

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

2008 DEC 22 07 3 18
RECEIVED
GTO FARMINGTON

1a. Type of Work DRILL	5. Lease Number NM-021124 NMSF-078146
1b. Type of Well GAS	Unit Reporting Number NM-73387
2. Operator ConocoPhillips	6. If Indian, All. or Tribe
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499 (505) 326-9700	7. Unit Agreement Name
4. Location of Well Unit I (NESE), 2330' FSL & 660' FEL, Latitude 36° 53.9185 N Longitude 108° 06.7220 W	8. Farm or Lease Name Newberry 9. Well Number #1M 10. Field, Pool, Wildcat Basin DK/Blanco MV 11. Sec., Twn, Rge, Mer. (NMPM) I Sec. 17, T31N, R12W API # 30-045-34110
14. Distance in Miles from Nearest Town 8 miles La Plata	12. County San Juan
15. Distance from Proposed Location to Nearest Property or Lease Line 660'	13. State NM
16. Acres in Lease	17. Acres Assigned to Well DK/MV 320 - (E/2)
18. Distance from Proposed Location to Nearest Well, Drig, Compl, or Applied for on this Lease 1460' Newberry #6A	
19. Proposed Depth 7143'	20. Rotary or Cable Tools Rotary
21. Elevations (DF, FT, GR, Etc.) 6067' GL	22. Approx. Date Work will Start
23. Proposed Casing and Cementing Program See Operations Plan attached	
24. Authorized by: Rhonda Rogers (Regulatory Technician)	11-13-06 Date

PERMIT NO. APPROVAL DATE
APPROVED BY [Signature] TITLE AFM DATE 1/9/07

Archaeological Report attached

Threatened and Endangered Species Report 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 action is subject to technical and
procedural review pursuant to 43 CFR 3165.3
and appeal pursuant to 43 CFR 3165.4

NMOCD

1/11/07

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

District I
PO Box 1980, Hobbs, NM 88241-1980

District II
PO Drawer 00, Artesia, NM 88211-0719

District III
1000 Rio Brazos Rd., Aztec, NM 87410

District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

PO Box 2088
Santa Fe, NM 87504-2088

Form C-1
Revised February 21, 1991
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT
RECD JAN 10 2006
OIL CONS. DIV.

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045- 34110		*Pool Code 72319 / 71599	*Pool Name BLANCO MESAVERDE / BASIN DAKOTA
*Property Code 31839	*Property Name NEWBERRY		*Well Number 1M
*GRID No. 217817	*Operator Name CONOCOPHILLIPS COMPANY		*Elevation 6057'

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
I	17	31N	12W		2330	SOUTH	660	EAST	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
I									
¹² Dedicated Acres 320.0 Acres - E/2 (MV) 320.0 Acres - E/2 (DK)					¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.		

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

15 5264.82' 5287.92' 5276.70' 2330' 660' 2605.02' 2605.02' LEASE NM-021124 17 LAT: 36.89864°N LONG: 108.11266°W DATUM: NAD83 LAT: 36°53.9185'N LONG: 108°06.7220'W DATUM: NAD27	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief <i>Tracey N. Monroe</i> Signature Tracey N. Monroe Printed Name Regulatory Assistant Title October 16 2006 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 Survey Date: SEPTEMBER 1, 2006 Signature and Seal of Professional Surveyor JASON C. EDWARDS NEW MEXICO 15269 REGISTERED PROFESSIONAL SURVEYOR <i>JASON C. EDWARDS</i> Certificate Number 15269
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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

Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, NM 87505

May 27, 2004

WELL API NO. 30-045- 34110	
5. Indicate Type of Lease	STATE ☐ FEE ☐
6. State Oil & Gas Lease No. SF-021124	
7. Lease Name or Unit Agreement Name Newberry	
8. Well Number #1M	
9. OGRID Number 217817	
10. Pool name or Wildcat Basin DK/Blanco MV	

SUNDY 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 **I** : **2330'** feet from the **South** line and **660'** feet from the **East** line
Section **17** Township **31N** Rng **12W** NMPM County **San Juan**

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
6067'

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 ☒	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 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

New Drill, Lined:

ConocoPhillips proposes to construct a new drilling pit and an associated vent/flare pit. Based on Burlington's interpretation of the Ecosphere's risk ranking criteria, the new drilling pit will be a lined pit as detailed in Burlington's Revised Drilling / Workover Pit Construction / Operation Procedures dated November 11, 2004 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. Burlington Resources anticipates closing these pits according to the Drilling / Workover Pit Closure Procedure dated August 2, 2004 on file at the NMOCD office.

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 ☐.

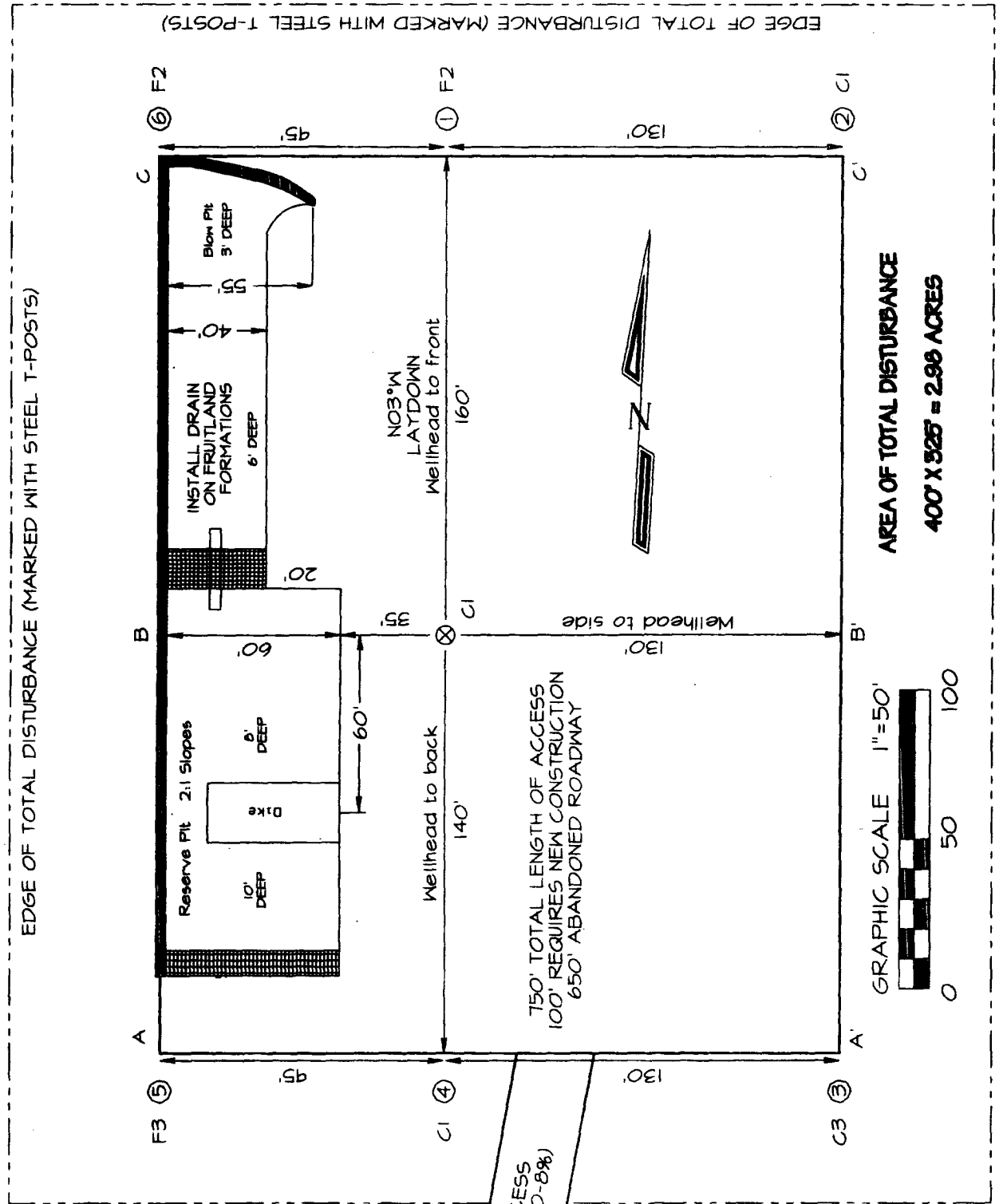
SIGNATURE Rhonda Rogers TITLE Regulatory Technician DATE 11-13-06

Type or print name Rhonda Rogers E-mail address: rogers@conocophillips.com Telephone No. 505-599-4018
For State Use Only

APPROVED BY [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. # DATE JAN 11 2007
Conditions of Approval (if any):

**CONOCOPHILLIPS COMPANY NEWBERRY #1M
2330' FSL & 660' FEL, SECTION 17, T31N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO ELEVATION: 6067**

NCE SURVEYS IS NOT LIABLE FOR LOCATION OF UNDERGROUND UTILITIES OR PIPELINES.
CONTRACTOR SHOULD CONTACT ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED UNDERGROUND UTILITIES OR PIPELINES ON WELLPAD AND/OR ACCESS ROAD AT LEAST TWO WORKING DAYS PRIOR TO CONSTRUCTION.



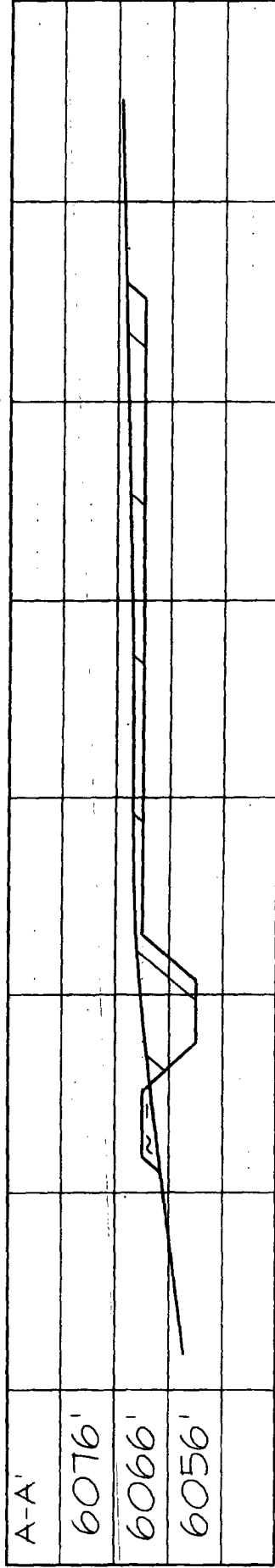
LATITUDE: 36°55.9165N
LONGITUDE: 106°06.7220W
DATUM: NAD1927

ACCESS
750' (0-8%)

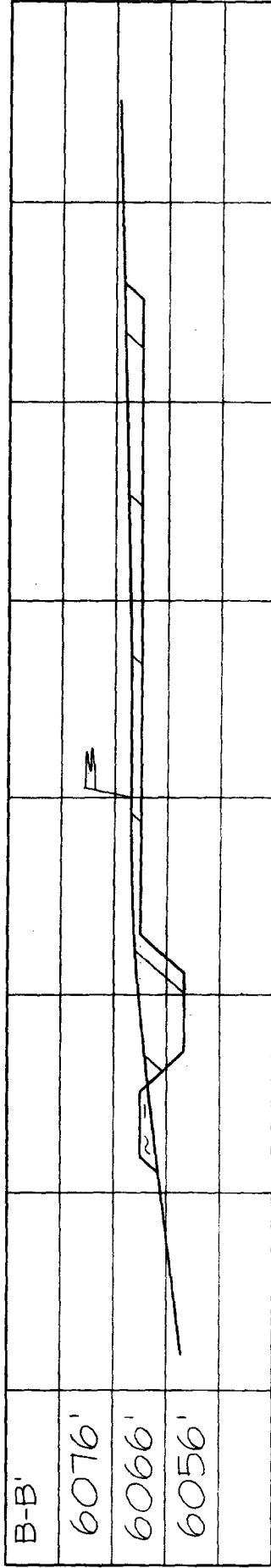
~ SURFACE OWNER ~
Bureau of Land Management

CONOCOPHILLIPS COMPANY NEWBERRY #1M
 2330' FSL & 660' FEL, SECTION 17, T31N, R12W, NMPM
 SAN JUAN COUNTY, NEW MEXICO ELEVATION: 6067

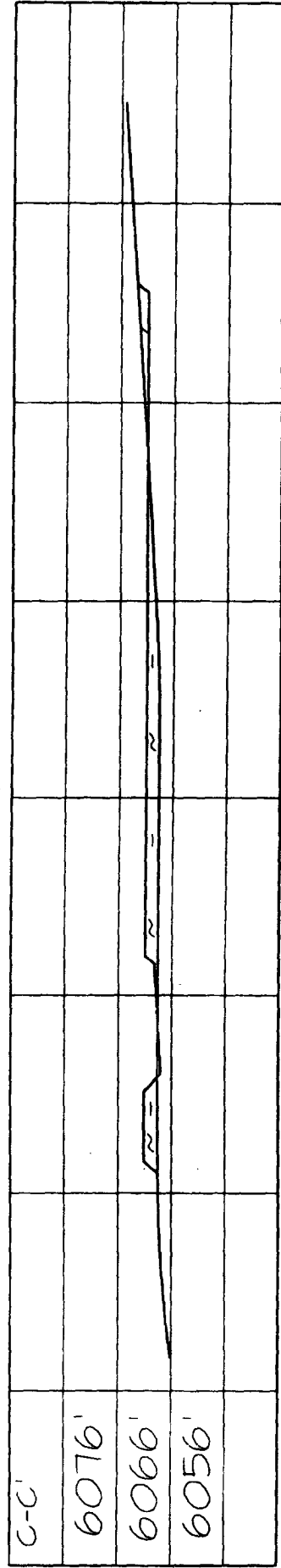
HORIZONTAL SCALE 1"=40' C/L VERTICAL SCALE 1"=30'



C/L



C/L



NCE SURVEYS IS NOT LIABLE FOR LOCATION OF UNDERGROUND UTILITIES OR PIPELINES.

CONTRACTOR SHOULD CONTACT ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED UNDERGROUND UTILITIES OR PIPELINES ON WELLPAD AND/OR ACCESS ROAD AT LEAST TWO WORKING DAYS PRIOR TO CONSTRUCTION.

PROJECT PROPOSAL - New Drill / Sidetrack

San Juan Business Unit

NEWBERRY 1M

Lease:		AFE #: WAN.CNV.6245		AFE \$:	
Field Name: NEW MEXICO-NORTH		Rig: Patterson Rig 749	State: NM	County: SAN JUAN	API #:
Geoscientist: Glaser, Terry J		Phone: (832)486-2332	Prod. Engineer: Piotrowicz, Greg M.		Phone: +1 832-486-3486
Res. Engineer: Tomberlin, Timothy A		Phone: (832) 486-2328	Proj. Field Lead: Fransen, Eric E.		Phone:

Primary Objective (Zones):

Zone	Zone Name
R20002	MESAVERDE(R20002)
R20076	DAKOTA(R20076)

Location: Surface		Datum Code: NAD 22		Stratigraphic	
Latitude: 36.898638	Longitude: -108.112032	X:	Y:	Section: 17	Range: 12W
Footage X: 660 FEL	Footage Y: 2300 FSL	Elevation: 6067	(FT)	Township: 31N	

Tolerance:

Location Type: Year Round	Start Date (Est.):	Completion Date:	Date In Operation:
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Formation Data: Assume KB = 6081 Units = FT

Formation Call & Casing Points	Depth (TVD in Ft)	SS (Ft)	Depletion (Yes/No)	BHP (PSIG)	BHT	Remarks
SURFACE CSG	120	5961	☐			12-1/4 hole. 9 5/8" 32.3 ppf, H-40, STC casing. Circulate cement to surface.
OJAM	1413	4668	☐			Possible water flows.
KRLD	1568	4513	☐			
FRLD	1812	4269	☐			Possible gas.
PCCF	2549	3532	☐			
LEWS	2600	3481	☐			
HURF	3194	2887	☐			
CHRA	3389	2692	☐			
UCLFH	4022	2059	☐			
CLFH	4179	1902	☐			Gas; possibly wet
MENF	4603	1478	☐			Gas.
Intermediate Casing	4703	1378	☐			8 3/4" hole, 7" casing (bottom: 1100' 7" 23#/ft, J-55, LTC; remainder: 7" 20#/ft, J-55, STC), Circulate cement to surface.
PTLK	4825	1256	☐			Gas.
MNCS	5173	908	☐			
UPPER GLLP	6137	-56	☐			Gas. Possibly wet.
GRHN	6872	-791	☐			Gas possible, highly fractured
GRRS	6925	-844	☐			
TWLS	6986	-905	☐			Gas
PAGU	7052	-971	☐			Gas. Highly Fractured.
CBBO	7080	-999	☐			Gas
CBRL	7080	-999	☐			
Total Depth	7143	-1062	☐			6-1/4" hole possibly underreamed to 9.5".

Reference Wells:

Reference Type	Well Name	Comments
Intermediate	NEwberry 6A	17-31N-12W-SE, KB = 6091
Intermediate	NEwberry 13A	17-31N-12W-NW, KB = 5965
Intermediate	State Gas COM - BA 1E	16-31N-12W-NW, KB = 6183

PROJECT PROPOSAL - New Drill / Sidetrack

NEWBERRY 1M

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

Comments: Location/Tops/Logging - Cliff House may be wet - well is located on the SW of the CLFH wetline (Newberry 6A ~4220'), TD is 271' below GRHN

Zones - DK 31N12W17SE1 AND MVNM031N012W17SE2

General/Work Description - NO LEWIS

HOLE: 12.25"
 CSG OD: 9.625"
 CSG ID: 9.001"
 WGT: 32.3 ppg
 GRADE: H-40
 EXCESS: 125%
 DEPTH: 120'

SURFACE:
 Option 1
 79 sx
 16.4 bbls
 91.9 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
 76 sx
 16.4 bbls
 91.9 cuft
 1.21 ft³/sx
 15.6 ppg
 5.29 gal/sx
 Standard Cement
 + 3% Calcium Chloride
 + 0.25 lb/sx Floccle

Option 3
 37 sx
 10.6 bbls
 59.3 cuft
 1.81 ft³/sx
 14.5 ppg
 7.41 gal/sx
 Type I-II Ready Mix
 + 20% Fly Ash

Comp. Strength
 6 hrs 250 psi
 8 hrs 500 psi

Comp. Strength
 8 hrs 475 psi
 24 hrs 1375 psi

INTERMEDIATE LEAD:

Option 1
 310 777 sx
 130 867 bbls
 582 481.2 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

Option 2
 185 sx
 837 bbls
 481.2 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
 483 sx
 857 bbls
 481.2 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
 9 hrs 300 psi
 48 hrs 525 psi

Comp. Strength
 3 hrs 100 psi
 24 hrs 443 psi

HOLE: 8.75"
 CSG OD: 7"
 CSG ID: 6.456"
 WGT: 20 ppg
 GRADE: J-55
 EXCESS: 50%
 TAIL: 540'
 DEPTH: 2700'

INTERMEDIATE TAIL:

Option 1
 169 400 sx
 40 484 bbls
 222 494.4 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
 99 sx
 23.4 bbls
 131.4 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
 103 sx
 23.4 bbls
 131.4 cuft
 1.26 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
 2.05 50 psi
 4.08 500 psi
 12 hrs 1250 psi
 24 hrs 1819 psi

Comp. Strength
 24 hrs 1850 psi
 48 hrs 3411 psi

HOLE: 6.25"
 CSG OD: 4.5"
 CSG ID: 4"
 WGT: 11.6 ppg
 GRADE: N-80
 EXCESS: 30%
 DEPTH: 7143'

PRODUCTION:

Option 1
 428 sx
 109.8 bbls
 616.3 cuft
 1.44 ft³/sx
 13.0 ppg
 6.47 gal/sx
 50/50 Poz: Class G Cement
 + 0.25 lb/sx D029 Cellophane Flakes
 + 3% D020 Bentonite
 + 1.0 lb/sx D024 Gilsontite Extender
 + 0.25% D167 Fluid Loss
 + 0.25% D065 Dispersant
 + 0.1% D800 Retarder
 + 0.1% D046 Antifoam
 + 3.5 lb/sx Phenoseal

Option 2
 425 sx
 109.8 bbls
 616.3 cuft
 1.45 ft³/sx
 13.1 ppg
 6.55 gal/sx
 50/50 Poz: Standard Cement
 + 3% Bentonite
 + 0.2% CFR-3 Friction Reducer
 + 0.1% HR-5 Retarder
 + 0.8% Halad-9 Fluid Loss Additive
 + 3.5 lb/sx Phenoseal

Comp. Strength
 9:32 50 psi
 12 hrs 500 psi
 13:29 1026 psi
 24 hrs 2300 psi

Newberry #1M

HOLE: 12.25 "
 CSG OD: 9.625 "
 CSG ID: 9.001 "
 WGT: 32.3 ppf
 GRADE: H-40
 EXCESS: 125 %
 DEPTH: 120'

SURFACE:

INTERMEDIATE LEAD:

Option 4

167 sx
 857 bbls
 4842 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

229 sx
 857 bbls
 4842 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

HOLE: 8.75 "
 CSG OD: 7 "
 CSG ID: 6.456 "
 WGT: 20 ppf
 GRADE: J-55
 EXCESS: 50 %

TAIL: 540'
 DEPTH: 2700'

INTERMEDIATE TAIL:

If the 9 5/8" surface casing is preset drilled (MOTE) 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.

PRODUCTION:

HOLE: 6.25 "
 CSG OD: 4.5 "
 CSG ID: 4 "
 WGT: 11.6 ppf
 GRADE: N-80
 EXCESS: 30 %
 DEPTH: 7143'

M³ - 11/15/06

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

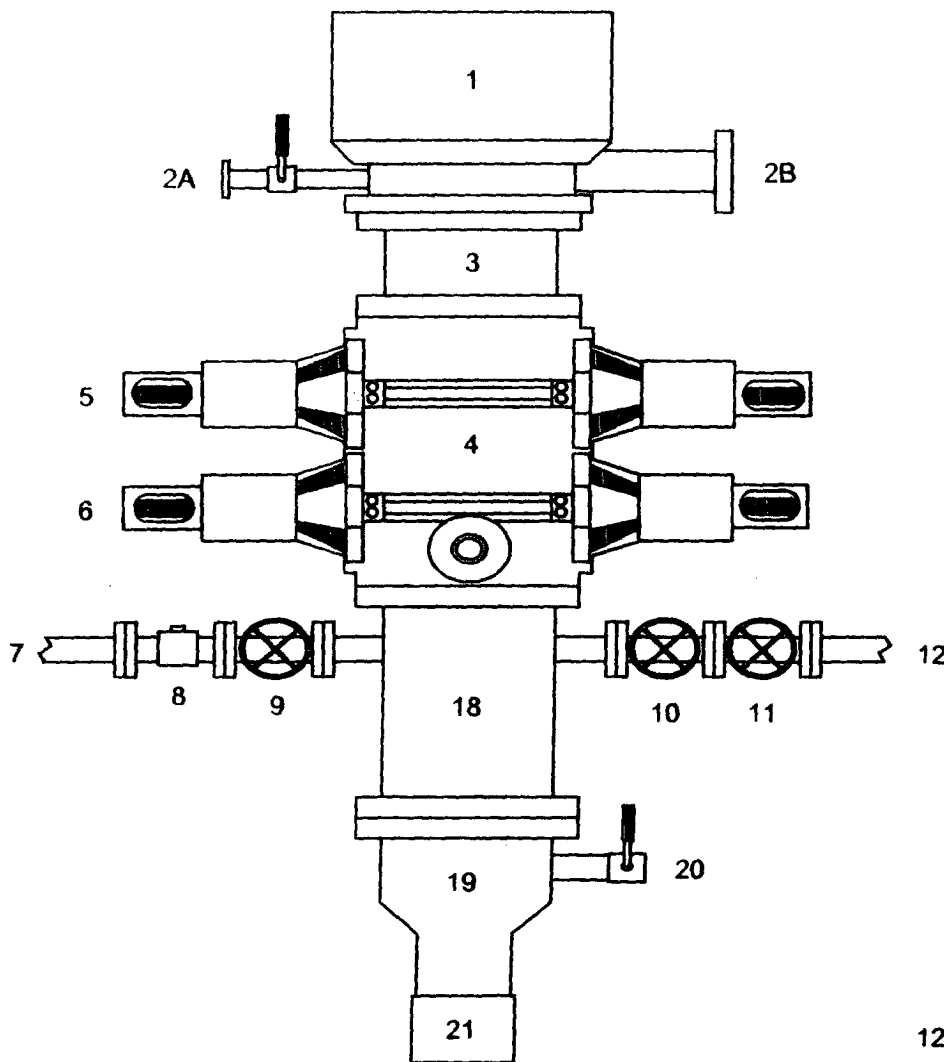
Intermediate: centralizers placed 10' above the shoe latched over a stop collar and at the top of the 2nd, 4th, 6th, 8th, & 10th joints

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

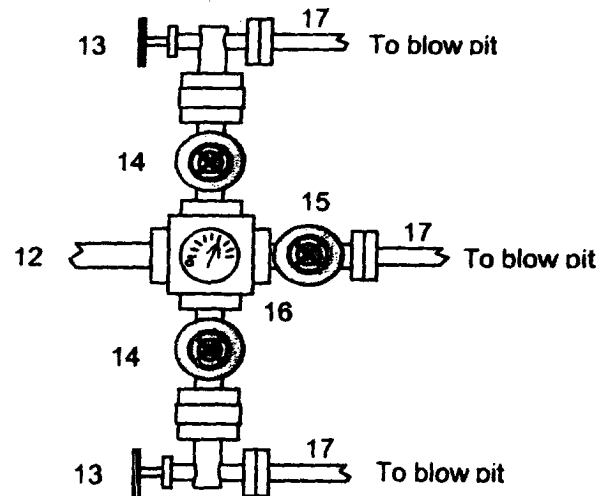
Below Intermediate: no centralizers used in air holes. In mud holes centralizers are spaced out appropriately

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 ~~intermediate casing point~~ 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.

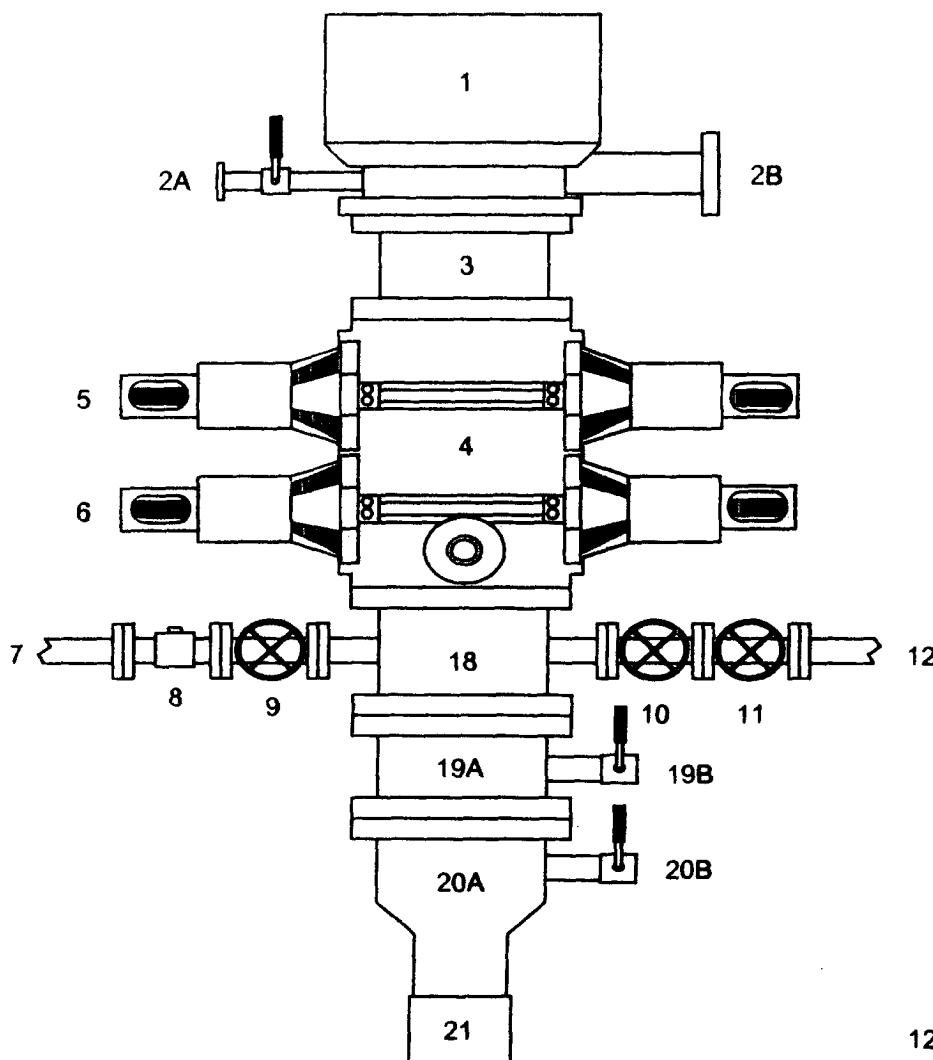
In addition to the equipment in the above diagram the following equipment will comprise the BOP system:

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

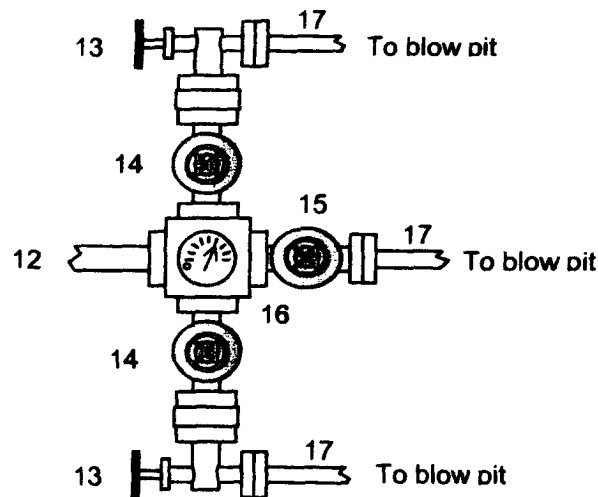
Revision Date: September 1, 2004

BLOWOUT PREVENTER ARRANGEMENT & PROGRAM

For Drilling to TD and Setting 4.5 inch Casing



1. Rotating Head
- 2A. Fill-up Line & valve
- 2B. Blooie Line (for Air Drilling)
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
- 19A Csg Spool "B" Section (11", 3M)
- 19B "B" Section Csg Valve (2", 3M)
- 20A Csg Head "A" Section (11", 3M)
- 20B "A" Section Csg Valve (2", 3M)
21. 9 5/8" Casing Collar



After the 7" intermediate casing has been run and cemented, the Casing Spool ("B" Section) will be installed on the wellhead ("A" Section) and the BOP will be installed on the Casing Spool. A test plug will be set in the wellhead and the pipe rams, blind rams, and choke manifold will be tested to 200 psi to 300 psi (low pressure test) for 10 minutes and to 3000 psi (high pressure test) for 10 minutes. Then the test plug will be removed and 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. Then we will air drill the 6-1/4" hole to TD and run and cement the 4-1/2" casing.

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