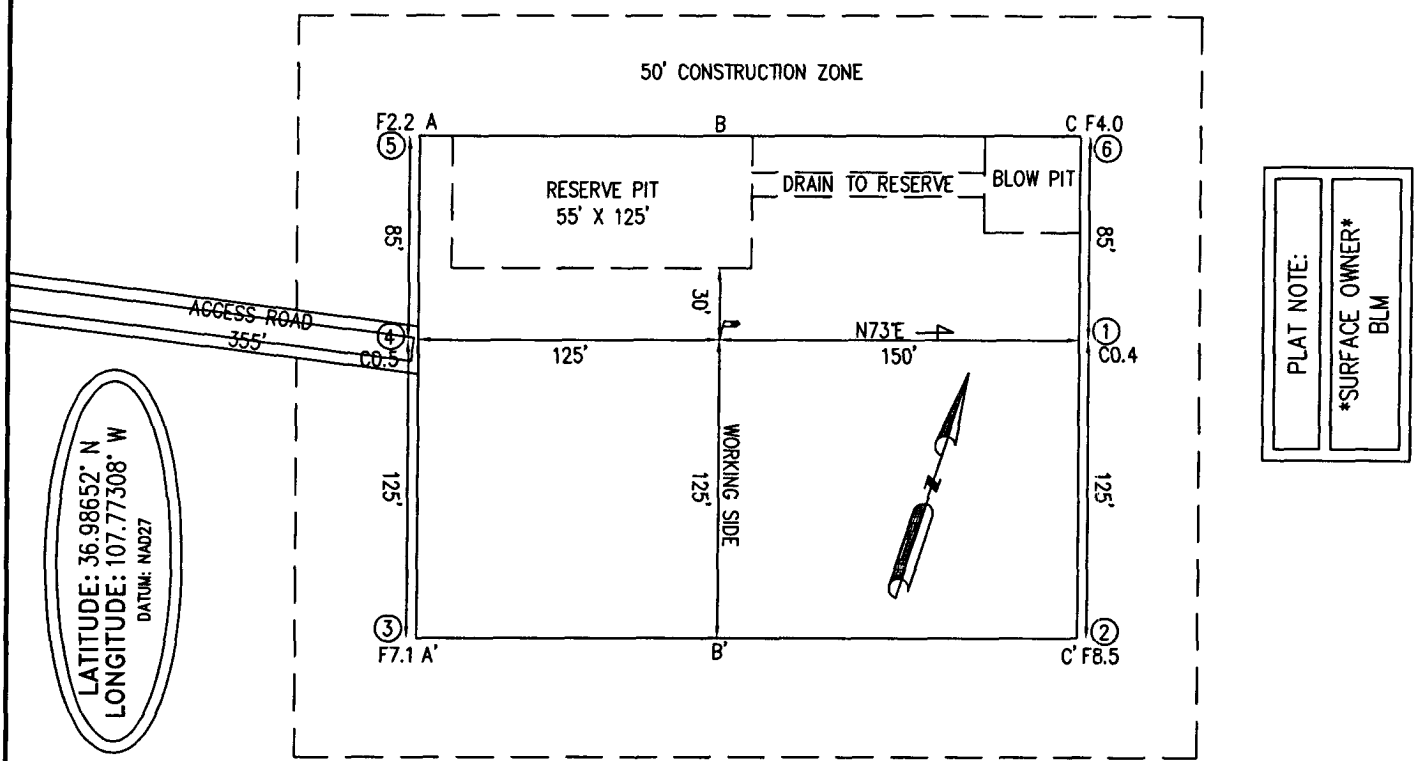
SIGNATURE Vicki Westby TITLE Staff Agent DATE 5/6/2005

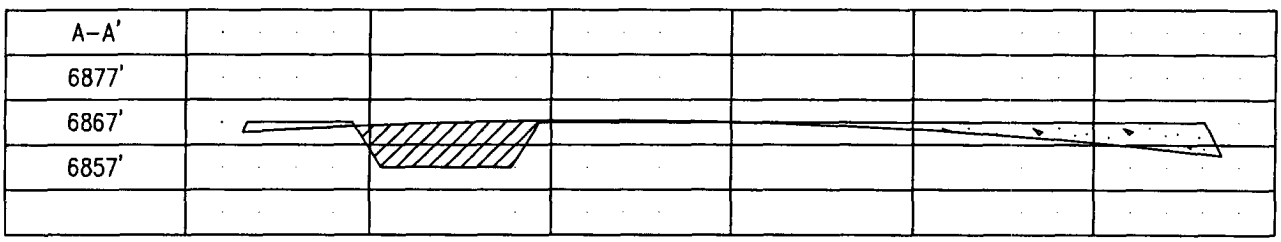
Type or print name E-mail address: Telephone No.

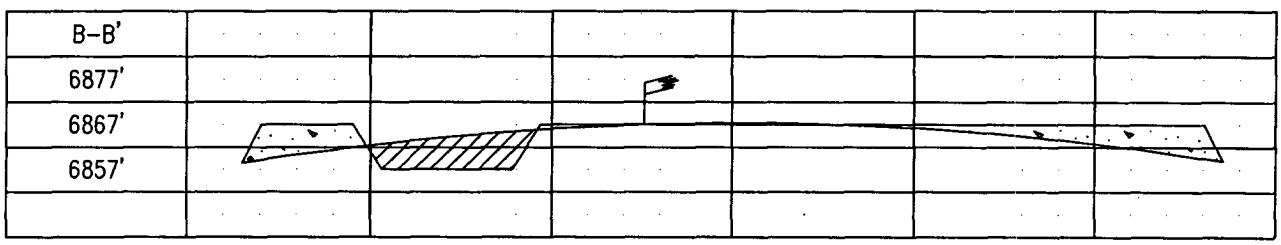
For State Use Only

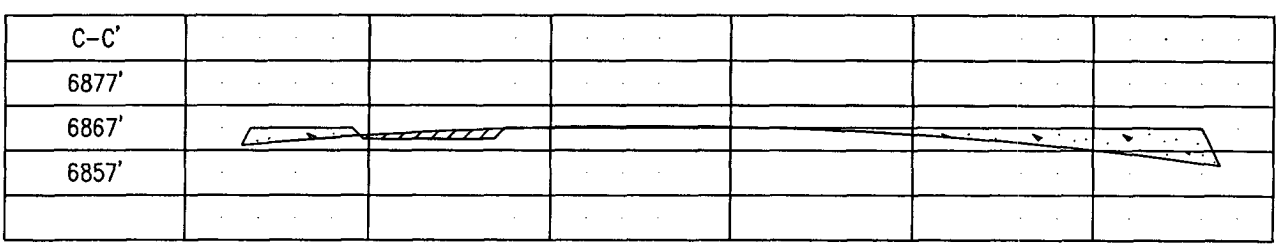
APPROVED BY: TITLE DEPUTY OIL & GAS INSPECTOR, DIST. #3 DATE JUN - 3 2005
Conditions of Approval (if any):

CONOCOPHILLIPS COMPANY SAN JUAN 32 FED UNIT 15 #2A
1921' FNL & 661' FWL, SECTION 15, T32N, R09W, NMPM
SAN JUAN COUNTY, NEW MEXICO ELEVATION: 6867'









FILENAME: SJ32-9 FED15 2A.dwg	SHEET 2 OF 6	CHENAULT CONSULTING INC.	DRAWN BY:J. FUNK	CHECKED BY:G. CHENAULT

Form 3160-5
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OM B 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.

5. Lease Serial No.
SF-078687

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

1. Type of Well
☐ Oil Well ☑ Gas Well ☐ Other

8. Well Name and No.
San Juan 32 Fed 15 #2A

2. Name of Operator **ConocoPhillips Company**

9. API Well No.
30045 32831

3a. Address
4001 Penbrook, Odessa, TX 79762

3b. Phone No. *(include area code)*
432-368-1352

10. Field and Pool, or Exploratory Area
Basin Fruitland Coal

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
SWNW Section 15, T32N, R9W, ~~1921~~ FNL - ~~661~~ FWL
~~1225F — Unit~~
1921/N 661/W

11. County or Parish, State
San Juan County, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
☑ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☑ Other **Move Location**
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ 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 recomplete 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 recompletion 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 to the following:

SWNW of Section 15, T32N, R9W, 1921 FNL - 661 FWL

Revised supporting documents are attached, including: C-102; C-103; Cut and Fill Plat; Well Proposal and cement calculations; Road Plat and directions; Emergency response plat; Proposed pipeline plat; Surface use plan.

RECEIVED
070 FARMINGTON NM
2005 MAY 10 PM 2 01

14. I hereby certify that the foregoing is true and correct
Name *(Printed/Typed)* **Vicki Westby** Title **STaff Agent**

Signature Vicki Westby (pf) Date **05/06/2005**

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by _____ Title AFM Date 6-1-05

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 FFO

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)

NMOCD

ConocoPhillips

San Juan Business Unit

PROJECT PROPOSAL - New Drill / Sidetrack

SAN JUAN 32 FED 15 2A

Lease:	AFE #: WAN.CBM.5108			AFE $:
Field Name: CBM DRILL BLOCKS	Rig:	State: NM	County: SAN JUAN	API #:
Geoscientist: Cloud, Tom A	Phone: +1 832 486-2377	Prod. Engineer: Bergman, Pat W.		Phone: (832) 486-2358
Res. Engineer: Peterson, Brad T	Phone: 486-2055	Proj. Field Lead:		Phone:

Primary Objective (Zones):

Zone	Zone Name
JCV	BASIN FRUITLAND COAL (GAS)

Location: Surface — **Straight Hole**

Latitude: 36.99	Longitude: -107.77	X:	Y:	Section: 15	Range: 9W
Footage X: 661 FWL	Footage Y: 1921 FNL	Elevation: 6867 (FT)	Township: 32N		
Tolerance:					

Location Type:	Start Date (Est.):	Completion Date:	Date In Operation:

Formation Data: Assume KB = 6880 Units = FT

Formation Call & Casing Points	Depth (TVD in Ft)	SS (Ft)	Depletion (Yes/No)	BHP (PSIG)	BHT	Remarks
SAN JOSE	13	6867	☐			
Surface Casing	213	6667	☐			12-1/4 hole. 9 5/8" 32.3 ppf, H-40, STC casing. Circulate cement to surface.
NCMT	930	5950	☐			
OJAM	2270	4610	☐			Possible water flows.
KRLD	2370	4510	☐			
FRLD	3315	3565	☐			Possible gas.
Intermediate Casing	3345	3535	☐			8 3/4" Hole. 7", 20 ppf, J-55, STC Casing. Circulate cement to surface.
TOP COAL	3370	3510	☐			
BASE MAIN COAL	3530	3350	☐	900		
PC TONGUE	3580	3300	☐			
BASE LOWEST COAL	3630	3250	☐			
PCCF	3635	3245	☐			
Total Depth	3700	3180	☐			6-1/4" hole possibly underreamed to 9.5". Optional Liner: 5.5", 15.5#, J-55 LTC - left uncemented.

Reference Wells:

Reference Type	Well Name	Comments
Intermediate	EPNG SJ 32-9 #8	
Intermediate	EPNG SJ 32-9 #66	

ConocoPhillips

San Juan Business Unit

PROJECT PROPOSAL - New Drill / Sidetrack

SAN JUAN 32 FED 15 2A

Logging Program:					
Intermediate Logs: ☐ Log only if show ☐ GR/ILD ☐ Triple Combo					
TD Logs: ☐ Triple Combo ☐ Dipmeter ☐ RFT ☐ Sonic ☐ VSP ☐ TDT					
Additional Information: 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					
Log Type	**Stage**	**From (Ft)**	**To (Ft)**	**Tool Type/Name**	**Remarks**

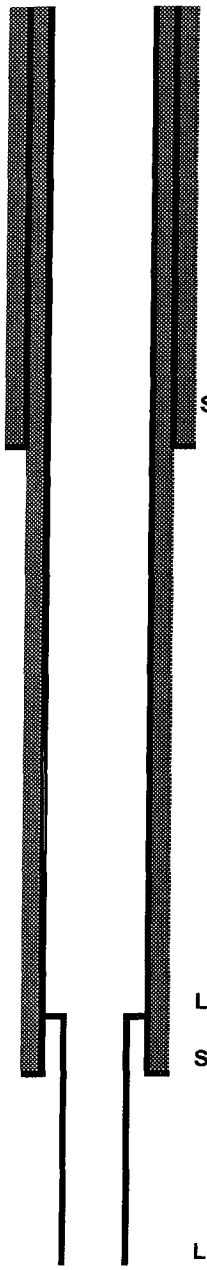
Comments: Zones - Mud Log from intermediate casing shoe to TD will be obtained.
No PCCF PA. Prospective coal just above PCCF.

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 2nd, 3rd, & 4th joints
Intermediate: centralizers placed 10' above the shoe latched over a stop collar and at the top of the 2nd, 4th, 6th, 8th, & 10th joints
Turbolizers placed one per joint from the top of the Ojo Alamo to the top of the Kirtland Shale

General/Work Description - Provide funds to drill and complete the Fruitland Coal formation in the San Juan 32 Fed 15 # 2A located in the NW 1/4 of Section 15, T32N,R9W, Basin Fruitland Coal Field, San Juan County, New Mexico.

San Juan 32 Fed 15 # 2A
Halliburton Cementing Program



SURFACE CASING :

Drill Bit Diameter	12.25	"
Casing Outside Diameter	9.625	"
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**

Casing Inside Diam. 9.001 "

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

INTERMEDIATE CASING :

Drill Bit Diameter	8.75	"
Casing Outside Diameter	7	"
Casing Weight	20	ppf
Casing Grade	J-55	
Shoe Depth	3345	'
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	**389**	**sx**
Tail Cement Required	**100**	**sx**

Casing Inside Diam. 6.456 "

LINER TOP 3325 '

SHOE 3345 ', 7 ", 20 ppf, J-55

LINER BOTTOM 3700 ' (Uncemented)

SAN JUAN 32 FED 15 #2A

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. Additvie)	
	+ 0.25 lb/sx Flocele (Lost Circ. Additive)	
Cement Required	389	sx
Cement Yield	2.91	cuft/sx
Slurry Volume	1132.7	cuft
	201.8	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

SCHLUMBERGER OPTION

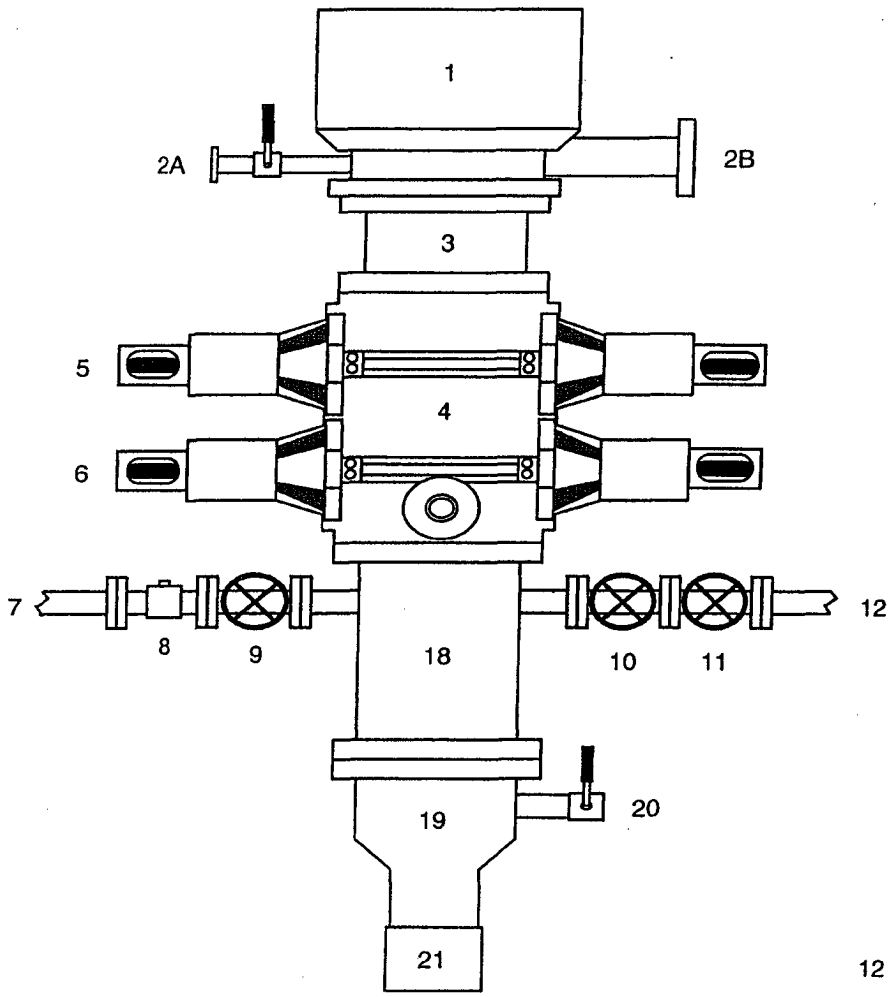
9-5/8 Surface Casing		
Cement Recipe	Class G Cement	
	+ 3% S001 Calcium Chloride	
	+ 0.25 lb/sx D029 Cellophane Flakes	
Cement Volume	147	sx
Cement Yield	1.16	cuft/sx
Slurry Volume	170.7	cuft
	30.4	bbls
Cement Density	15.8	ppg
Water Required	4.983	gal/sx

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	436	sx
Cement Yield	2.61	cuft/sx
Slurry Volume	1138.6	cuft
	202.8	bbls
Cement Density	11.7	ppg
Water Required	15.876	gal/sx

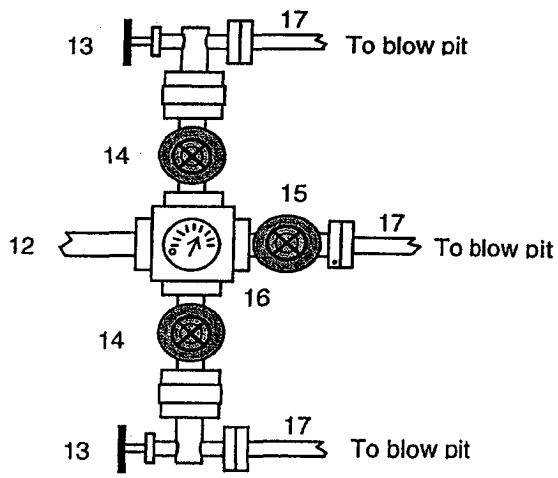
7" Intermediate Casing		
Tail Slurry		
Cement Slurry	50 / 50 POZ : Class G Cement	
	+ 2% D020 Bentonite	
	+ 5 lb/sx D024 Gilsonite extender	
	+ 0.25 lb/sx D029 Cellophane Flakes	
	+ 2% S001 Calcium Choloride	
	+ 0.2% D046 Antifoam	
Cement Required	100	sx
Cement Yield	1.27	cuft/sx
Slurry Volume	126.9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



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.

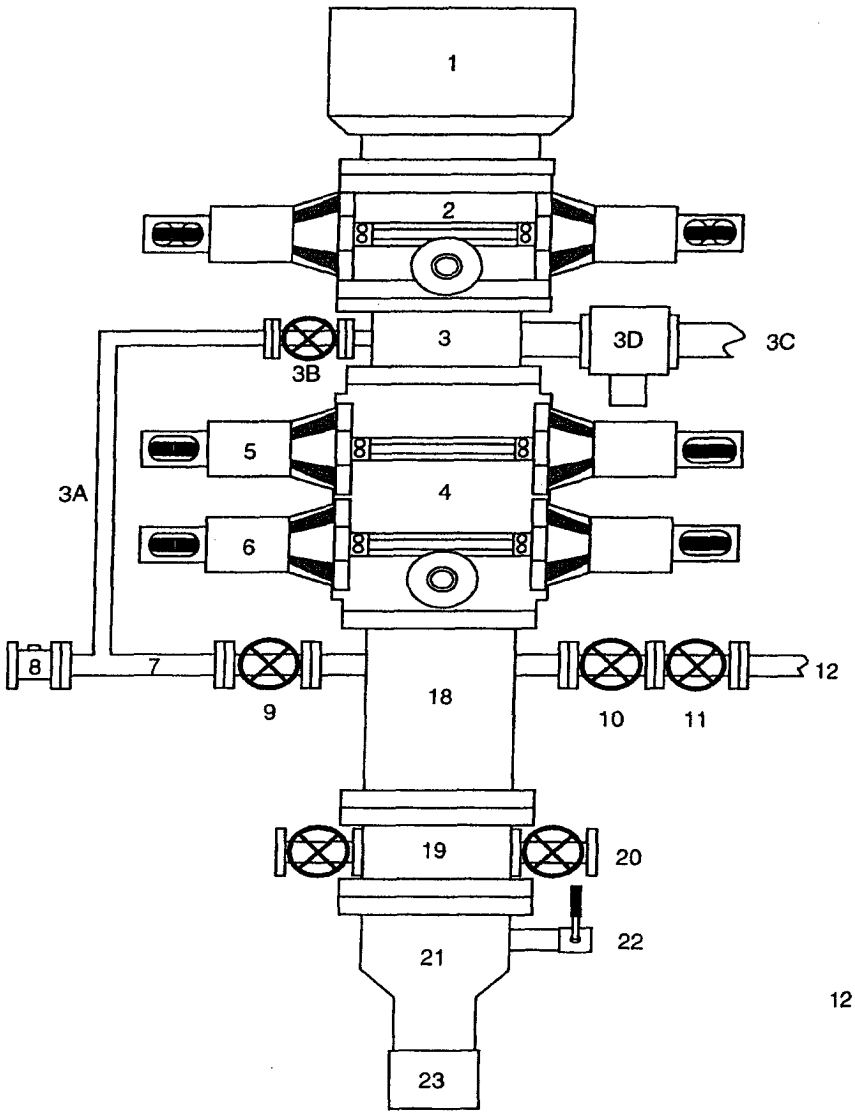
In addition to the equipment in the above diagram the following equipment will comprise the BOP system:

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

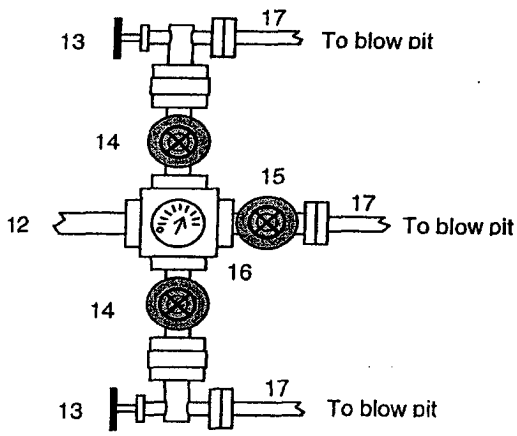
Revision Date: September 1, 2004

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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