

FEB 25 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

UNORTHOD

RECEIVED APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NM27508 & NM107393 130738
16. If Indian, Allottee or Tribe Name
N/A1a. Type of work: ☒ DRILL ☐ REENTER7. If Unit or CA Agreement, Name and No.
Pending1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone8. Lease Name and Well No.
Wilder Federal AC Com 28/8H

2. Name of Operator ConocoPhillips Company

9. API Well No.

3a. Address P.O. Box 51810
Midland, Tx 797103b. Phone No. (include area code)
432-688-694310. Field and Pool or Exploratory
Well, Bone Springs Upper Shale

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

At surface 280 FNL & 330 FWL (NWNW) 28-26S-32E

At proposed prod. zone 841 FNL & 982.1 FWL (NWNW) 28-26S-32E (7" Casing)

11. Sec., T. R. M. or Blk. and Survey or Area
Section 28-26S-32E14. Distance in miles and direction from nearest town or post office*
38.9 miles south/west of Jal, NM12. County or Parish
Lea13. State
NM15. Distance from proposed* location to nearest property or lease line, ft.
(Also to nearest drig. unit line, if any)
330'16. No. of acres in lease
-82+ 1698.9217. Spacing Unit dedicated to this well
-22018. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
50' (WH to Wilder 28 # 4H)19. Proposed Depth
15964 MD/9308 TVD20. BLM/BIA Bond No. on file
ES008521. Elevations (Show whether DF, KDB, RT, GL, etc.)
3155 GL22. Approximate date work will start*
11/01/201323. Estimated duration
30 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must 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 must 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 BLM.

25. Signature

Name (Printed/Typed)

Donna Williams

Date

8/28/13

Title

Sr. Regulatory Advisor

Approved by (Signature)

Name (Printed/Typed)

Date

FEB 14 2014

Title

FIELD MANAGER/S/ STEPHEN J. CAFFEY

CARLSBAD FIELD OFFICE

Application approval 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.

Conditions of approval, if any, are attached.

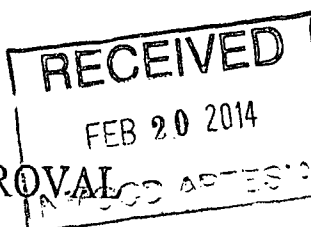
APPROVAL FOR TWO YEARS

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.

(Continued on page 2)

*(Instructions on page 2)

Carlsbad Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVALApproval Subject to General Requirements
& Special Stipulations Attached

MAR 03 2014

OPERATORS NAME:

ConocoPhillips Company

LEASE NAME AND WELL NO.:

Wilder Federal AC Com 28 # 8H

SURFACE LOCATION:

280 FNL & 330 FWL (NWNW) 28-26S-32E

CASING POINT:

841 FNL & 982.1 FWL (NWNW) 28-26S-32E

BHL:

330 FSL & 990 FWL (SWSW) 33-26S-32E

FIELD NAME:

WC; Bone Springs Upper Shale

POOL NAME:

Bone Spring/Avalon

COUNTY:

Lea County, New Mexico

Federal Surface & Federal Minerals NM27508 & NM107393

The following information is to supplement the Application for Permit to Drill.

DRILLING PLAN

1. Name and estimated tops of all geologic groups, formations, members, or zones.(TVD)

Quaternary	Surface	Water
Rustler	915	Water
Salado	1010	Salt
Castille	2657	Salt
Delaware Top	4413	Oil/gas/water
Ramsey	4467	Oil/gas/water
Ford Shale	4500	Oil/gas/water
Olds	4537	Oil/gas/water
Cherry Canyon	5365	Oil/gas/water
Brushy Canyon	N/A	Oil/gas/water
Bone Spring	8227	Oil/gas/water
Bone Spring 1 st Carbonate	8485	Oil/gas/water
Avalon A Shale Top	8723	Oil/gas/water
Avalon B Top	8936	Oil/gas/water
Avalon B Base	9130	Oil/gas/water
Avalon C Shale Top	9130	Oil/gas/water
Avalon C Shale Lower Target	9333	Oil/gas/water

2. Estimated depths and thickness of formations, members or zones potentially containing usable water, oil, gas, or prospectively valuable deposits of other minerals that the operator expects to encounter, and the operator's plans for protecting such resources.

Quanternary Surface
Rustler 915

All of the water bearing formations identified above will be protected by the setting of the 13 3/8" casing at 950' and circulating of cement to surface

Salado & Castille (Salt) Salado 1010 & Castille 2657
Delaware 4430 (oil/gas/water)

The prospective formation identified above will be protected by the setting of the 9 5/8" casing set at 4520 and circulating of cement to surface.

Bone Spring 8227-9333 (oil/gas/water)

The prospective formation identified above will be protected by the setting of the 7" casing set at 9275' TVD and circulating of cement to previous casing string. The geologic tops identified above from the top of the Bone Spring are part of the target formation

3. The operator's minimum specifications for blowout prevention equipment and diverter systems to be used, including size, pressure rating, configuration, and the testing procedure and frequency.

The rig slated to drill this location has a 10M system as it pertains to the BOP. ConocoPhillips Company respectfully request a variance to the test requirements to the rated working pressure of the BOP. It is our intent to test to the 5M requirements. By utilizing the .49 psi/ft gradient (based off offset wells) minus the .22 psi/ft as per the Onshore Order, this well would require 3513 psi. Testing to the 5M requirements will meet the guidelines for well control. After nipping up, and every 30 days thereafter, preventors will be pressure tested. BOP will be inspected and operated at least daily to insure good working order. All pressure and operating tests will be recorded on the daily drilling reports. Ram Type preventors will be tested to rated working pressure or 70% of the minimum internal yield of the casing. **See Attached Schematic** ~ See COA Test Plug Req

4. The proposed casing program including size, grade, weights, type of thread and coupling, and the setting depth of each string and its condition. For exploratory wells, or for wells as otherwise specified by the authorized officer, the operator shall include the minimum design factors for tensions, burst, and collapse that are incorporated into the casing design. In cases where tapered casing strings are utilized, the operator shall also include and/or setting depths of each portion.

NEW CASING:

Surface: 17 1/2" hole, 13 3/8" 54.5# J55 STC csg, set @ 950'. Drill out with 12 1/4" bit and perform shoe test to 12.5 ppg MWE.
Burst: 4.39/Collapse: 1.88/Tension: 5.98/9.13
Intermediate 1: 12 1/4" hole, 9 5/8" 40# J55 LTC csg, set @ 4520
Burst: 2.43/Collapse: 1.4/Tension: 5.45/6.44

(This string of casing would not be subject to the production collapse load case of being pumped off to zero pressure on the inside by beam pump or ESP production pumping the fluid level down. The 9 5/8" casing would be isolated from the beam pumping production collapse load case by the production casing that would be run. If loss of circulation occurs during the drilling phase while drilling below the 9 5/8" intermediate casing, we would expect the fluid level would fall no further than 2200' below the surface of ground before reaching hydrostatic balance with the pressure of the loss zone. Our anticipated maximum mud weight for drilling below the 9 5/8" intermediate casing is 9.3 ppg and our experience has been that we have not had severe losses with this mud weight in our previous wells in this area. The 9 5/8" casing will be filled with mud while running it by filling it at least once each 30 joints)

Intermediate 2: 8 3/4" hole, 7" 29# P110 BTC csg set @ 9633

Burst: 3.25/Collapse: 3.36/Tension: 5.78/6.8

Production Liner (Uncemented): 6 1/8" hole, 4 1/2" 11.6# P110 BTC liner set @ 9200-15964 TVD Burst: 3.25/Collapse: 3.36/Tension: 5.78/6.80 (Packers and Sleeves)

The plan is to set casing and drill in a southern direction to a proposed bottomhole location of 330 FSL & 990 FWL (Lot4) of Section 33-26S-32E ConocoPhillips will utilize casing friendly hardbanded drill pipe in a manner that is consistent with current company policy and standards with respect to minimizing or mitigating internal casing wear. The responsibility to ensure all parties are acting according to their roles and responsibilities rest with the Company. Any damage or impacts from use of casing friendly hardbanded drill pipe rest with ConocoPhillips Company.

5. The amount and type(s) of cement, including anticipated additives to be used in setting each casing string, shall be described. If stage cementing techniques are to be employed, the setting depth of the stage collars and amount and type of cement, including additives, and preflush amounts to be used in each stage, shall be given. The expected linear fill-up of each cemented string, or each stage when utilizing stage-cementing techniques, shall also be given.

13 3/8 casing: Lead w/520 sxs Class C cmt + HalCem-C (Yield 1.75 cft)

Tail w/320 sxs Class C cmt + 1 lbm/sk EconoChem HRLTRRC (Yield 1.33 Cuft/sk). Circulated to surface based on 17 1/2" hole with 100% excess

9 5/8" casing: Stage 1/Lead: Cmt w/1530 sxs 50/50 Class C Poz + 2.5 gal/bbl WG-19 + 1 lbm/sk EconoCem-C (Yield 2.47/cft/sk/12.9 ppg), Stage 2/Tail w/340 sxs H + HalCem C (Yield 1.33 cft/sk/14.8 ppg) Circulated to surface based on 12 1/4" hole w/200% Excess. Optional use of 9 5/8 DV + ECP @ 2600'. Cement volumes to be same as referenced. 6605X 2.47 ft³/sx

Sel
COA

7" casing: Stage 1/Lead: Cmt w/550 sxs 50/50 Class C Poz (Tune Light System) + .25 ga/bbl WG-19 + 1 lbm/sk EconoCem-C (Yield: 3.2, 2.19)

SP
COA

270
cft/sk/9.5 ppg) Stage 2/Tail w/168 sxs Class H + HalCem C (Yield 1.33
cft/sk/14.8 ppg). Circulate cement 500' into the 9 5/8" casing based on 8 3/4"
hole w/200% excess. Optional use of 7" DV + ECP at 8000'. Cement
~~volumes as be same as referenced.~~ 4805X 3.19 P13/sx

4 1/2" Liner: Uncemented

6. The anticipated type and characteristics of the proposed circulating medium or mediums proposed for the drilling of each wellbore section, the quantities and types of mud and weighting material to be maintained, and the monitoring equipment to be used on the circulating system.

Mud Program:

0-950	Aquagel-Spud Mud	8.9	Wt/Gl	32-36 Vis.	NC
950-4520	Brine	10.2	Wt/Gl	28-30 Vis.	5-8
4520-9633	Brine	9.3	Wt/Gl	30-39 Vis	<=4
9633-15964	Cut Brine	9.5	Wt/Gl	30-40 Vis	<=5

Gas detection equipment and pit level flow monitoring equipment will be on location.
ConocoPhillips Company will maintain sufficient mud and weighted material on location
at all times.

7. The anticipated testing, logging, and coring procedures to be used, including drill stem testing procedures, equipment, and safety measures.

- a. DST Program: None
- b. Mud Logging: Two-Man – 2500-TD (Vertical & Horizontal Sections)
Logs to be run: GR/MWD

8. List the expected bottom-hole pressure and any anticipated abnormal pressures, temperatures or potential hazards that are expected to be encountered, such as lost circulation zones and hydrogen sulfide. The operator's plans for mitigating such hazards shall be discussed. Should the potential to encounter hydrogen sulfide exist, the mitigation procedures shall comply with the provisions of the BLM.

The maximum anticipated bottom hole pressure is .49 psi/ft

No hydrogen sulfide is expected during drilling operations; however, the potential does exist for H2S. Please see attached H2S contingency plan to be used in the event of occurrence.

Any other facets of the proposed operation which the operator wishes to be considered in reviewing the application.

Anticipated construction date is November 1, 2013 with anticipated spud date of December 1, 2013. Construction of well pad and road will begin as soon as all Agency approvals are obtained.

9. Address the proposed directional design, plan view, and vertical section in true vertical and measured depth for directional, horizontal, or coil tubing operations.

The proposed directional/horizontal documents are attached.



Mason, Jennifer <jamason@blm.gov>

Wilder Federal 28-8H Cement Volumes

1 message

Mickens, Kristina <Kristina.Mickens@conocophillips.com>

Tue, Dec 31, 2013 at 3:43 PM

To: "jamason@blm.gov" <jamason@blm.gov>

Jennifer-

The following outlines the proposed cement volumes for the Wilder Federal 28-8H:

Surface: 950ft. 13-3/8" 54.5# J-55 STC

Lead Cement: 520 sx. @ 1.75 $\frac{ft^3}{sx}$ Tail Cement: 320 sx. @ 1.33 $\frac{ft^3}{sx}$

Both volumes will be pumped with 100% excess and returns will be brought to surface.

Intermediate 1: 4520ft. 9-5/8" 36# J-55 LTC

Lead Cement: 1530 sx. @ 2.47 $\frac{ft^3}{sx}$ and 200% excessTail Cement: 430 sx. @ 1.33 $\frac{ft^3}{sx}$ and 250% excess

Returns will be brought to surface.

Optional DV Tool: 2600ft. +/- 100ft. 660 sx. @ 2.47 $\frac{ft^3}{sx}$ and 200% excess Contingency

Intermediate 2: 9633ft. 7" 29# P-110 BTC

Lead Cement: 550 sx. @ 3.19 $\frac{ft^3}{sx}$ and 150% excessTail Cement: 270 sx. @ 1.33 $\frac{ft^3}{sx}$ and 135% excess

Returns will be brought to 500ft. inside the 9-5/8" shoe to 4020ft.

Optional DV Tool: 8000ft. +/- 100ft. 480 sx. @ 3.19 $\frac{ft^3}{sx}$ and 150% excess Contingency

Production Liner: 15964ft. 4-1/2" 11.6# P-110 BTC

Un-cemented

DRILLING PLAN

PROSPECT/FIELD	Bonespring/Red Hills				COUNTY/STATE		Lea County, NM																																											
OWNERS	ConocoPhillips				LEASE																																													
WELL NO.	Wilder Federal AC COM28 #8H				FNL	FSL	FEL	FWL																																										
LOCATION	Surface Location:				280		330																																											
	Bottom Hole Location:					330	990	SECTION 29																																										
EST. T.D.	Leg #1 15,964' MD				GROUND ELEV.			3,155' (est)																																										
PROGNOSIS:	Based on 3,169' KB(est)				LOGS:																																													
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Marker</th> <th>TVD</th> <th>S.S. Depth</th> </tr> </thead> <tbody> <tr><td>Quaternary</td><td>Surface</td><td></td></tr> <tr><td>Rustler</td><td>915</td><td>2,265</td></tr> <tr><td>Delaware Top</td><td>4,413</td><td>-1,233</td></tr> <tr><td>Ford Shale</td><td>4,500</td><td>-1,320</td></tr> <tr><td>Bone Spring</td><td>8,227</td><td>-5,047</td></tr> <tr><td>Bone Spring 1st Carbonate Top</td><td>8,485</td><td>-5,305</td></tr> <tr><td>Bone Spring 1st Carbonate Base</td><td>8,535</td><td>-5,355</td></tr> <tr><td>Avalon A Shale Top</td><td>8,723</td><td>-5,543</td></tr> <tr><td>Avalon A Shale Base</td><td>8,938</td><td>-5,756</td></tr> <tr><td>Avalon B Zone Top</td><td>8,936</td><td>-5,756</td></tr> <tr><td>Avalon B Zone Base</td><td>9,130</td><td>-5,950</td></tr> <tr><td>Avalon C Shale Top</td><td>9,130</td><td>-5,950</td></tr> <tr><td>Avalon C Shale Base (Should not penetrate)</td><td>9,371</td><td>-6,191</td></tr> </tbody> </table>					Marker	TVD	S.S. Depth	Quaternary	Surface		Rustler	915	2,265	Delaware Top	4,413	-1,233	Ford Shale	4,500	-1,320	Bone Spring	8,227	-5,047	Bone Spring 1st Carbonate Top	8,485	-5,305	Bone Spring 1st Carbonate Base	8,535	-5,355	Avalon A Shale Top	8,723	-5,543	Avalon A Shale Base	8,938	-5,756	Avalon B Zone Top	8,936	-5,756	Avalon B Zone Base	9,130	-5,950	Avalon C Shale Top	9,130	-5,950	Avalon C Shale Base (Should not penetrate)	9,371	-6,191	Open Hole: Type Interval GR-MWD 15964- 8,750'			
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					DEVIATION: Surf: 3" max., svy every 500' Int1: 8" max., svy every 200' Int 2: Curve 92" max., svy every 30' Prod: 92" max., svy every 200'																																													
					DST'S: None																																													
					CORES: No core.																																													
					SAMPLES: Mudlogging: Start End Two-Man: 2500' TD Vertical and Horizontal sections																																													
					BOP: HnP486 BOPE: COP Category 3 Well Control Requirements (With Rotating Head) 13-5/8"-5Mpsi Annular 13-3/8"-5Mpsi Blind Ram 13-3/8"-5Mpsi Cross / Choke & Kill Lines 13-3/8"-5M psi Pipe Ram 13-3/8"-5Mpsi Spacet Spool																																													
Dip Rate: Slight Down Dip					Max. Anticipated BHP: 0.49 psi/ft																																													
MUD:					Surface Formation:																																													
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Comments:																																																		
Surveys will be taken in intermediate section with INC ONLY or MWD tools. Directional surveys will be taken with MWD Tool.																																																		
Prep By:		Katia Filina		Date:		8/15/13		Doc: REV.1																																										

Bonespring/Red Hills
 ConocoPhillips
 Wilder Federal AC COM28 #8H

Surface Casing:	
Surface Casing Depth (Ft)	950
Surface Casing O.D. (In.)	13.375
Surface Casing ID (In)	12.715
Hole O.D. (In)	17.5
Excess (%)	100%
Volume Tail (Sx)	320
Yield Tail (Cu. Ft./Sx)	1.33
Yield Lead (Cu. Ft./Sx)	1.75
Shoe Joint (Ft)	40
Shoe Volume (Cu. Ft)	35.3
Tail feet of cement	300
Calculated Total Volume (Cu. Ft.)	1,355
Calc. Tail Volume (Cu. Ft.)	417
Calc. Lead Volume (Cu. Ft.)	903
Calc. Lead Volume (Sx)	520

Intermediate #1 Casing (Lead):		12.9	Intermediate #1 Casing (Tail):		14.8
Intermediate Casing O.D. (In.)	9.625		Intermediate Casing O.D. (In.)	9-5/8"	
Intermediate Casing ID (In)	8.835		Production Casing ID (In)	8.835	
Hole O.D. (In)	12.25		Hole O.D. (In)	12.25	
Excess (%)	200%		Excess (%)	250%	
cap 12-1/4 - 9-5/8"	0.0558		cap 12-1/4 - 9-5/8"	0.0558	
Calculated fill:	4,020'		Calculated fill:	500'	
Yield Lead (Cu. Ft./Sx)	2.47		Yield Tail (Cu. Ft./Sx)	1.33	
			Shoe Joint (Ft)	40	
Calculated Total Lead (Cu. Ft.)	3,777		Shoe Volume (Cu. Ft)	17.0	
			Calc. Tail Volume (Cu. Ft.)	409	
Calc. Lead Volume (Sx)	1530		Required Tail Volume (Sx)	310	
		@ 2600ft			
9 5/8" DV + ECP		Same Cement			

Intermediate #2 Casing (Lead):		9.5ppg	Intermediate #2 Casing (Tail):		14.8ppg
Intermediate Casing O.D. (In.)	7.000		Intermediate Casing O.D. (In.)	7.000	
Intermediate Casing ID (In)	6.184		Intermediate Casing ID (In)	6.184	
Hole O.D. (In)	8.75		Hole O.D. (In)	8.75	
Excess (%)	150%		Excess (%)	135%	
cap 5-1/2" - 8-3/4" bls/ft	0.0268		cap 5-1/2" - 8-3/4" bls/ft	0.0268	
cap 5-1/2 - 9-5/8" bls/ft	0.02823		cap 7 - 9-5/8" bls/ft		
Calculated fill: (500' into 9-5/8")	4,613'		Calculated fill:	1,100'	
Yield Lead (Cu. Ft./Sx)	3.2		Yield Lead (Cu. Ft./Sx)	1.33	
Calculated Total Lead (Cu. Ft.)	1,040		Calculated Total Tail (Cu. Ft.)	223	
Calc. Lead Volume (Sx)	330		Required Tail Volume (Sx)	168	
		@ 8000ft			
7in DV + ECP		Same Cement			

Wilder Federal AC COM 28 8H Proposed Tops				GL 3155	KB (est)	3,180
Notes:		No pilot hole will be drilled. This horizontal well will be drilled 3D into the Avalon C Shale Zone from N to S with from section 28 into section 33 with at ~6,600' lateral.				
Surface Location		Sec 28	T26S	R32E		Lea Co. NM, Surface Location: 280' FNL & 330' FWL
Bottom Hole Location		Sec 33	T26S	R32E		Lea Co. NM, Terminus Location: 330' FSL & 990' FWL
Formation Name	Formation Top (TVD)	Subsea Depth	Gross Thickness	Gross Thickness	Gross Thickness	Comments
Quaternary	Surface					
Rustler	915	2,265				
Salado	1,010	2,170				
Castile	2,657	523				
Delaware Top	4,413	-1,233				
Ramsey	4,467	-1,287				
Ford Sh	4,500	-1,320				
Olds	4,537	-1,357				
Cherry Top	5,365	-2,185				
Bone Spring Top	8,227	-5,047				
Bone Spring 1st Carbonate Top	8,485	-5,305				
KOP (est)	8,520		50			Not a formation top.
Bone Spring 1st Carbonate Base	8,535	-5,355				
Avalon A Shale Top	8,723	-5,543	213			
Avalon A Shale Base	8,936	-5,756				
Avalon B Zone Top	8,936	-5,756	194			
Avalon B Zone Base	9,130	-5,950				
Avalon C Shale Top	9,130	-5,950				
LANDING: Avalon C Shale Horizontal Upper Target Limit	9,250	-6,070				Not a formation top.
LANDING: Avalon C Shale Horizontal Target Center	9,275	-6,095	50		648	Not a formation top.
LANDING: Avalon C Shale Horizontal Lower Target Limit	9,300	-6,120				Not a formation top.
TERMINUS: Avalon C Shale Horizontal Upper Target Limit	9,283	-6,103		241		Not a formation top.
TERMINUS: Avalon C Shale Horizontal Target Center	9,308	-6,128	50			Not a formation top.
TERMINUS: Avalon C Shale Horizontal Lower Target Limit	9,333	-6,153				Not a formation top.
Avalon C Shale Base (Should not penetrate)	9,371	-6,191				
Proposed total MD of well ~15,745'						

ConocoPhillips MCBU

Permian Delaware Hz New Mexico

Wilder Federal AC COM 28 8H

Wilder Federal AC COM 28 8H

Original Borehole

Plan: Design #1

Standard Planning Report - Geographic

15 August, 2013

ConocoPhillips

Planning Report - Geographic

Database:	EDM Central Planning	Local Co-ordinate Reference:	Site Wilder Federal AC COM 28 8H
Company:	ConocoPhillips MCBU	TVD Reference:	KB @ 3180.0usft (Original Well Elev)
Project:	Permian Delaware Hz New Mexico	MD Reference:	KB @ 3180.0usft (Original Well Elev)
Site:	Wilder Federal AC COM 28 8H	North Reference:	Grid
Well:	Wilder Federal AC COM 28 8H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Borehole		
Design:	Design #1		

Project	Permian Delaware Hz New Mexico, Mexico		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Wilder Federal AC COM 28 8H		
Site Position:	Northing:	371,589.23 usft	Latitude: 32° 1' 11.879 N
From: Map	Easting:	700,295.17 usft	Longitude: 103° 41' 13.469 W
Position Uncertainty:	0.0 usft	Slot Radius: 13-3/16 "	Grid Convergence: 0.34 °

Well	Wilder Federal AC COM 28 8H		
Well Position	+N/-S	0.0 usft	Latitude: 32° 1' 11.879 N
	+E/-W	0.0 usft	Longitude: 103° 41' 13.469 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	Ground Level: 3,155.0 usft

Wellbore	Original Borehole				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	BGGM2012	8/15/2013	7.45	59.85	48,235

Design	Design #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	174.59

Plan Sections:										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,350.0	7.00	90.00	1,349.1	0.0	21.4	2.00	2.00	0.00	90.00	
6,350.0	7.00	90.00	6,311.9	0.0	630.7	0.00	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,661.0	0.0	652.1	2.00	-2.00	0.00	180.00	
8,750.0	0.00	0.00	8,711.0	0.0	652.1	0.00	0.00	0.00	0.00	
9,632.9	89.69	180.00	9,275.0	-561.0	652.1	10.16	10.16	0.00	180.00	
15,963.8	89.71	179.99	9,308.0	-6,891.8	652.6	0.00	0.00	0.00	-23.53	WF 28 8 H BHL target

ConocoPhillips

Planning Report - Geographic

Database:	EDM Central Planning	Local Co-ordinate Reference:	Site Wilder Federal AC COM 28 8H
Company:	ConocoPhillips MCBU	TVD Reference:	KB @ 3180.0usft (Original Well Elev)
Project:	Permian Delaware Hz New Mexico	MD Reference:	KB @ 3180.0usft (Original Well Elev)
Site:	Wilder Federal AC COM 28 8H	North Reference:	Grid
Well:	Wilder Federal AC COM 28 8H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Borehole		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.0	0.00	0.00	0.0	0.0	0.0	371,589.23	700,295.17	32° 1' 11.879 N	103° 41' 13.469 W	
200.0	0.00	0.00	200.0	0.0	0.0	371,589.23	700,295.17	32° 1' 11.879 N	103° 41' 13.469 W	
400.0	0.00	0.00	400.0	0.0	0.0	371,589.23	700,295.17	32° 1' 11.879 N	103° 41' 13.469 W	
600.0	0.00	0.00	600.0	0.0	0.0	371,589.23	700,295.17	32° 1' 11.879 N	103° 41' 13.469 W	
800.0	0.00	0.00	800.0	0.0	0.0	371,589.23	700,295.17	32° 1' 11.879 N	103° 41' 13.469 W	
950.0	0.00	0.00	950.0	0.0	0.0	371,589.23	700,295.17	32° 1' 11.879 N	103° 41' 13.469 W	
13 3/8"										
1,000.0	0.00	0.00	1,000.0	0.0	0.0	371,589.23	700,295.17	32° 1' 11.879 N	103° 41' 13.469 W	
1,200.0	4.00	90.00	1,199.8	0.0	7.0	371,589.23	700,302.14	32° 1' 11.879 N	103° 41' 13.388 W	
1,350.0	7.00	90.00	1,349.1	0.0	21.4	371,589.23	700,316.52	32° 1' 11.878 N	103° 41' 13.221 W	
1,400.0	7.00	90.00	1,398.8	0.0	27.4	371,589.23	700,322.61	32° 1' 11.877 N	103° 41' 13.150 W	
1,600.0	7.00	90.00	1,597.3	0.0	51.8	371,589.23	700,346.99	32° 1' 11.876 N	103° 41' 12.867 W	
1,800.0	7.00	90.00	1,795.8	0.0	76.2	371,589.23	700,371.36	32° 1' 11.875 N	103° 41' 12.584 W	
2,000.0	7.00	90.00	1,994.3	0.0	100.6	371,589.23	700,395.73	32° 1' 11.873 N	103° 41' 12.301 W	
2,200.0	7.00	90.00	2,192.8	0.0	124.9	371,589.23	700,420.11	32° 1' 11.872 N	103° 41' 12.018 W	
2,400.0	7.00	90.00	2,391.3	0.0	149.3	371,589.23	700,444.48	32° 1' 11.870 N	103° 41' 11.735 W	
2,600.0	7.00	90.00	2,589.8	0.0	173.7	371,589.23	700,468.86	32° 1' 11.869 N	103° 41' 11.452 W	
2,800.0	7.00	90.00	2,788.3	0.0	198.1	371,589.23	700,493.23	32° 1' 11.867 N	103° 41' 11.169 W	
3,000.0	7.00	90.00	2,986.8	0.0	222.4	371,589.23	700,517.60	32° 1' 11.866 N	103° 41' 10.886 W	
3,200.0	7.00	90.00	3,185.3	0.0	246.8	371,589.23	700,541.98	32° 1' 11.864 N	103° 41' 10.602 W	
3,400.0	7.00	90.00	3,383.8	0.0	271.2	371,589.23	700,566.35	32° 1' 11.863 N	103° 41' 10.319 W	
3,600.0	7.00	90.00	3,582.4	0.0	295.6	371,589.23	700,590.73	32° 1' 11.862 N	103° 41' 10.036 W	
3,800.0	7.00	90.00	3,780.9	0.0	319.9	371,589.23	700,615.10	32° 1' 11.860 N	103° 41' 9.753 W	
4,000.0	7.00	90.00	3,979.4	0.0	344.3	371,589.23	700,639.47	32° 1' 11.859 N	103° 41' 9.470 W	
4,200.0	7.00	90.00	4,177.9	0.0	368.7	371,589.23	700,663.85	32° 1' 11.857 N	103° 41' 9.187 W	
4,400.0	7.00	90.00	4,376.4	0.0	393.1	371,589.23	700,688.22	32° 1' 11.856 N	103° 41' 8.904 W	
4,544.7	7.00	90.00	4,520.0	0.0	410.7	371,589.23	700,705.85	32° 1' 11.855 N	103° 41' 8.699 W	
9 5/8"										
4,600.0	7.00	90.00	4,574.9	0.0	417.4	371,589.23	700,712.59	32° 1' 11.854 N	103° 41' 8.621 W	
4,800.0	7.00	90.00	4,773.4	0.0	441.8	371,589.23	700,736.97	32° 1' 11.853 N	103° 41' 8.338 W	
5,000.0	7.00	90.00	4,971.9	0.0	466.2	371,589.23	700,761.34	32° 1' 11.851 N	103° 41' 8.055 W	
5,200.0	7.00	90.00	5,170.4	0.0	490.6	371,589.23	700,785.72	32° 1' 11.850 N	103° 41' 7.771 W	
5,400.0	7.00	90.00	5,368.9	0.0	514.9	371,589.23	700,810.09	32° 1' 11.849 N	103° 41' 7.488 W	
5,600.0	7.00	90.00	5,567.5	0.0	539.3	371,589.23	700,834.46	32° 1' 11.847 N	103° 41' 7.205 W	
5,800.0	7.00	90.00	5,766.0	0.0	563.7	371,589.23	700,858.84	32° 1' 11.846 N	103° 41' 6.922 W	
6,000.0	7.00	90.00	5,964.5	0.0	588.0	371,589.23	700,883.21	32° 1' 11.844 N	103° 41' 6.639 W	
6,200.0	7.00	90.00	6,163.0	0.0	612.4	371,589.23	700,907.59	32° 1' 11.843 N	103° 41' 6.356 W	
6,350.0	7.00	90.00	6,311.9	0.0	630.7	371,589.23	700,925.87	32° 1' 11.842 N	103° 41' 6.144 W	
6,400.0	6.00	90.00	6,361.5	0.0	636.4	371,589.23	700,931.53	32° 1' 11.841 N	103° 41' 6.078 W	
6,600.0	2.00	90.00	6,561.0	0.0	650.3	371,589.23	700,945.47	32° 1' 11.840 N	103° 41' 5.916 W	
6,700.0	0.00	0.00	6,661.0	0.0	652.1	371,589.23	700,947.22	32° 1' 11.840 N	103° 41' 5.896 W	
6,800.0	0.00	0.00	6,761.0	0.0	652.1	371,589.23	700,947.22	32° 1' 11.840 N	103° 41' 5.896 W	
7,000.0	0.00	0.00	6,961.0	0.0	652.1	371,589.23	700,947.22	32° 1' 11.840 N	103° 41' 5.896 W	
7,200.0	0.00	0.00	7,161.0	0.0	652.1	371,589.23	700,947.22	32° 1' 11.840 N	103° 41' 5.896 W	
7,400.0	0.00	0.00	7,361.0	0.0	652.1	371,589.23	700,947.22	32° 1' 11.840 N	103° 41' 5.896 W	
7,600.0	0.00	0.00	7,561.0	0.0	652.1	371,589.23	700,947.22	32° 1' 11.840 N	103° 41' 5.896 W	
7,800.0	0.00	0.00	7,761.0	0.0	652.1	371,589.23	700,947.22	32° 1' 11.840 N	103° 41' 5.896 W	
8,000.0	0.00	0.00	7,961.0	0.0	652.1	371,589.23	700,947.22	32° 1' 11.840 N	103° 41' 5.896 W	
8,200.0	0.00	0.00	8,161.0	0.0	652.1	371,589.23	700,947.22	32° 1' 11.840 N	103° 41' 5.896 W	
8,400.0	0.00	0.00	8,361.0	0.0	652.1	371,589.23	700,947.22	32° 1' 11.840 N	103° 41' 5.896 W	
8,600.0	0.00	0.00	8,561.0	0.0	652.1	371,589.23	700,947.22	32° 1' 11.840 N	103° 41' 5.896 W	
8,750.0	0.00	0.00	8,711.0	0.0	652.1	371,589.23	700,947.22	32° 1' 11.840 N	103° 41' 5.896 W	
8,800.0	5.08	180.00	8,760.9	-2.2	652.1	371,587.01	700,947.22	32° 1' 11.818 N	103° 41' 5.896 W	
9,000.0	25.40	180.00	8,952.9	-54.5	652.1	371,534.72	700,947.22	32° 1' 11.301 N	103° 41' 5.899 W	

ConocoPhillips

Planning Report - Geographic

Database:	EDM Central Planning	Local Co-ordinate Reference:	Site Wilder Federal AC COM 28 8H
Company:	ConocoPhillips MCBU	TVD Reference:	KB @ 3180.0usft (Original Well Elev)
Project:	Permian Delaware Hz New Mexico	MD Reference:	KB @ 3180.0usft (Original Well Elev)
Site:	Wilder Federal AC COM 28 8H	North Reference:	Grid
Well:	Wilder Federal AC COM 28 8H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Borehole		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
9,200.0	45.71	180.00	9,114.7	-170.2	652.1	371,419.04	700,947.22	32° 1' 10.156 N	103° 41' 5.907 W	
9,400.0	66.03	180.00	9,226.4	-334.9	652.1	371,254.34	700,947.22	32° 1' 8.526 N	103° 41' 5.919 W	
9,600.0	86.35	180.00	9,273.9	-528.1	652.1	371,061.14	700,947.22	32° 1' 6.614 N	103° 41' 5.932 W	
9,632.9	89.69	180.00	9,275.0	-561.0	652.1	371,028.26	700,947.22	32° 1' 6.289 N	103° 41' 5.935 W	
9,800.0	89.69	180.00	9,275.9	-728.1	652.1	370,861.17	700,947.22	32° 1' 4.635 N	103° 41' 5.946 W	
10,000.0	89.69	180.00	9,277.0	-928.1	652.1	370,661.17	700,947.22	32° 1' 2.656 N	103° 41' 5.960 W	
10,200.0	89.69	180.00	9,278.1	-1,128.1	652.1	370,461.18	700,947.22	32° 1' 0.677 N	103° 41' 5.974 W	
10,400.0	89.69	180.00	9,279.1	-1,328.0	652.1	370,261.18	700,947.23	32° 0' 58.698 N	103° 41' 5.988 W	
10,600.0	89.69	180.00	9,280.2	-1,528.0	652.1	370,061.18	700,947.23	32° 0' 56.719 N	103° 41' 6.002 W	
10,800.0	89.69	180.00	9,281.3	-1,728.0	652.1	369,861.18	700,947.24	32° 0' 54.740 N	103° 41' 6.016 W	
11,000.0	89.69	180.00	9,282.3	-1,928.0	652.1	369,661.19	700,947.25	32° 0' 52.760 N	103° 41' 6.030 W	
11,200.0	89.70	180.00	9,283.4	-2,128.0	652.1	369,461.19	700,947.25	32° 0' 50.781 N	103° 41' 6.044 W	
11,400.0	89.70	180.00	9,284.5	-2,328.0	652.1	369,261.19	700,947.26	32° 0' 48.802 N	103° 41' 6.057 W	
11,600.0	89.70	180.00	9,285.5	-2,528.0	652.1	369,061.20	700,947.27	32° 0' 46.823 N	103° 41' 6.071 W	
11,800.0	89.70	180.00	9,286.6	-2,728.0	652.1	368,861.20	700,947.28	32° 0' 44.844 N	103° 41' 6.085 W	
12,000.0	89.70	180.00	9,287.6	-2,928.0	652.1	368,661.20	700,947.30	32° 0' 42.864 N	103° 41' 6.099 W	
12,200.0	89.70	180.00	9,288.7	-3,128.0	652.1	368,461.20	700,947.31	32° 0' 40.885 N	103° 41' 6.113 W	
12,400.0	89.70	180.00	9,289.7	-3,328.0	652.2	368,261.21	700,947.32	32° 0' 38.906 N	103° 41' 6.126 W	
12,600.0	89.70	180.00	9,290.8	-3,528.0	652.2	368,061.21	700,947.34	32° 0' 36.927 N	103° 41' 6.140 W	
12,800.0	89.70	180.00	9,291.8	-3,728.0	652.2	367,861.21	700,947.36	32° 0' 34.948 N	103° 41' 6.154 W	
13,000.0	89.70	179.99	9,292.9	-3,928.0	652.2	367,661.21	700,947.37	32° 0' 32.968 N	103° 41' 6.168 W	
13,200.0	89.70	179.99	9,293.9	-4,128.0	652.2	367,461.22	700,947.39	32° 0' 30.989 N	103° 41' 6.181 W	
13,400.0	89.70	179.99	9,294.9	-4,328.0	652.2	367,261.22	700,947.41	32° 0' 29.010 N	103° 41' 6.195 W	
13,600.0	89.70	179.99	9,296.0	-4,528.0	652.3	367,061.22	700,947.43	32° 0' 27.031 N	103° 41' 6.209 W	
13,800.0	89.70	179.99	9,297.0	-4,728.0	652.3	366,861.23	700,947.46	32° 0' 25.052 N	103° 41' 6.222 W	
14,000.0	89.71	179.99	9,298.0	-4,928.0	652.3	366,661.23	700,947.48	32° 0' 23.072 N	103° 41' 6.236 W	
14,200.0	89.71	179.99	9,299.1	-5,128.0	652.3	366,461.23	700,947.50	32° 0' 21.093 N	103° 41' 6.250 W	
14,400.0	89.71	179.99	9,300.1	-5,328.0	652.4	366,261.23	700,947.53	32° 0' 19.114 N	103° 41' 6.263 W	
14,600.0	89.71	179.99	9,301.1	-5,528.0	652.4	366,061.24	700,947.56	32° 0' 17.135 N	103° 41' 6.277 W	
14,800.0	89.71	179.99	9,302.1	-5,728.0	652.4	365,861.24	700,947.58	32° 0' 15.156 N	103° 41' 6.290 W	
15,000.0	89.71	179.99	9,303.1	-5,928.0	652.4	365,661.24	700,947.61	32° 0' 13.176 N	103° 41' 6.304 W	
15,200.0	89.71	179.99	9,304.2	-6,128.0	652.5	365,461.24	700,947.64	32° 0' 11.197 N	103° 41' 6.318 W	
15,400.0	89.71	179.99	9,305.2	-6,328.0	652.5	365,261.25	700,947.67	32° 0' 9.218 N	103° 41' 6.331 W	
15,600.0	89.71	179.99	9,306.2	-6,528.0	652.5	365,061.25	700,947.70	32° 0' 7.239 N	103° 41' 6.345 W	
15,800.0	89.71	179.99	9,307.2	-6,728.0	652.6	364,861.25	700,947.74	32° 0' 5.260 N	103° 41' 6.358 W	
15,963.8	89.71	179.99	9,308.0	-6,891.8	652.6	364,697.43	700,947.77	32° 0' 3.638 N	103° 41' 6.369 W	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
WF 28 8 H BHL target	0.00	0.00	9,308.0	-6,891.8	652.6	364,697.43	700,947.77	32° 0' 3.638 N	103° 41' 6.369 W	
- hit/miss target										
- Shape										
- Point										
Wilder Fed 28 8H BHL	0.00	0.00	9,308.0	-6,891.8	702.6	364,697.40	700,997.81	32° 0' 3.635 N	103° 41' 5.788 W	
- plan misses target center by 50.0usft at 15963.8usft MD (9308.0 TVD, -6891.8 N, 652.6 E)										
- Point										

ConocoPhillips
Planning Report - Geographic

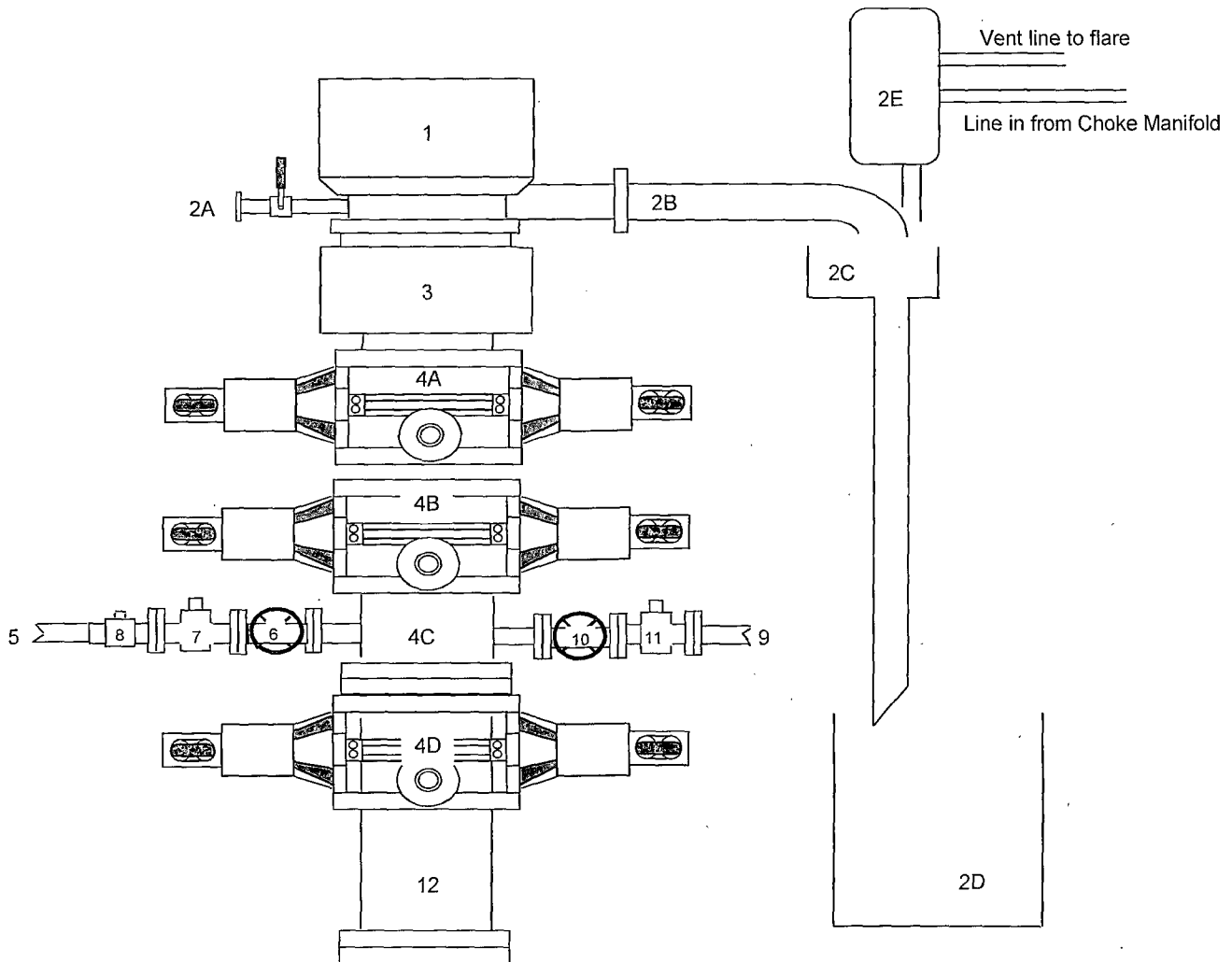
Database:	EDM Central Planning	Local Co-ordinate Reference:	Site Wilder Federal AC COM 28 8H
Company:	ConocoPhillips MCBU	TVD Reference:	KB @ 3180.0usft (Original Well Elev)
Project:	Permian Delaware Hz New Mexico	MD Reference:	KB @ 3180.0usft (Original Well Elev)
Site:	Wilder Federal AC COM 28 8H	North Reference:	Grid
Well:	Wilder Federal AC COM 28 8H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Borehole		
Design:	Design #1		

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
950.0	950.0	13 3/8"	13-3/8	17-1/2
4,544.7	4,520.0	9 5/8"	9-5/8	12-1/4

BLOWOUT PREVENTER ARRANGEMENT

10M System per Onshore Oil and Gas Order No. 2



Item	Description
1	Rotating Head, 13-5/8"
2A	Fill up Line and Valve
2B	Flow Line (8")
2C	Shale Shakers and Solids Settling Tank
2D	Cuttings Bins for Zero Discharge
2E	Mud Gas Separator with vent line to flare and return line to mud system
3	Annular BOP (13-5/8", Hydrill CK5M)
4A	Single Ram (13-3/8", 10M, equipped with pipe Rams)
4B	Single Ram (13-3/8", 10M, equipped with blind Rams)
4C	Drilling Spool (13-3/8" 10M)
4D	Single Ram (13-3/8", 10M, equipped with pipe Rams)
5	Kill Line (2-1/16", 10k psi WP)
6	Kill Line Valve, Inner (Cameron "FLS" 2-1/16", 10k psi WP)
7	Kill Line Valve, Outer (Cameron "FLS" 2-1/16", 10k psi WP)
8	Kill Line Check Valve (2-1/16, 10k psi WP)
9	Choke Line (3", 10k psi WP)
10	Choke Line Valve, Inner (4-1/16", 10k psi WP)
11	Choke Line Valve, Outer, (4-1/6" 100 psi WP HCR)
12	Drilling Spool Adapter (13-3/8", 10M)

