

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 SEP 14 PM 4 31	5. Lease Number NMSF-078205
1b. Type of Well GAS	RECEIVED OCT 2006 OCT 2006	Unit Reporting Number NMM-73448-MV NMM-994390K
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 L (NWSW), 2100' FSL & 805' FWL,  Latitude 36° 76709'N Longitude 107° 91370'W		8. Farm or Lease Name Stewart A Com/LS 9. Well Number A #2F
		10. Field, Pool, Wildcat Basin Dakota / Blanco MV  11. Sec., Twn, Rge, Mer. (NMPM) L Sec. 32, T30N, R10W  API # 30-045-33934
14. Distance in Miles from Nearest Town	12. County San Juan	13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 805'		
16. Acres in Lease	17. Acres Assigned to Well DK & MV 318.19 W/2	
18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease		
19. Proposed Depth 6969'	20. Rotary or Cable Tools Rotary	
21. Elevations (DF, FT, GR, Etc.) 5947' GL	22. Approx. Date Work will Start	
23. Proposed Casing and Cementing Program See Operations Plan attached		
24. Authorized by: <u>Peter Clugston</u> Sr. Regulatory Analyst	<u>9/14/06</u> Date	

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

Archaeological Report attached

Environmental 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 action is subject to technical and procedural review pursuant to 43 CFR 3165.2 and 43 CFR 3165.3

NMOC

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

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

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102  
Revised February 21, 1994

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

Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

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

OIL CONSERVATION DIVISION  
PO Box 2088  
Santa Fe, NM 87504-2088

2006 SEP 14 PM 4 31 ☐ AMENDED REPORT

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

RECEIVED  
WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number <b>30-045-33934</b>		*Pool Code <b>72319 / 71599</b>	*Pool Name <b>BLANCO MESAVERDE / BASIN DAKOTA</b>
*Property Code <b>31859</b>	*Property Name <b>STEWART A COMALS</b>		*Well Number <b>2F</b>
*GRID No <b>217817</b>	*Operator Name <b>CONOCOPHILLIPS COMPANY</b>		*Elevation <b>5947</b>

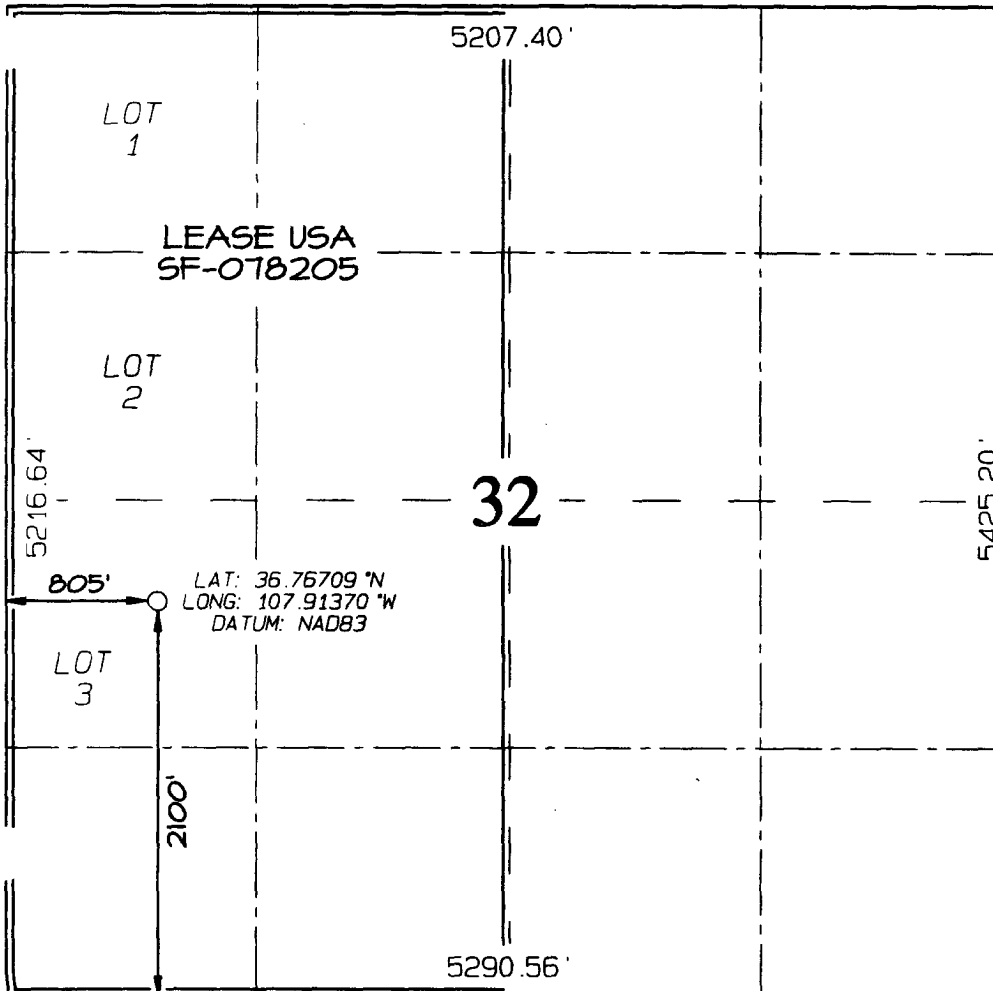

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	32	30N	10W		2100	SOUTH	805	WEST	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 <b>318.19 Acres - W/2 (MV) 318.19 Acres - W/2 (DK)</b>					<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> 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

	<p><sup>17</sup> OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p><i>Virgil E. Chavez Jr</i> Signature Virgil E. Chavez Printed Name Projects &amp; Operations Lead Title 9-14-06 Date</p>
	<p><sup>18</sup> SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief</p> <p>Date of Survey: JUNE 29, 2006</p> <p>Signature and Seal of Professional Surveyor</p> <div data-bbox="1153 1617 1461 1890"></div> <p><i>JASON C. EDWARDS</i> Certificate Number 15269</p>

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.

30-045-

33934

5. Indicate Type of Lease

STATE ☐FEE ☐

6. State Oil &amp; Gas Lease No.

Federal Lease - SF-078205

7. Lease Name or Unit Agreement Name

Stewart A Com LS

8. Well Number

#2F

9. OGRID Number

217817

10. Pool name or Wildcat

Blanco Mesaverde / Basin DK

**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

3401 E. 30TH STREET, FARMINGTON, NM 87402

4. Well Location

Unit Letter L : 2100' feet from the South line and 805' feet from the West line  
 Section 32 Township 30N Rng 10W NMPM County San Juan

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

5947'

Pit or Below-grade Tank Application

☐ or Closure ☐

Pit type

New Drill

Depth to Groundwater

&lt;100'

Distance from nearest fresh water well

&gt;1000'

Distance from nearest surface water

&lt;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 ☐TEMPORARILY ABANDON ☐PULL OR ALTER CASING ☐PLUG AND ABANDON ☐CHANGE PLANS ☐MULTIPLE COMPL ☐

OTHER:

New Drill ☒

## SUBSEQUENT REPORT OF:

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

TITLE

Sr. Regulatory Specialist

DATE

9/13/2006

Type or print name

Patsy Clugston

E-mail address:

pclugston@br-inc.com

Telephone No.

505-326-9518

For State Use Only

APPROVED BY

TITLE

DEPUTY OIL &amp; GAS INSPECTOR, DIST. 4

DATE

OCT 06 2006

Conditions of Approval (if any):

B 10/11

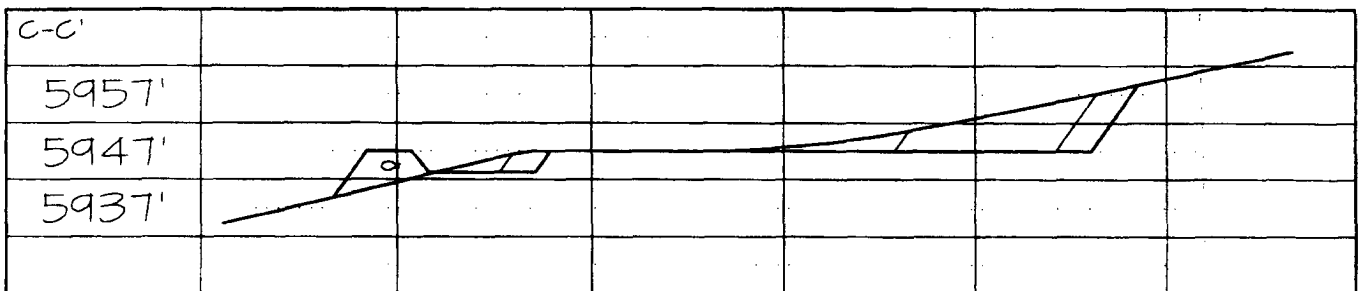
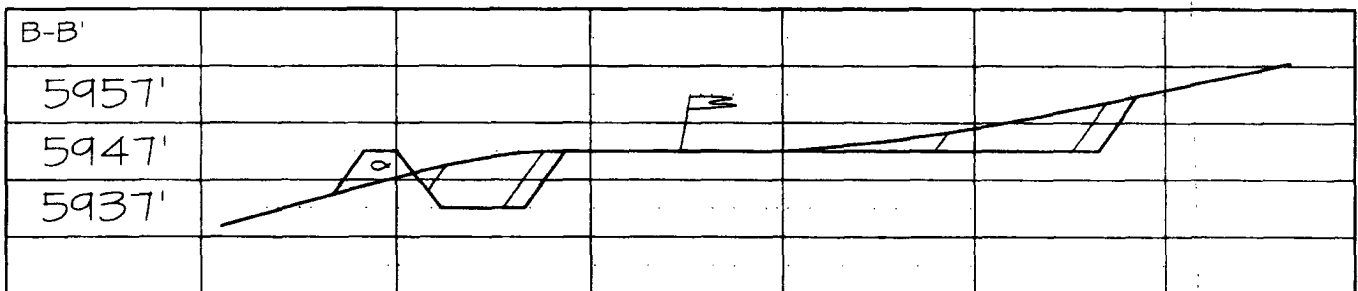
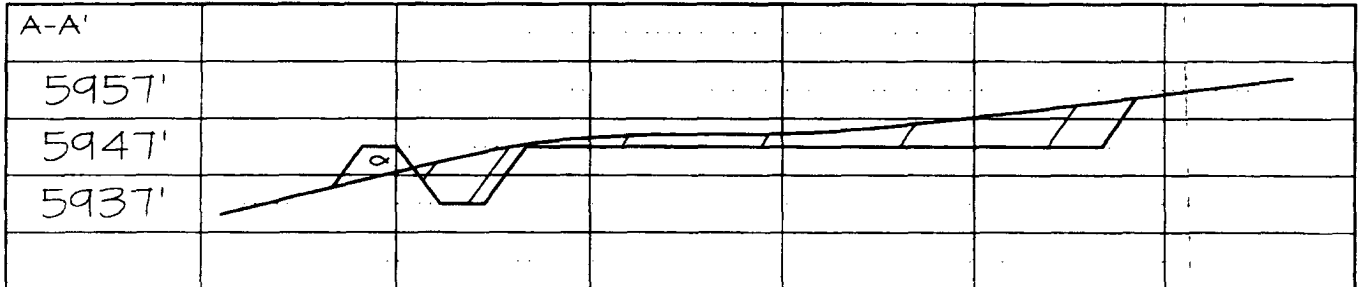
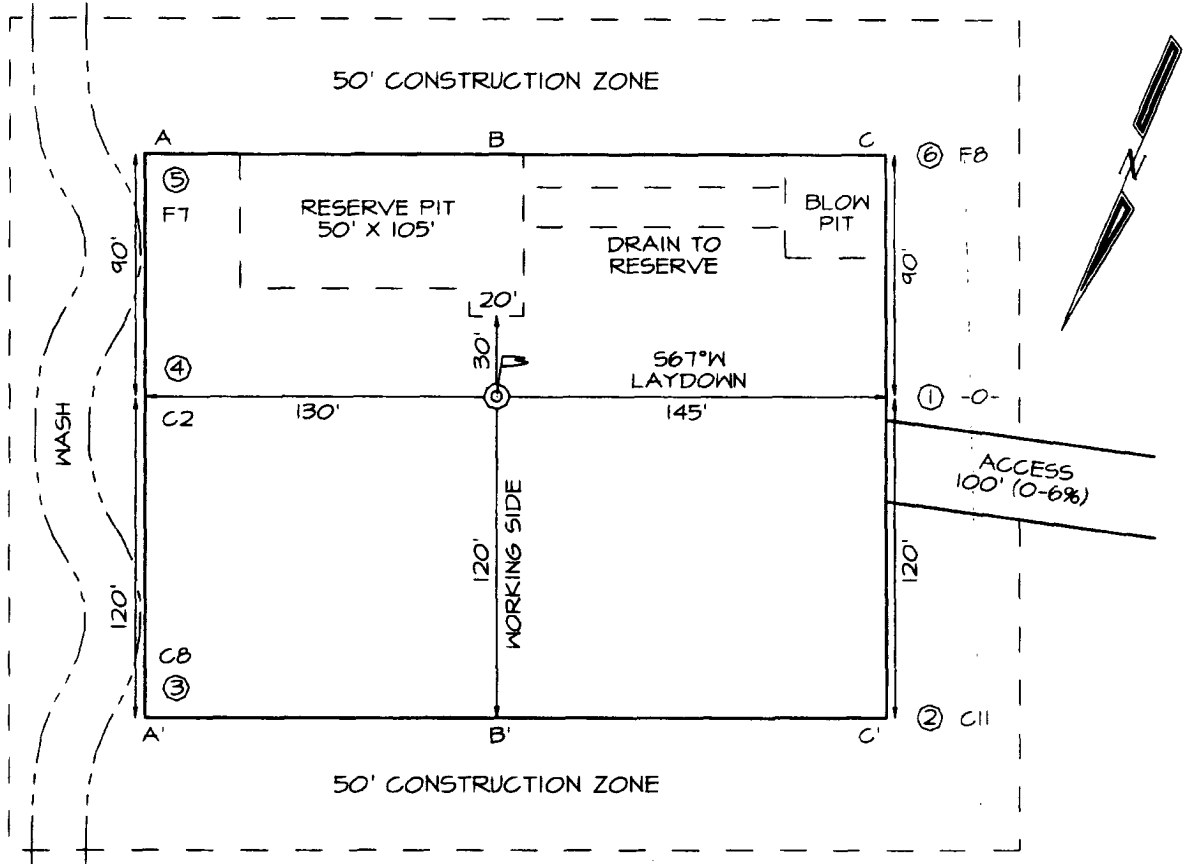
**CONOCOPHILLIPS COMPANY STEWART A COM LS #2F  
2100' FSL & 805' FWL, SECTION 32, T30N, R10W, NMPM  
SAN JUAN COUNTY, NEW MEXICO ELEVATION: 5947'**

**LATITUDE: 36.76709° N  
LONGITUDE: 107.91370° W**

DATUM: NAD1983

PLAT NOTE:

\*SURFACE OWNER\*  
Bureau of Land  
Management



# PROJECT PROPOSAL - New Drill / Sidetrack

San Juan Business Unit

STEWART A COM LS 2F

Lease:		AFE #: WAN.CNV.6241		AFE \$:	
Field Name: NEW MEXICO-WEST		Rig: Bickley	State: NM	County: SAN JUAN	API #:
Geoscientist: Brain, Ted H.		Phone: 832-486-2592	Prod. Engineer: Piotrowicz, Greg M.		Phone: +1 832-486-3486
Res. Engineer: Harrington, Tim R.		Phone: 832-486-2207	Proj. Field Lead: Fransen, Eric E.		Phone:

## Primary Objective (Zones):

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

Location: Surface		Datum Code: NAD 27		Straight Hole	
Latitude: 36.767090	Longitude: -107.913700	X:	Y:	Section: 32	Range: 10W
Footage X: 805 FWL	Footage Y: 2100 FSL	Elevation: 5947	(FT)	Township: 30N	
Tolerance:					

Location Type: Year Round	Start Date (Est.):	Completion Date:	Date In Operation:
Formation Data: Assume KB = 5960 Units = FT			

Formation Call & Casing Points	Depth (TVD in Ft)	SS (Ft)	Depletion (Yes/No)	BHP (PSIG)	BHT	Remarks
Surface Casing	213	5747	<input type="checkbox"/>			12-1/4 hole. 9 5/8" 32.3 ppf, H-40, STC casing. Circulate cement to surface.
OJAM	1060	4900	<input type="checkbox"/>			Possible water flows.
KRLD	1210	4750	<input type="checkbox"/>			
FRLD	2050	3910	<input type="checkbox"/>			Possible gas.
PCCF	2390	3570	<input type="checkbox"/>			
LEWS	2590	3370	<input type="checkbox"/>			
Intermediate Casing	2690	3270	<input type="checkbox"/>			8 3/4" Hole. 7", 20 ppf, J-55, STC Casing. Circulate cement to surface.
CLFH	4080	1880	<input type="checkbox"/>			Gas; possibly wet
MENF	4120	1840	<input type="checkbox"/>			Gas.
PTLK	4660	1300	<input type="checkbox"/>			Gas.
GLLP	6160	-200	<input type="checkbox"/>			Gas. Possibly wet.
GRHN	6615	-655	<input type="checkbox"/>			Gas possible, highly fractured
TWLS	6720	-760	<input type="checkbox"/>			Gas
PAGU	6780	-820	<input type="checkbox"/>			Gas. Highly Fractured.
Total Depth	6969	-1009	<input type="checkbox"/>			6-1/4" hole, 4-1/2" 11.6#/ft, N-80 LTC casing cemented to 100' above 7" shoe

## Reference Wells:

Reference Type	Well Name	Comments
----------------	-----------	----------

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

**SURFACE:**  
 Option 1 148 sx  
 30.8 bbls  
 172.9 cuft  
 1.17 ft<sup>3</sup>/sx  
 15.8 ppg  
 4.973 gal/sx  
 Class G Cement  
 + 3% S001 Calcium Chloride  
 + 0.25 lb/sx D029 Cellophane Flakes  
 Comp. Strength  
 6 hrs 250 psi  
 8 hrs 500 psi  
 psi  
 Option 2 143 sx  
 30.8 bbls  
 172.9 cuft  
 1.21 ft<sup>3</sup>/sx  
 15.6 ppg  
 5.29 gal/sx  
 Standard Cement  
 + 3% Calcium Chloride  
 + 0.25 lb/sx Flocele  
 Comp. Strength  
 6 hrs 250 psi  
 8 hrs 500 psi  
 psi  
 Option 3 65 sx  
 18.6 bbls  
 104.3 cuft  
 1.61 ft<sup>3</sup>/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

### INTERMEDIATE LEAD:

HOLE: 8.75 "  
 CSG OD: 7 "  
 CSG ID: 6.456 "  
 WGT: 20 pcf  
 GRADE: J-55  
 EXCESS: 150 %  
 TAIL: 538'  
 DEPTH: 2680'

**SURFACE:**  
 Option 1 280 sx  
 135.7 bbls  
 761.8 cuft  
 2.72 ft<sup>3</sup>/sx  
 11.7 ppg  
 15.74 gal/sx  
 Class G Cement  
 + 3% D079 Extender  
 + 0.20% D046 Antifoam  
 + 10 lb/sx Phenoseal  
 Comp. Strength  
 9 hrs 300 psi  
 48 hrs 525 psi  
 psi  
 Option 2 283 sx  
 135.7 bbls  
 761.8 cuft  
 2.60 ft<sup>3</sup>/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  
 Comp. Strength  
 1:47 hrs 50 psi  
 12 hrs 350 psi  
 24 hrs 450 psi  
 psi  
 Option 3 290 sx  
 135.7 bbls  
 761.8 cuft  
 2.63 ft<sup>3</sup>/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

### INTERMEDIATE TAIL:

HOLE: 6.25 "  
 CSG OD: 4.5 "  
 CSG ID: 4 "  
 WGT: 11.6 pcf  
 GRADE: N-80  
 EXCESS: 50 %  
 DEPTH: 6929'

**SURFACE:**  
 Option 1 162 sx  
 37.7 bbls  
 211.8 cuft  
 1.31 ft<sup>3</sup>/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 Gilsonite Extender  
 + 0.1% D046 Antifoam  
 + 6 lb/sx Phenoseal  
 Comp. Strength  
 3:53 500 psi  
 8:22 1000 psi  
 24 hrs 3170 psi  
 48 hrs 5399 psi  
 psi  
 Option 2 159 sx  
 37.7 bbls  
 211.8 cuft  
 1.33 ft<sup>3</sup>/sx  
 13.5 ppg  
 5.52 gal/sx  
 50/50 Poz: Standard Cement  
 + 2% Bentonite  
 + 6.0 lb/sx Phenoseal  
 Comp. Strength  
 2:05 50 psi  
 4:06 500 psi  
 12 hrs 1250 psi  
 24hrs 1819 psi  
 psi  
 Option 3 165 sx  
 37.7 bbls  
 211.8 cuft  
 1.28 ft<sup>3</sup>/sx  
 13.5 ppg  
 5.255 gal/sx  
 50/50 Poz: Class G Cement  
 + 2% D020 Bentonite  
 + 5.0 lb/sx D024 Gilsonite 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

### PRODUCTION:

**SURFACE:**  
 Option 1 469 sx  
 120.4 bbls  
 676.1 cuft  
 1.44 ft<sup>3</sup>/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 Gilsonite Extender  
 + 0.25% D167 Fluid Loss  
 + 0.25% D065 Dispersant  
 + 0.1% D800 Retarder  
 + 0.1% D046 Antifoam  
 + 3.5 lb/sx Phenoseal  
 Comp. Strength  
 7 hrs 500 psi  
 24 hrs 2100 psi  
 psi  
 Option 2 466 sx  
 120.4 bbls  
 676.1 cuft  
 1.45 ft<sup>3</sup>/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

Stewart A Com LS 2F

SURFACE:

HOLE: 12.25 "  
CSG OD: 9.825 "  
CSG ID: 9.001 "  
WGT: 32.3 ppf  
GRADE: H-40  
EXCESS: 125 %  
DEPTH: 235'

INTERMEDIATE LEAD:

Option 4

265 sx  
135.7 bbls  
761.8 cuft  
2.88 ft<sup>3</sup>/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

HOLE: 8.75 "  
CSG OD: 7 "  
CSG ID: 6.456 "  
WGT: 20 ppf  
GRADE: J-55  
EXCESS: 150 %  
TAIL: 538'  
DEPTH: 2690'

Option 5

363 sx  
135.7 bbls  
761.8 cuft  
2.10 ft<sup>3</sup>/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:

PRODUCTION:

HOLE: 6.25 "  
CSG OD: 4.5 "  
CSG ID: 4 "  
WGT: 11.6 ppf  
GRADE: N-80  
EXCESS: 50 %  
DEPTH: 6929'

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

**Drilling Mud Program:**

Surface: spud mud

Intermediate: fresh water mud with bentonite and polymer as needed

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

**Centralizer Program:**

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

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

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

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

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

**Drilling Mud Program:**

Surface: spud mud

Production: fresh water mud with bentonite and polymer as needed

**Centralizer Program:**

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

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

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

**MESA VERDE Wells:**

**Drilling Mud Program:**

Surface: spud mud

Intermediate: fresh water mud with bentonite and polymer as needed

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

**Centralizer Program:**

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

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

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

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

**DAKOTA Wells:**

**Drilling Mud Program:**

Surface: spud mud

Intermediate: fresh water mud with bentonite and polymer as needed

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

**Centralizer Program:**

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

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

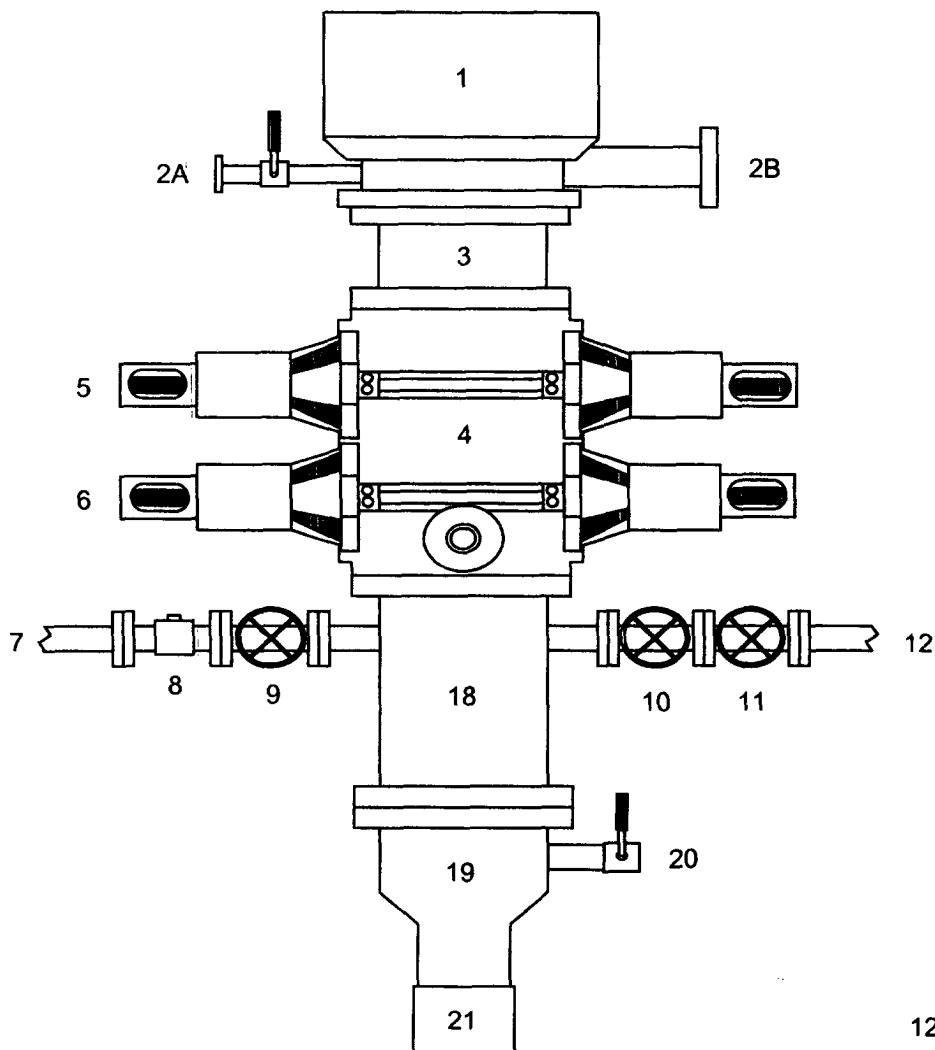
Turbolizers placed one per joint from the top of the Ojo Alamo to the top of the Kirtland Shale

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

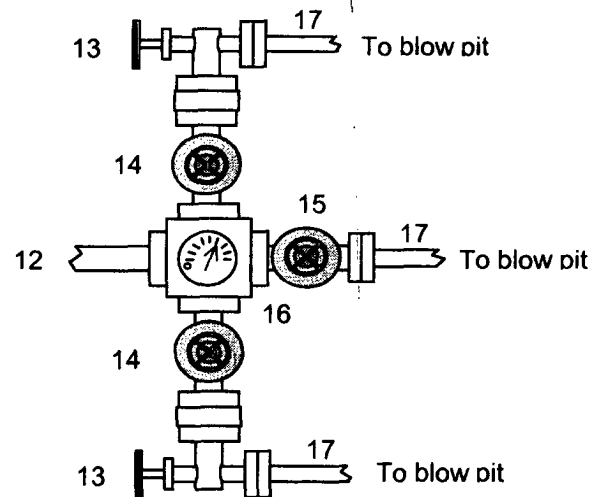


# BLOWOUT PREVENTER ARRANGEMENT & PROGRAM

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



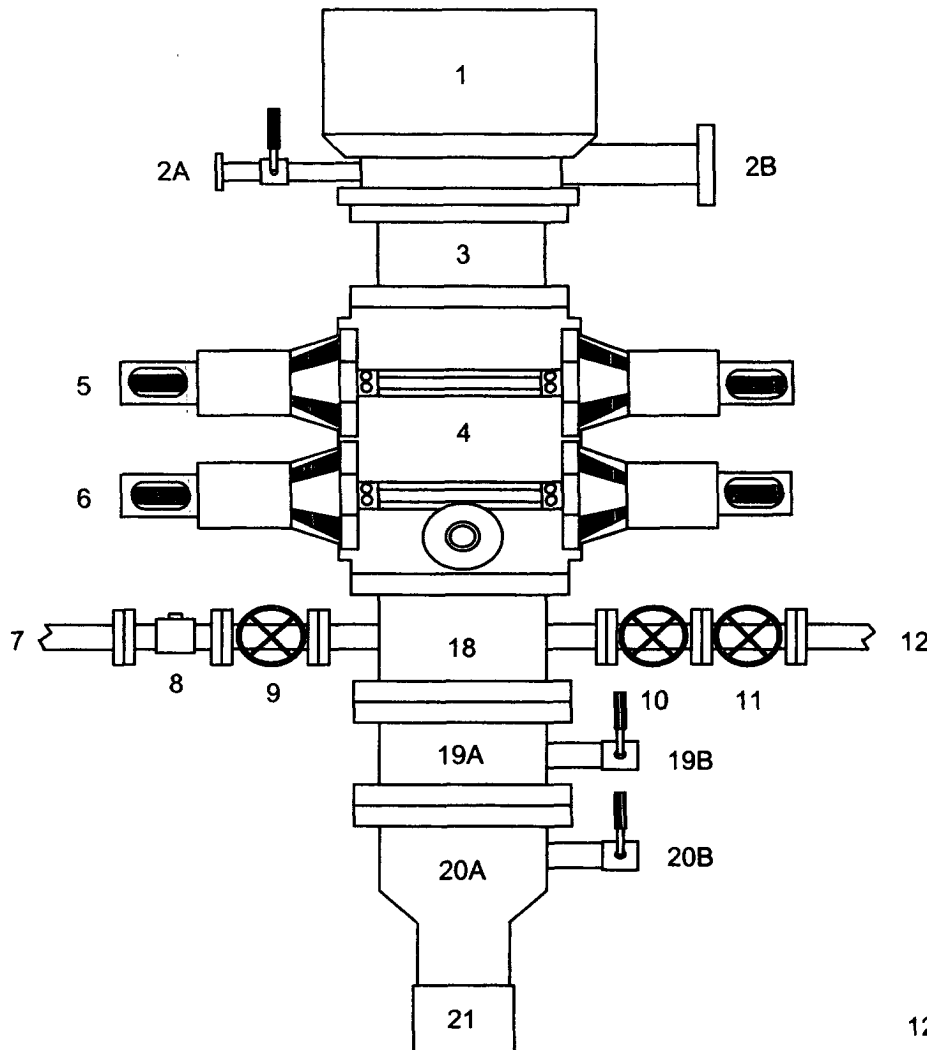
A 12-1/4" hole will be drilled to approximately 220' and the 9-5/8" surface casing will be run and cemented. The Casing Head "A" Section will be screwed onto the 9-5/8" surface casing stub. The BOP will be installed on the Casing Head "A" Section. A test plug will be set in the wellhead and the pipe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

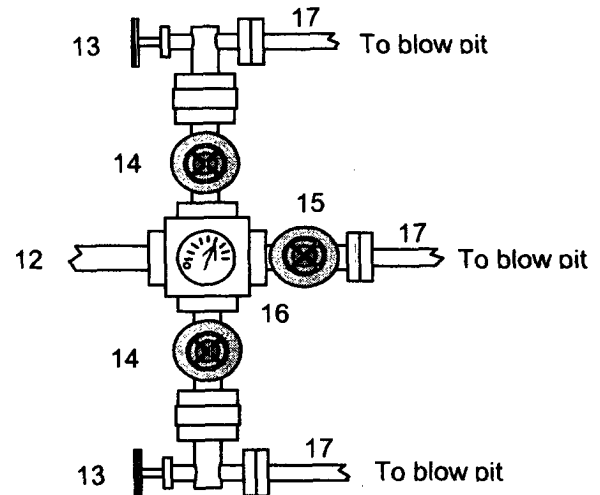
1. Upper Kelly cock Valve with handle
2. Stab-in TIW valve for all drillstrings in use

# BLOWOUT PREVENTER ARRANGEMENT & PROGRAM

For Drilling to TD and Setting 4.5 inch Casing



1. Rotating Head
- 2A. Fill-up Line & valve
- 2B. Bloopie 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