

RCVD DEC15'06
OIL CONS. DIV.
DIST. 3

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work DRILL	2006 NOV 29 PM 4:34 RECEIVED C70 FARMINGTON NM	5. Lease Number SF-078046 Unit Reporting Number
1b. Type of Well GAS		6. If Indian, All. or Tribe
2. Operator ConocoPhillips		7. Unit Agreement Name
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499 (505) 326-9700		8. Farm or Lease Name Hughes B 9. Well Number #23
4. Location of Well Surf Unit C (NENW), 739' FNL & 2155' FWL, Latitude 36°42' 48.35667" N Longitude 107°41' 1.18395"W		10. Field, Pool, Wildcat Basin Fruitland Coal 11. Sec., Twn, Rge, Mer. (NMPM) C Sec. 21 T29N, R08W, NMPM API # 30-045-34087
14. Distance in Miles from Nearest Town 10 miles to Blanco	12. County San Juan	13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 739'		
16. Acres in Lease	17. Acres Assigned to Well 320 acres W/2	
18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease		
19. Proposed Depth 3090'	20. Rotary or Cable Tools Rotary	
21. Elevations (DF, FT, GR, Etc.) 6459' GL	22. Approx. Date Work will Start	
23. Proposed Casing and Cementing Program See Operations Plan attached		
24. Authorized by: <u>Mary V. Monroe</u> Regulatory Technician	<u>11/29/06</u> Date	

PERMIT NO. _____ APPROVAL DATE _____
APPROVED BY [Signature] TITLE ATEM DATE 12/13/06

Archaeological Report submitted seperately
Enviromental Assessment is attached.
NOTE: This format is issued in lieu of U.S. BLM Form 3160-3
Title 18 U.S.C. Section 1001, makes 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 presentations as to any matter within its jurisdiction.
This is not an HPA well

✓ HOLD C104 FOR NSL

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

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

Fee Lease - 3 Copies
State Lease - 7 Copies
Submit to Appropriate District Office
Revised June 10, 2003
Form C-102

2006 NOV 29 PM 4 34

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045- 34087		² Pool Code 71629		³ Pool Name FRUITLAND COAL	
⁴ Property Code 31563		⁵ Property Name HUGHES B			⁶ Well Number 23
⁷ OGRID No. 217817		⁸ Operator Name CONOCOPHILLIPS COMPANY			⁹ Elevation 6459.1'

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
C	21	29-N	8-W		739	NORTH	2155	WEST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

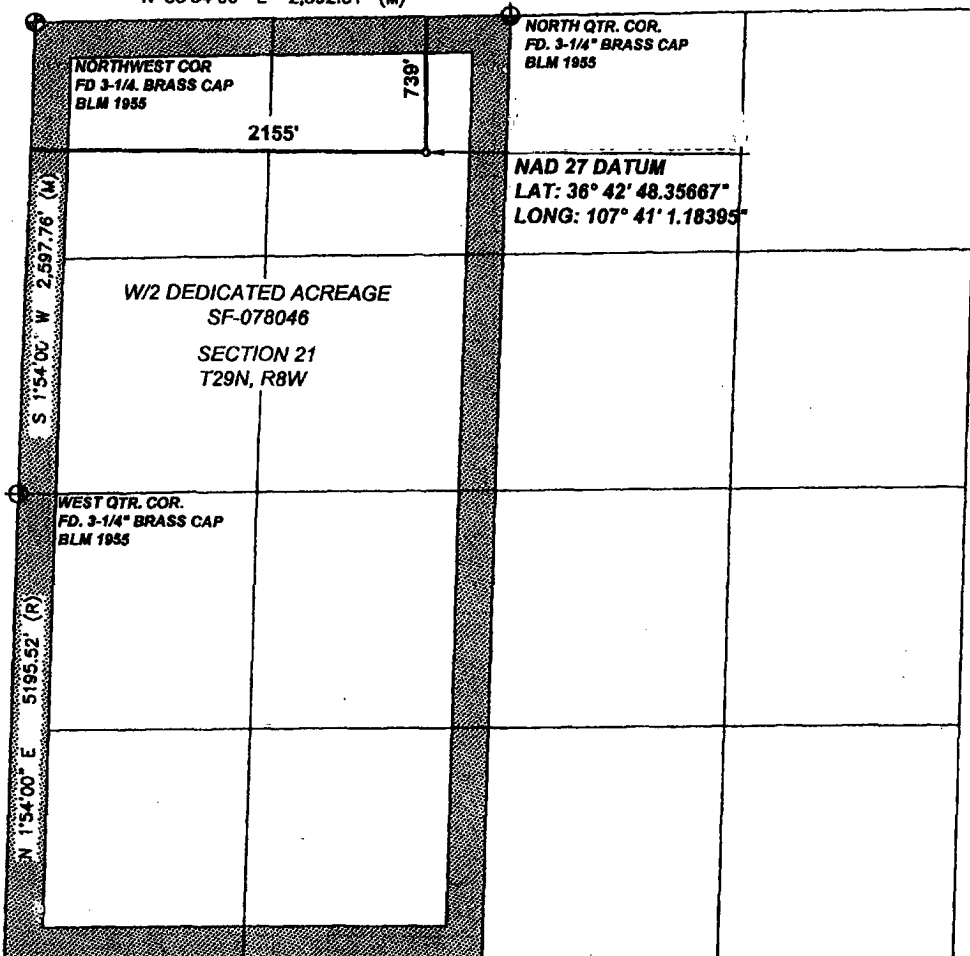
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C									

¹² Dedicated Acres 320 W/2	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ 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

16

S 88°54'00" W 5,185.62' (R)
N 88°54'00" E 2,592.81' (M)



¹⁷ OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Patsy Clugston
Signature

Patsy Clugston
Printed Name

Sr. Regulatory Specialist
Title and E-mail Address

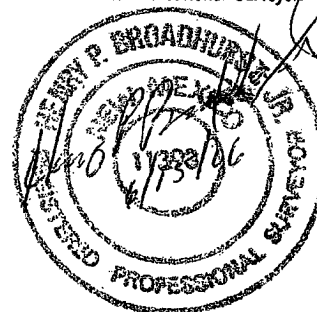
7/5/06
Date

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: 06/09/06

Signature and Seal of Professional Surveyor:



Certificate Number: NM 11393

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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.

30-045- 34087

5. Indicate Type of Lease

STATE ☐FEE ☐

6. State Oil & Gas Lease No.

SF-078046

7. Lease Name or Unit Agreement Name

Hughes B

8. Well Number

23

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

3. Address of Operator

3401 E. 30TH STREET, FARMINGTON, NM 87402

4. Well Location

Unit Letter C : 739 feet from the North line and 2155 feet from the West line
Section 21 Township 29N Range 8W NMPM County San Juan

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

6459' GL

Pit or Below-grade Tank Application

☒ or Closure ☐Pit type New Drill Depth to Groundwater >100' Distance from nearest fresh water well

<1000'

Distance from nearest surface water

>200'

Pit Liner Thickness:

12 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:

New Drill Pit ☒OTHER: ☐

SUBSEQUENT REPORT OF:

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

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.

New Drill, Lined:

ConocoPhillips proposes to construct a new drilling pit, an associated vent/flare pit and a pre-set mud pit (if required). Based on ConocoPhillips' interpretation of the Ecosphere's risk ranking criteria, the new drilling pit and pre-set mud pit will be lined pits as detailed in ConocoPhillips' General Plan dated June 2005 on file at the NMOCD office. A portion of the vent/flare pit will be designed to manage fluids and that portion will be lined as per the risk ranking criteria. ConocoPhillips anticipates closing these pits according to the November 1, 2004 Guidelines.

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

Tracey N. Monroe

TITLE

Regulatory Technician

DATE

11/29/2006

Type or print name

Tracey N. Monroe

E-mail address:

Tracey.N.Monroe@conocophillips.com

Telephone No.

505-326-9752

For State Use Only

DEPUTY OIL & GAS INSPECTOR, DIST. 4

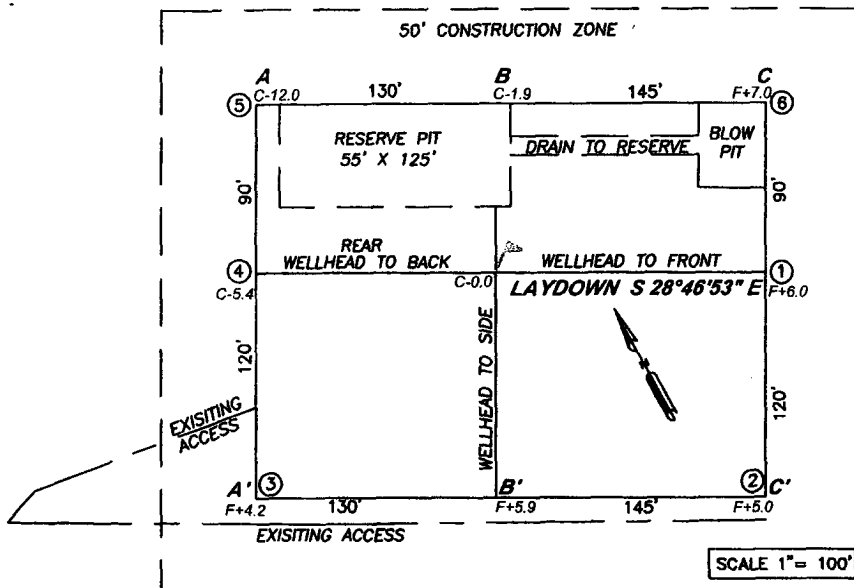
DEC 22 2006

APPROVED BY

TITLE

DATE

Conditions of Approval (if any):



NAD 83 DATUM
 LAT: 36° 42' 48.37900"
 LONG: 107° 41' 3.38800"

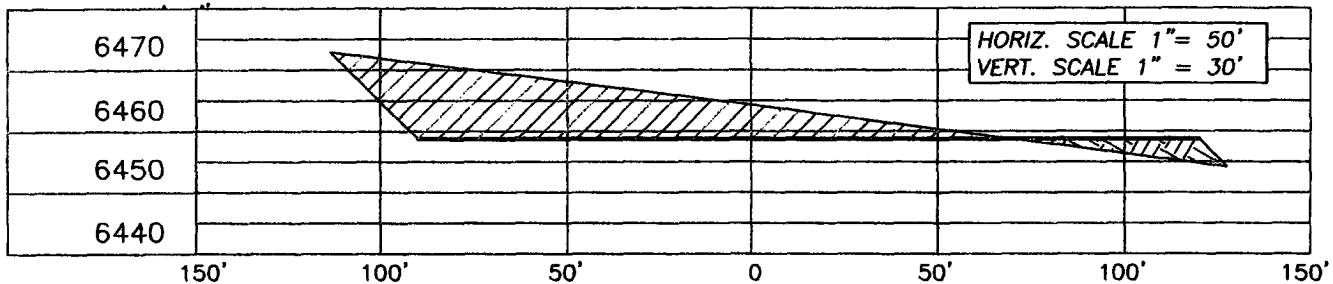
NAD 27 DATUM
 LAT: 36° 42' 48.35667"
 LONG: 107° 41' 1.18395"

CONOCOPHILLIPS COMPANY

HUGHES B23
739' FNL, 2155' FWL
SECTION 21, T29N, R8W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO
ELEV.: 6,459.1' NADV88

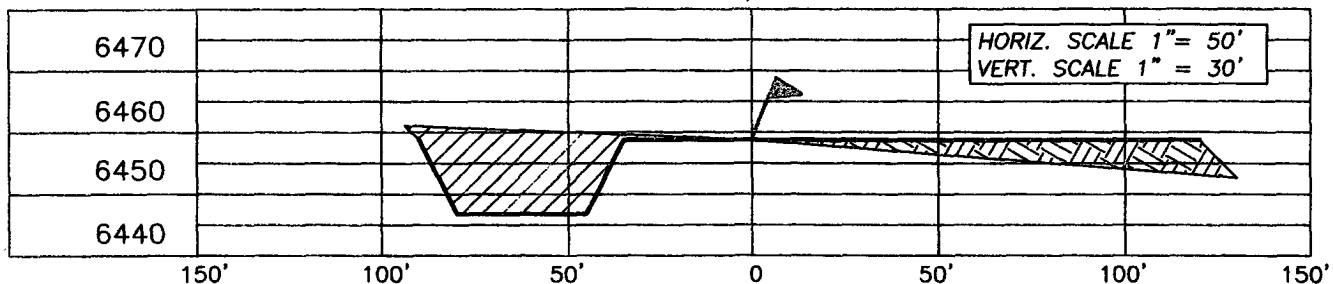
A - A'

C/L



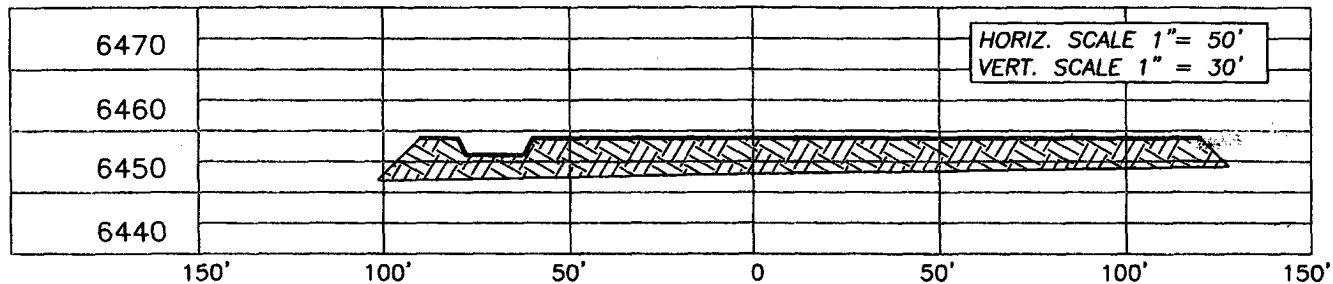
B - B'

C/L



C - C'

C/L



NOTE: CCI IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES.

CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD PRIOR TO CONSTRUCTION.

REVISIONS

NO.	DESCRIPTION	REVISED BY	DATE

CCI

1300 W. BROADWAY
 BLOOMFIELD, NM, 87413
 PHONE: (505) 632-7777

CHENAULT CONSULTING INC.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OM B No. 1004-0137
Expires: March 31, 2007RCVD DEC 15 '06
OIL CONS. DIV.
DIST. 3

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
☐ Oil Well ☒ Gas Well ☐ Other2. Name of Operator
ConocoPhillips Company3a. Address
PO BOX 4289 Farmington NM 874993b. Phone No. (include area code)
(505) 326-9597

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

UNIT C (NENW), 739' FNL & 2155' FWL
SEC. 21 T29N R8W NMPM

5. Lease Serial No.

SF078046

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.

3 HUGHES B 23

9. API Well No.

30-045- 34087

10. Field and Pool, or Exploratory Area

FRUITLAND COAL

11. County or Parish, State

SAN JUAN
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 Change Total
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Depth
	<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 wishes to change TD for this well from 3090' to 3290' and adjust cement as per the attached project proposal and drilling plan.

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

Name (Printed/Typed)

Juanita Farrell

Title Regulatory Specialist

Signature

Date 12/04/2006

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)

NMOC

PROJECT PROPOSAL - New Drill / Sidetrack

HUGHES B 23

Lease:		AFE #: WAN.CNV.7182		AFE \$:	
Field Name: NEW MEXICO-EAST		Rig: Aztec Rig 580		State: NM County: SAN JUAN	
Geoscientist: Brain, Ted H.		Phone: 832-486-2592		Prod. Engineer: Phone: 486-2334	
Res. Engineer: Harrington, Tim R.		Phone: 832-486-2207		Proj. Field Lead: Fransen, Eric E. Phone:	

Primary Objective (Zones):

Zone	Zone Name
R20001	FRUITLAND COAL(R20001)

Location: Surface		Datum Code: NAD 27		Straight Hole	
Latitude: 36.813400	Longitude: -107.683700	X:	Y:	Section: 21	Range: 8W
Footage X: 2155 FWL	Footage Y: 739 FNL	Elevation: 6459	(FT)	Township: 29N	

Tolerance:

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

Formation Data: Assume KB = 6475 Units = FT

Formation Call & Casing Points	Depth (TVD in Ft)	SS (Ft)	Depletion (Yes/No)	BHP (PSIG)	BHT	Remarks
Surface Casing	216	6259	<input type="checkbox"/>			12-1/4 hole. 9 5/8" 32.3 ppf, H-40, STC casing. Circulate cement to surface.
NCMT	760	5715	<input type="checkbox"/>			
OJAM	2050	4425	<input type="checkbox"/>			Possible water flows.
KRLD	2210	4265	<input type="checkbox"/>			
FRLD	2795	3680	<input type="checkbox"/>			Possible gas.
PCCF	3090	3385	<input type="checkbox"/>			
Total Depth	3290	3185	<input type="checkbox"/>			7 7/8" Hole. 5 1/2", 17 ppf, N-80, LTC Casing. Circulate cement to surface.

Reference Wells:

Reference Type	Well Name	Comments
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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: General/Work Description - FC 160

HOLE: 12.25 "
CSG OD: 9.625 "
CSG ID: 9.001 "
WGT: 32.3 ppf
GRADE: H-40
EXCESS: 125 %

DEPTH: 235'

SURFACE:

Option 1
148 sx
30.8 bbls
172.9 cuft
1.17 ft³/sx
15.8 ppg
4.973 gal/sx
Class G Cement
+ 3% S001 Calcium Chloride
+ 0.25 lb/sx D029 Cellophane Flakes

Option 2
143 sx
30.8 bbls
172.9 cuft
1.21 ft³/sx
15.6 ppg
5.29 gal/sx
Standard Cement
+ 3% Calcium Chloride
+ 0.25 lb/sx Flocele

Option 3
65 sx
18.6 bbls
104.3 cuft
1.61 ft³/sx
14.5 ppg
7.41 gal/sx
Type I-II Ready Mix
+ 20% Fly Ash

Comp. Strength
8 hrs 475 psi
24 hrs 1375 psi

PRODUCTION LEAD:

Option 1
406 sx
196.6 bbls
1103.7 cuft
2.72 ft³/sx
11.7 ppg
15.74 gal/sx
Class G Cement
+ 3% D079 Extender
+ 0.20% D046 Antifoam
+ 10 lb/sx Phenoseal

HOLE: 7.875 "
CSG OD: 5.5 "
CSG ID: 4.892 "
WGT: 17 ppf
GRADE: N-30
EXCESS: 150 %

TAIL: 658'

DEPTH: 3290'

Option 2

425 sx
196.6 bbls
1103.7 cuft
2.60 ft³/sx
11.5 ppg
14.62 gal/sx
Type III Ashgrove Cement
+ 30 lb/sx San Juan Poz
+ 3% Bentonite
+ 5.0 lb/sx Phenoseal

Option 3
420 sx
196.6 bbls
1103.7 cuft
2.63 ft³/sx
11.7 ppg
15.92 gal/sx
Class G Cement
+ 3% D079 Extender
+ 0.20% D046 Antifoam
+ 1.0 lb/bbl CemNet

Comp. Strength
3 hrs 100 psi
24 hrs 443 psi

PRODUCTION TAIL:

Option 1
222 sx
51.8 bbls
290.6 cuft
1.31 ft³/sx
13.5 ppg
5.317 gal/sx
50/50 Poz: Class G Cement
+ 0.25 lb/sx D029 Cellophane Flakes
+ 3% S001 Calcium Chloride
+ 2% D020 Bentonite
+ 1.5 lb/sx D024 Gilsontite Extender
+ 0.1% D046 Antifoam
+ 6 lb/sx Phenoseal

Option 2
218 sx
51.8 bbls
290.6 cuft
1.33 ft³/sx
13.5 ppg
5.52 gal/sx
50/50 Poz: Standard Cement
+ 2% Bentonite
+ 6.0 lb/sx Phenoseal

Option 3
227 sx
51.8 bbls
290.6 cuft
1.28 ft³/sx
13.5 ppg
5.255 gal/sx
50/50 Poz: Class G Cement
+ 2% D020 Bentonite
+ 5.0 lb/sx D024 Gilsontite Extender
+ 2% S001 Calcium Chloride
+ 0.1% D046 Antifoam
+ 0.15% D065 Dispersant
+ 1.0 lb/bbl CemNet

Comp. Strength
24 hrs 1850 psi
48 hrs 3411 psi

72 D/R 12/4/06

HUGHES B #23

HOLE: 12.25 "
CSG OD: 9.625 "
CSG ID: 9.001 "
WGT: 32.3 ppf
GRADE: H-40
EXCESS: 125 %
DEPTH: 235'

HOLE: 7.875 "
CSG OD: 5.5 "
CSG ID: 4.892 "
WGT: 17 ppf
GRADE: N-80
EXCESS: 150 %
TAIL: 658'
DEPTH: 3290'

SURFACE:

INTERMEDIATE LEAD:

Option 4

383 sx
196.6 bbls
1103.7 cuft
2.88 ft³/sx
11.5 ppg
16.85 gal/sx
Standard Cement
+ 3% Econolite (Extender)
+ 10 lb/sx Phenoseal

Comp. Strength
1.47 50 psi
12 hrs 350 psi
24 hrs 450 psi

Option 5

528 sx
196.6 bbls
1103.7 cuft
2.10 ft³/sx
11.7 ppg
11.724 gal/sx
75% Type XI / 25% Class G Cement
+ 0.25 lb/sx D029 Cellophane Flakes
+ 3% D079 Extender
+ 0.20% D046 Antifoam

Comp. Strength
10:56 500 psi
42 hrs 1012 psi

INTERMEDIATE TAIL:

If the 9 5/8" surface casing is preset drilled (NOTE) will cement w/75 sx Type I-II cement w/20% Flyash mixed @ 1.61 cf/sx. Will bring cement to surface. Wait on cement for 24 hours for pre-set hole before pressure testing or drilling out. If H&P rig is used to drill the well will use 13 1/2" surface hole then will adjust cement to insure cement reaches surface.

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 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

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 2nd, 3rd, & 4th joints

Production: 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

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 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

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 2nd, 3rd, & 4th joints

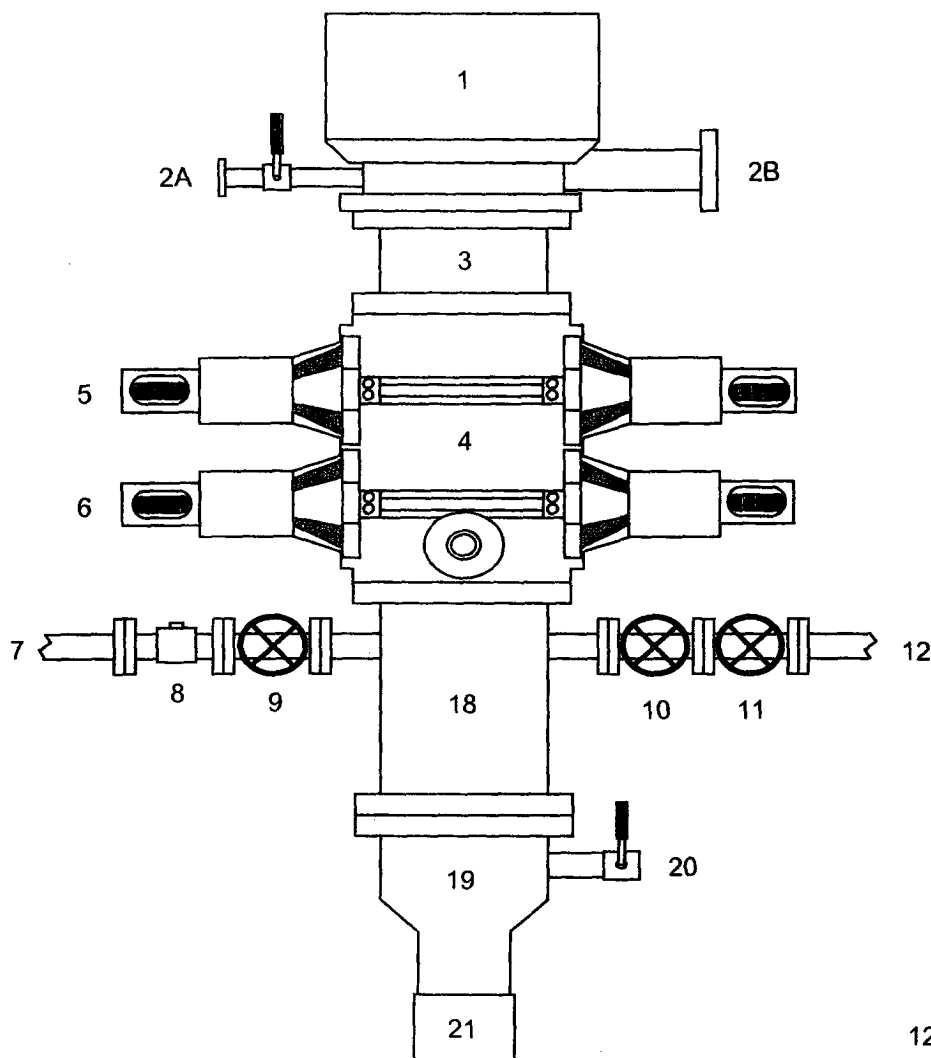
Intermediate: centralizers placed 10' above the shoe latched over a stop collar and at the top of the 2nd, 4th, 6th, 8th, & 10th joints

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

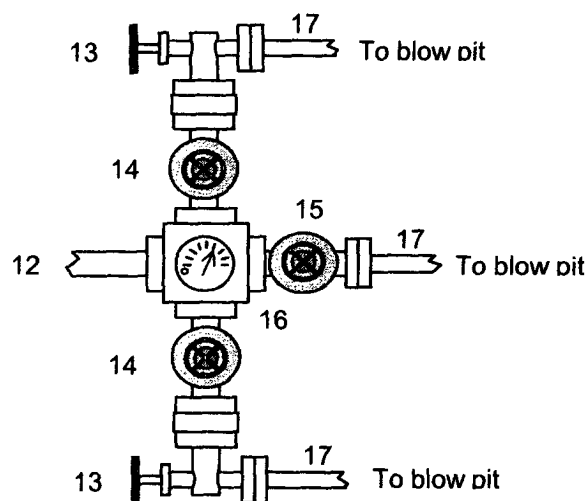
Below Intermediate: no centralizers used in air holes. In mud holes centralizers are spaced out appropriately

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



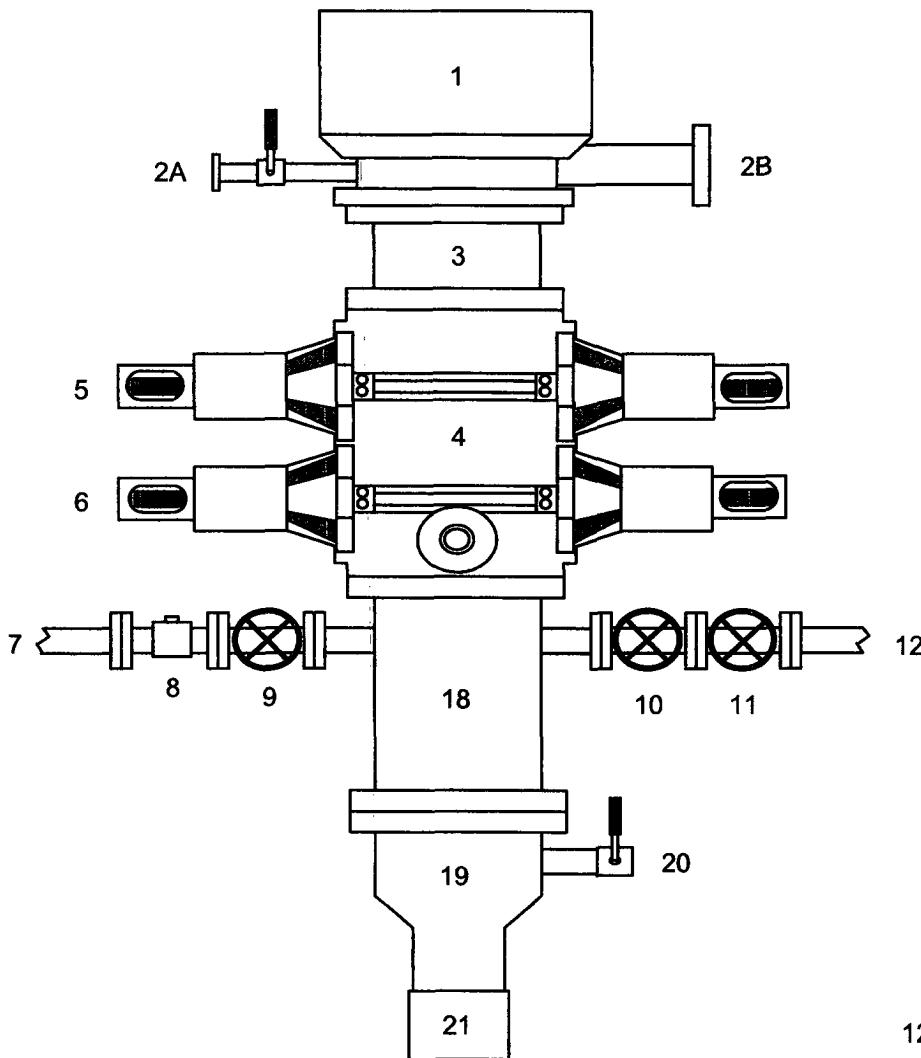
A 12-1/4" hole will be drilled to approximately 220' and the 9-5/8" surface casing will be run and cemented. The Casing Head "A" Section will be screwed onto the 9-5/8" surface casing stub. The BOP will be installed on the Casing Head "A" Section. A test plug will be set in the wellhead and the pipe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

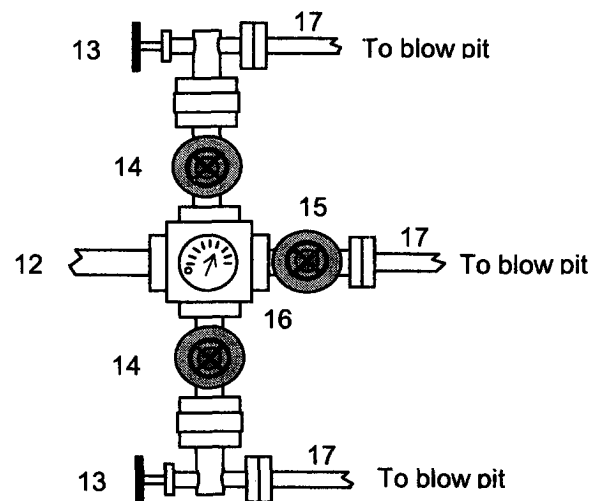
1. Upper Kelly cock Valve with handle
2. Stab-in TIW valve for all drillstrings in use

BLOWOUT PREVENTER ARRANGEMENT & PROGRAM

For Drilling to Production Casing Point & Setting 5 1/2" Production 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 a 7-7/8" hole will be drilled to production casing point and 5 1/2" production 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