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SEP 06 2011

RECEIVED

Form 3160-3
(August 2007)

FORM APPROVED
OMB No 1004-0137
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No.
NMLC068281B NM27508

6. If Indian, Allotee or Tribe Name
N/A

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

8. Lease Name and Well No. (38787)
Wilder Federal 28 # 1H

2. Name of Operator ConocoPhillips Company (217817)

9 API Well No.
30-025-40261

3a. Address P.O. Box 51810
Midland, Tx 79710

3b. Phone No. *(include area code)*
432-688-6943

10. Field and Pool, or Exploratory
~~Red Hill~~ Wildcat Bone Spring (97838)

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 610 FNL & 835 FEL (NENE) of 28-26S-32E Unit A
At proposed prod. zone 330 FSL & 835 FEL (SESE) of 28-26S-32E Unit P

11. Sec., T. R. M. or Blk. and Survey or Area
Section 28-26S-32E

14 Distance in miles and direction from nearest town or post office*
30 miles southwest of Jal, NM

12 County or Parish
Lea

13. State
NM

15 Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
330' from north lease line

16. No. of acres in lease
640 acres - federal

17 Spacing Unit dedicated to this well
40 acres

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

19 Proposed Depth
13455' MD/9380' TVD
PH 9800 TVD

20 BLM/BIA Bond No. on file
ES 0085

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3138 GL

22. Approximate date work will start*
08/30/2011

23. Estimated duration
42 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 08/15/2011

Title
Sr. Regulatory Advisor

Approved by *(Signature)* /s/ Don Peterson
Name *(Printed/Typed)*
Date AUG 31 2011

Title FIELD MANAGER
Office 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)

KZ 09/13/11

Carlsbad Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

SEP 14 2011

OPERATORS NAME:	**ConocoPhillips Company**
LEASE NAME AND WELL NO.:	**Wilder Federal 28 #1H**
SURFACE LOCATION:	**610 FNL & 835 FEL (NENE) of 28-26S-32E**
BHL:	**330 FSL & 835 FEL (SESE) of 28-26S-32E**
FIELD NAME:	**Red Hills**
POOL NAME:	**Bone Spring**
COUNTY:	**Lea County, New Mexico**
	Federal Lease No: NMLC068281B

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.

Quaternary	Surface	Water
Rustler	745 TVD	Salt
Delaware Top	4401 TVD	water
Bone Spring	8335 TVD	Oil/gas/water
Bone Spring 1st carbonate top	8562 TVD	Oil/gas/water
Bone Spring 1st carbonate base	8606 TVD	Oil/gas/water
Proposed Core Point	8791 TVD	
Avalon A shale Top	8795 TVD	Oil/gas/water
Avalon A shale base	9022 TVD	Oil/gas/water
Avalon B zone top	9022 TVD	Oil/gas/water
Avalon B zone base	9177 TVD	Oil/gas/water
Avalon C shale top	9177 TVD	Oil/gas/water
Avalon C Shale horizontal Target (DRAIN HOLE)	9380 TVD	Oil/gas/water
Avalon C Shale Base	9441 TVD	Oil/gas/water
Bone Spring 1st Sand Top	9441 TVD	Oil/gas/water
Proposed base of core	9471 TVD	
Total depth (Pilot Hole)	9800 TVD	

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.

Tom 28 Sep 2011

Quanternary	Surface (water)
Rustler	4401 TVD (Salt)

All of the water bearing and salt formations identified above will be protected by the intermediate setting of the 9-5/8" casing and circulating of cement to surface

Bone Spring	8335-9800 TVD (gas & gas/oil)

The geologic tops identified above from the Bone Spring/Avalon 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.

A 5000# system will be installed, used, maintained, and tested accordingly. After nippling 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~~. Annular type preventer(s) shall be tested to 50% of the approved BOP stack working pressure. Pressure shall be maintained at least 10 minutes or until provisions of test are met, whichever is longer. BOP will comply with all provisions of Onshore Order 2 as specified. **See Attached BOPe Schematic.**

See COA

4. The proposed casing program including size, grade, weights, type of thread and coupling, and the setting depth of each string and its condition (new ~~or acceptably reconditioned~~). 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.

See COA

NEW CASING:

Surface: 17 1/2" hole, 13 3/8" 48# H40 STC csg, set @ ~~850~~ 700'. Drill out with 12 ¼" bit and perform shoe test to 11.0 ppg MWE.
Burst: 4.39/Collapse: 1.88/Tension: 5.98/9.13

Intermediate 1: 12 1/4" hole, 9 5/8" 40# L80 BTC csg, set @ ~~4200~~ 4350'
Burst: 2.43/Collapse: 1.4/Tension: 5.45/6.44

Tmm 23 Aug 2011

Pilot Hole 8 3/4"

Will Drill to 9800' TVD and take core points of Avalon Shale from 8791-9471' MD. Intent is to plug back, dress off, and drill lateral.

Intermediate 2: 8 3/4" hole, 7" 29# P110 LTC csg set @ 9780 MD/9380TVD' Burst: 2.29/Collapse: 1.74/Tension: 2.81/3.31

Production Liner (Uncemented): 6 1/8" hole, 4 ½" 18.8# T-95 TB csg set @ 8680'-13,455' Burst: 3.25/Collapse: 3.36/Tension: 5.78/6.80
(Spec sheet for T95 casing is attached).
The plan is to set casing and drill open hole in a southern direction to a proposed bottomhole location of 330 FSL & 835 FEL (SESE) of Section 28-26S-32E.

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.

Lead & Tail Cmts appear to be switched here →

a. 13 3/8" csg: Lead w/580 sxs Class C cement + HalCem-C (Yield: 1.33 cft) Tail w/230 sacks Class C cement + 1 lbm/sk EconoCem-HRLTRRC (Yield: 1.85 cft/sk). Circulate to surface. Based on 17 ½" OH with 100% excess

b. 9 5/8" csg: Lead w/1370 sxs 50/50 Class C Poz + 2.5 gal/bbl WG-19 + 1 lbm/sk EconoCem-C (Yield: 2.48 cft/sk) Tail w/300 sxs 'H' + HalCem C (Yield: 1.33 cft/sk) Circulate cement to surface. Based on 12 ¼"hole w/200% excess

c. Abandonment & Kick Off Plug: Well drilled to TVD of 9800' and core taken Plug # 1: Pump 255 sxs 'G' (600' plug) + PlugCem-WSH (Yield: 1.18 cft/sk/15.5 ppg). Plug # 2 (KO): Pump 298 sxs 'G' (600' plug) + PlugCem-WSH (Yield: 1.01 cft/sk/17 ppg)

d. 7" csg: Lead w/420 sxs 50/50 Class C Poz + 2.5 gal/bbl WG-19 + 1 lbm/sk EconoCem-C (Yield: 2.00 cft/sk) Tail w/79 sxs 'H' + HalCem C (Yield: 1.2 cft/sk) Circulate cement 500' into 9 5/8" casing. Based on 8 ¾" hole w/200% excess

e. 4 ½" liner: No cement is to be pumped

See COA

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.

See COA

Mud Program:

0-850	Aquagel-Spud Mud	8.9#	Vis: 32-36	WL: NC
850-4200	Brine	10.1#	Vis: 28-30	WL: 5-8
4200-9700	Cut Brine	10#	Vis: 28-36	WL: 5-8
9700-13455	Cut Brine	10#	Vis: 30-40	WL: <=5

Tmay 23 May 2011

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. Core: Run : Avalon Shale 8791-9471'
c. Mud Logging: Two-Man – 2800'-9800' Pilot Hole
Two-Man – 9700'-13455' Horizontal Lateral
Logs to be run: Open Hole, TC-S-SS-FMI 9800-4200'
GR-MWD, 13,455-850'

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 expected pressure gradient is 0.433 psi/ft or 8.3 ppg equivalent
.The average anticipated bottom hole pressure ranges on average 4360 psi.
No hydrogen sulfide is expected.

See COA

Any other facets of the proposed operation which the operator wishes to be considered in reviewing the application.
Anticipated start date of August 30, 2011. 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.

Tmm 23Aug11

Bonespring/Red Hills
BURLINGTON RESOURCES
Wilder Federal 28 #1H (w/Pilot Hole)
0

Surface Casing:

Surface Casing Depth (Ft)	850
Surface Casing O.D. (In)	13.375
Surface Casing ID (In)	12.715
Hole O.D. (In)	17.5
Excess (%)	100%
Volume Tail (Sx)	230
Yield Tail (Cu. Ft./Sx)	1.85
Yield Lead (Cu. Ft./Sx)	1.33
Shoe Joint (Ft)	40
Shoe Volume (Cu. Ft)	35.3
Tail feet of cement	300
Calculated Total Volume (Cu. Ft.)	1,216
Calc. Tail Volume (Cu. Ft.)	417
Calc. Lead Volume (Cu. Ft.)	764
Calc. Lead Volume (Sx)	580

44.628

Abandonment Plug 15.5 ppg

Hole O.D. (In)	8 750
Excess (%)	20%
Length of the plug	600
Yield of the Slurry (Cu. Ft /Sx)	1.18
Hole Capacity	0 07438
Calculated Total Volume (Cu. Ft.)	300.7035
Calc. Plug Volume (Sx)	255

Intermediate1 Casing (Lead):

Intermediate Casing O.D. (In.)	9.625
Intermediate Casing ID (In)	8.835
Hole O D. (In)	12.25
Excess (%)	200%
cap 12-1/4 - 9-5/8"	0.0558
Calculated fill:	3,600'
Yield Lead (Cu. Ft./Sx)	2.48
Calculated Total Lead (Cu. Ft.)	3,383
Calc. Lead Volume (Sx)	1370

Intermediate2 Casing (Lead):

Intermediate Casing O.D. (In.)	7.000
Intermediate Casing ID (In)	6.184
Hole O D. (In)	8.75
Excess (%)	100%
cap 7" - 8-3/4" bls/ft	0.0268
cap 7 - 9-5/8" bls/ft	0.02823
Calculated fill: (500' into 9-5/8")	5,480'
Yield Lead (Cu Ft./Sx)	2
Calculated Total Lead (Cu. Ft.)	828
Calc. Lead Volume (Sx)	420

KO Plug 17 ppg

Hole O.D. (In)	8 75
Excess (%)	20%
Length of the plug	600
Yield of the Slurry (Cu Ft /Sx)	1.01
Hole Capacity	0 07438
Calculated Total Volume (Cu. Ft)	300.7035
Calc. Plug Volume (Sx)	298

Intermediate1 Casing (Tail):

Intermediate Casing O.D. (In.)	9-5/8"
Production Casing ID (In)	8.835
Hole O.D. (In)	12.25
Excess (%)	200%
cap 12-1/4 - 9-5/8"	0.0558
Calculated fill.	600'
Yield Tail (Cu. Ft./Sx)	1.33
Shoe Joint (Ft)	40
Shoe Volume (Cu. Ft)	17.0
Calc. Tail Volume (Cu. Ft)	393
Required Tail Volume (Sx)	300

5480

Intermediate2 Casing (Tail):

Intermediate Casing O.D. (In.)	7.000
Intermediate Casing ID (In)	6.184
Hole O.D. (In)	8.75
Excess (%)	100%
cap 7" - 8-3/4" bls/ft	0.0268
cap 7 - 9-5/8" bls/ft	0.02823
Calculated fill.	600'
Yield Lead (Cu. Ft./Sx)	1.2
Calculated Total Tail (Cu. Ft.)	95
Required Tail Volume (Sx)	79

Wilder Federal 28 #1H (w/Pilot Hole)		
Surface Location:		Bottom Hole Location
0	0	0 0

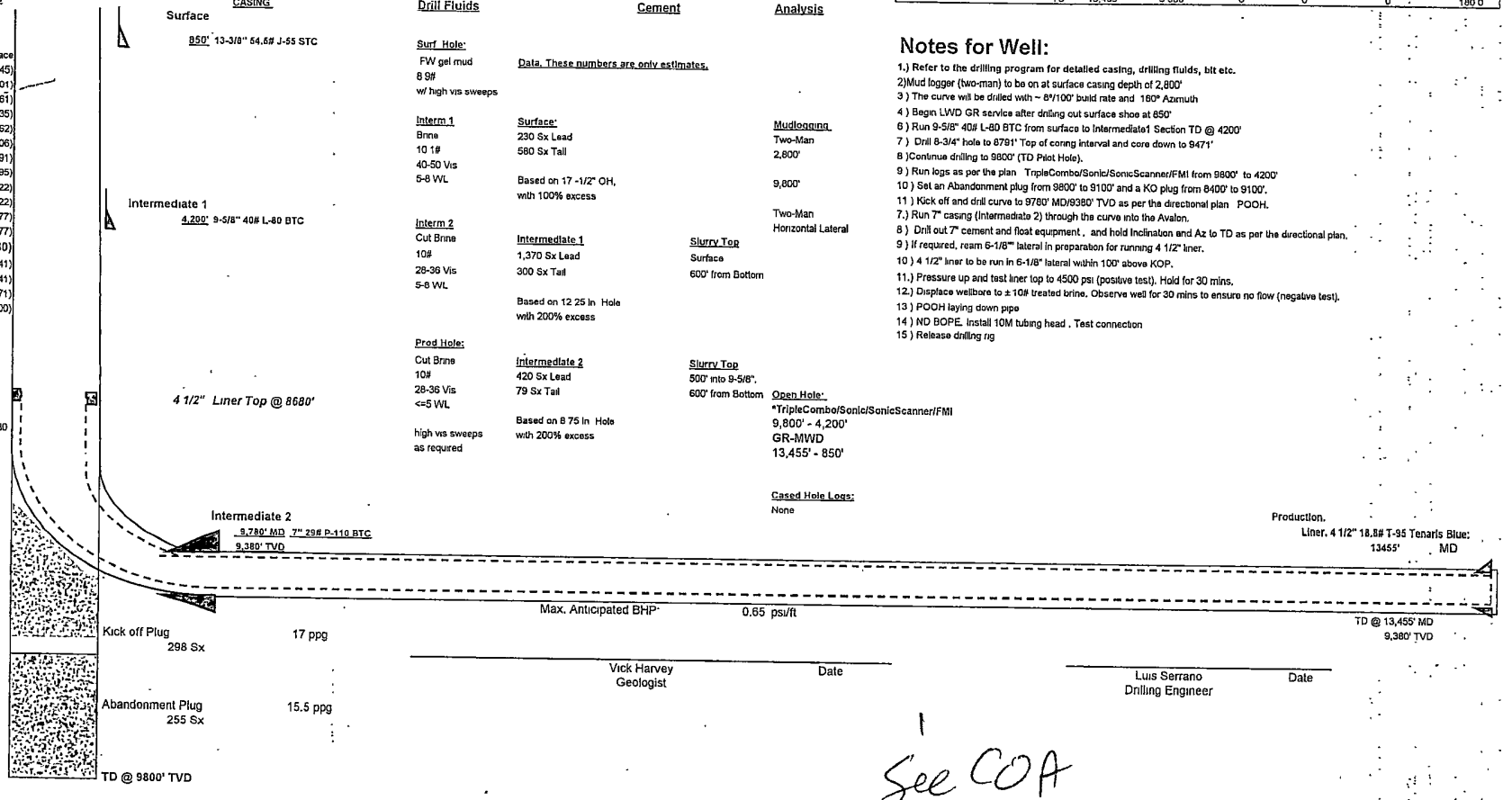
SAP Network:	TBA
Inv. Handler ID.	TBA
Drilling:	TBA
Completion/Facility	$0
Total	#VALUE!

Permit:	
NDIC #.	TBA
API #:	TBA
Fed #	TBA
AFE#	TBA

Directional:

	MD	TVD	FNL/FSL	FEL/FWL	S-T-R	AZI
Vertical KOP	8680	8680	0	0	0	180
End Build/ 7"Casing (90° curve)	9,780'	9,380'	0	0	0	180.0
Tangent	N/A	N/A	0	0	0	N/A
Turn	N/A	N/A	0	0	0	N/A
TD	13,455'	9,380'	0	0	0	180.0

Formation	TVD
Quaternary	Surface
Rustler	(745)
Delaware Top	(4,401)
KOP	(3,161)
Bone Spring	(8,335)
Bone Spring 1st Carbonate Top	(8,562)
Bone Spring 1st Carbonate Base	(8,606)
Proposed Core Point	(8,791)
Avalon A Shale Top	(8,795)
Avalon A Shale Base	(9,022)
Avalon B Zone Top	(9,022)
Avalon B Zone Base	(9,177)
Avalon C Shale Top	(9,177)
Avalon C Shale Horizontal Target.	**(9,380)**
Avalon C Shale Base	(9,441)
Bone Spring 1st Sand Top	(9,441)
Proposed Base of Core	(9,471)
Total Depth	(9,800)



CASING

Surface
850' 13-3/8" 54.6# J-55 STC

Intermediate 1
4,200' 9-5/8" 40# L-80 BTC

Intermediate 2
9,780' MD 7" 29# P-110 BTC
9,380' TVD

Production.
Liner. 4 1/2" 18.8# T-95 Tenaris Blue:
13455' MD

Drill Fluids

Surf Hole:
FW gel mud
8.9#
w/ high vis sweeps

Interm 1
Brine
10.1#
40-50 Vis
5-8 WL

Interm 2
Cut Brine
10#
28-36 Vis
5-8 WL

high vis sweeps
as required

Prod Hole:
Cut Brine
10#
28-36 Vis
<=5 WL

Cement

Data. These numbers are only estimates.

Surface:
230 Sx Lead
580 Sx Tail

Based on 17 -1/2" OH,
with 100% excess

Intermediate 1
1,370 Sx Lead
300 Sx Tail

Based on 12.25 in Hole
with 200% excess

Intermediate 2
420 Sx Lead
79 Sx Tail

Based on 8.75 in Hole
with 200% excess

Slurry Top
Surface
600' from Bottom

Slurry Top
500' into 9-5/8".
600' from Bottom

Analysis

Mudlogging
Two-Man
2,800'

9,800'

Two-Man
Horizontal Lateral

Open Hole:
*TripleCombo/Sonic/SonicScanner/FMI
9,800' - 4,200'
GR-MWD
13,455' - 850'

Cased Hole Logs:
None

Notes for Well:

1.) Refer to the drilling program for detailed casing, drilling fluids, bit etc.
2)Mud logger (two-man) to be on at surface casing depth of 2,800'
3) The curve will be drilled with ~ 8°/100' build rate and 180° Azimuth
4) Begin LWD GR service after drilling out surface shoe at 850'
6) Run 9-5/8" 40# L-80 BTC from surface to Intermediate1 Section TD @ 4200'
7) Drill 8-3/4" hole to 8791' Top of coring interval and core down to 9471'
8)Continue drilling to 9800' (TD Pilot Hole).
9) Run logs as per the plan TripleCombo/Sonic/SonicScanner/FMI from 9800' to 4200'
10) Set an Abandonment plug from 9800' to 9100' and a KO plug from 8400' to 9100'.
11) Kick off and drill curve to 9780' MD/9380' TVD as per the directional plan POOH.
7.) Run 7" casing (Intermediate 2) through the curve into the Avalon.
8) Drill out 7" cement and float equipment , and hold inclination and Az to TD as per the directional plan.
9) If required, ream 6-1/8"" lateral in preparation for running 4 1/2" liner.
10) 4 1/2" liner to be run in 6-1/8" lateral within 100' above KOP.
11.) Pressure up and test liner top to 4500 psi (positive test). Hold for 30 mins.
12.) Displace wellbore to ± 10# treated brine. Observe well for 30 mins to ensure no flow (negative test).
13) POOH laying down pipe
14) ND BOPE. Install 10M tubing head . Test connection
15) Release drilling rig

See COA

Vick Harvey
Geologist
Date

Luis Serrano
Drilling Engineer
Date

See COA

Tmm
13 Jan 2011

ConocoPhillips MCBU

Permian Hz Bonespring/Avalon
Wilder Federal 28
Wilder Federal 28 #1H

Wilder Federal 28 #1H

Plan: Plan PackersPlus

Standard Planning Report

13 July, 2011

TMA 23 Aug 2011

Database:	EDM Central Planning	**Local Co-ordinate Reference:**	Well Wilder Federal 28 #1H
Company:	ConocoPhillips MCBU	**TVD Reference:**	WELL @ 3156.0ft (Original Well Elev)
Project:	Permian Hz Bonespring/Avalon	**MD Reference:**	WELL @ 3156.0ft (Original Well Elev)
Site:	Wilder Federal 28	**North Reference:**	True
Well:	Wilder Federal 28 #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wilder Federal 28 #1H		
Design:	Plan PackersPlus		

Project Permian Hz Bonespring/Avalon

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Texas South Central 4204		

Site Wilder Federal 28

Site Position:		**Northing:**	m	**Latitude:**	
From:	None	**Easting:**	m	**Longitude:**	
Position Uncertainty:	0.0 ft	**Slot Radius:**	in	**Grid Convergence:**	0.00 °

Well Wilder Federal 28 #1H

Well Position	**+N/-S**	0.0 ft	**Northing:**	0.00 m	**Latitude:**	27° 41' 16.664 N
	+E/-W	0.0 ft	**Easting:**	0.00 m	**Longitude:**	105° 10' 51.259 W
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	3,134.0 ft

Wellbore Wilder Federal 28 #1H

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	User Defined	6/21/2011	0.00	0.00	0

Design Plan PackersPlus

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0

Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**
	0.0	0.0	0.0	180.00

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
8,680.0	0.00	180.00	8,680.0	0.0	0.0	0.00	0.00	0.00	180.00	
9,780.0	90.00	180.00	9,380.3	-700.3	0.0	8.18	8.18	0.00	180.00	
13,455.0	90.00	180.00	9,380.3	-4,375.3	0.0	0.00	0.00	0.00	0.00	

T Arm
23 Aug 2011

Database:	EDM Central Planning	**Local Co-ordinate Reference:**	Well Wilder Federal 28 #1H
Company:	ConocoPhillips MCBU	**TVD Reference:**	WELL @ 3156.0ft (Original Well Elev)
Project:	Permian Hz Bonespring/Avalon	**MD Reference:**	WELL @ 3156.0ft (Original Well Elev)
Site:	Wilder Federal 28	**North Reference:**	True
Well:	Wilder Federal 28 #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wilder Federal 28 #1H		
Design:	Plan PackersPlus		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	180.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	180.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	180.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	180.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	180.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	180.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	180.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	180.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
13 3/8" Conductor Casing									
900.0	0.00	180.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	180.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	180.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	180.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	180.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	180.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	180.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	180.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	180.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	180.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	180.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	180.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	180.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	180.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	180.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	180.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	180.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	180.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	180.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	180.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	180.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	180.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	180.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	180.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	180.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	180.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	180.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	180.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	180.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	180.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	180.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	180.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	180.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	180.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	180.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	180.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
9 5/8" Surface Casing									
4,500.0	0.00	180.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	180.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	180.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	180.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	180.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	180.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00

TMM 23 Aug 2011

Database:	EDM Central Planning	**Local Co-ordinate Reference:**	Well Wilder Federal 28 #1H
Company:	ConocoPhillips MCBU	**TVD Reference:**	WELL @ 3156.0ft (Original Well Elev)
Project:	Permian Hz Bonespring/Avalon	**MD Reference:**	WELL @ 3156.0ft (Original Well Elev)
Site:	Wilder Federal 28	**North Reference:**	True
Well:	Wilder Federal 28 #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wilder Federal 28 #1H		
Design:	Plan PackersPlus		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,100.0	0.00	180.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	180.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	180.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	180.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	180.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	180.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	180.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	180.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	180.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	180.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	180.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	180.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	180.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	180.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	180.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	180.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	180.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.00	180.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00
6,900.0	0.00	180.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00
7,000.0	0.00	180.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00
7,100.0	0.00	180.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00
7,200.0	0.00	180.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00
7,300.0	0.00	180.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00
7,400.0	0.00	180.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00
7,500.0	0.00	180.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00
7,600.0	0.00	180.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00
7,700.0	0.00	180.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00
7,800.0	0.00	180.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00
7,900.0	0.00	180.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00
8,000.0	0.00	180.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00
8,100.0	0.00	180.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00
8,200.0	0.00	180.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00
8,300.0	0.00	180.00	8,300.0	0.0	0.0	0.0	0.00	0.00	0.00
8,400.0	0.00	180.00	8,400.0	0.0	0.0	0.0	0.00	0.00	0.00
8,500.0	0.00	180.00	8,500.0	0.0	0.0	0.0	0.00	0.00	0.00
8,600.0	0.00	180.00	8,600.0	0.0	0.0	0.0	0.00	0.00	0.00
8,680.0	0.00	180.00	8,680.0	0.0	0.0	0.0	0.00	0.00	0.00
8,700.0	1.64	180.00	8,700.0	-0.3	0.0	0.3	8.17	8.17	0.00
8,800.0	9.82	180.00	8,799.4	-10.3	0.0	10.3	8.18	8.18	0.00
8,900.0	18.00	180.00	8,896.4	-34.3	0.0	34.3	8.18	8.18	0.00
9,000.0	26.18	180.00	8,989.0	-71.9	0.0	71.9	8.18	8.18	0.00
9,100.0	34.36	180.00	9,075.3	-122.2	0.0	122.2	8.18	8.18	0.00
9,200.0	42.55	180.00	9,153.5	-184.4	0.0	184.4	8.18	8.18	0.00
9,300.0	50.73	180.00	9,222.1	-257.0	0.0	257.0	8.18	8.18	0.00
9,400.0	58.91	180.00	9,279.7	-338.7	0.0	338.7	8.18	8.18	0.00
9,500.0	67.09	180.00	9,325.1	-427.7	0.0	427.7	8.18	8.18	0.00
9,600.0	75.27	180.00	9,357.3	-522.3	0.0	522.3	8.18	8.18	0.00
9,700.0	83.45	180.00	9,375.7	-620.5	0.0	620.5	8.18	8.18	0.00
7" Intermediate Casing									
9,780.0	90.00	180.00	9,380.3	-700.3	0.0	700.3	8.18	8.18	0.00
9,800.0	90.00	180.00	9,380.3	-720.3	0.0	720.3	0.00	0.00	0.00
9,900.0	90.00	180.00	9,380.3	-820.3	0.0	820.3	0.00	0.00	0.00
10,000.0	90.00	180.00	9,380.3	-920.3	0.0	920.3	0.00	0.00	0.00

Thur 13 Aug 20

Database:	EDM Central Planning	**Local Co-ordinate Reference:**	Well Wilder Federal 28 #1H
Company:	ConocoPhillips MCBU	**TVD Reference:**	WELL @ 3156.0ft (Original Well Elev)
Project:	Permian Hz Bonespring/Avalon	**MD Reference:**	WELL @ 3156.0ft (Original Well Elev)
Site:	Wilder Federal 28	**North Reference:**	True
Well:	Wilder Federal 28 #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wilder Federal 28 #1H		
Design:	Plan PackersPlus		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,100.0	90.00	180.00	9,380.3	-1,020.3	0.0	1,020.3	0.00	0.00	0.00
10,200.0	90.00	180.00	9,380.3	-1,120.3	0.0	1,120.3	0.00	0.00	0.00
10,300.0	90.00	180.00	9,380.3	-1,220.3	0.0	1,220.3	0.00	0.00	0.00
10,400.0	90.00	180.00	9,380.3	-1,320.3	0.0	1,320.3	0.00	0.00	0.00
10,500.0	90.00	180.00	9,380.3	-1,420.3	0.0	1,420.3	0.00	0.00	0.00
10,600.0	90.00	180.00	9,380.3	-1,520.3	0.0	1,520.3	0.00	0.00	0.00
10,700.0	90.00	180.00	9,380.3	-1,620.3	0.0	1,620.3	0.00	0.00	0.00
10,800.0	90.00	180.00	9,380.3	-1,720.3	0.0	1,720.3	0.00	0.00	0.00
10,900.0	90.00	180.00	9,380.3	-1,820.3	0.0	1,820.3	0.00	0.00	0.00
11,000.0	90.00	180.00	9,380.3	-1,920.3	0.0	1,920.3	0.00	0.00	0.00
11,100.0	90.00	180.00	9,380.3	-2,020.3	0.0	2,020.3	0.00	0.00	0.00
11,200.0	90.00	180.00	9,380.3	-2,120.3	0.0	2,120.3	0.00	0.00	0.00
11,300.0	90.00	180.00	9,380.3	-2,220.3	0.0	2,220.3	0.00	0.00	0.00
11,400.0	90.00	180.00	9,380.3	-2,320.3	0.0	2,320.3	0.00	0.00	0.00
11,500.0	90.00	180.00	9,380.3	-2,420.3	0.0	2,420.3	0.00	0.00	0.00
11,600.0	90.00	180.00	9,380.3	-2,520.3	0.0	2,520.3	0.00	0.00	0.00
11,700.0	90.00	180.00	9,380.3	-2,620.3	0.0	2,620.3	0.00	0.00	0.00
11,800.0	90.00	180.00	9,380.3	-2,720.3	0.0	2,720.3	0.00	0.00	0.00
11,900.0	90.00	180.00	9,380.3	-2,820.3	0.0	2,820.3	0.00	0.00	0.00
12,000.0	90.00	180.00	9,380.3	-2,920.3	0.0	2,920.3	0.00	0.00	0.00
12,100.0	90.00	180.00	9,380.3	-3,020.3	0.0	3,020.3	0.00	0.00	0.00
12,200.0	90.00	180.00	9,380.3	-3,120.3	0.0	3,120.3	0.00	0.00	0.00
12,300.0	90.00	180.00	9,380.3	-3,220.3	0.0	3,220.3	0.00	0.00	0.00
12,400.0	90.00	180.00	9,380.3	-3,320.3	0.0	3,320.3	0.00	0.00	0.00
12,500.0	90.00	180.00	9,380.3	-3,420.3	0.0	3,420.3	0.00	0.00	0.00
12,600.0	90.00	180.00	9,380.3	-3,520.3	0.0	3,520.3	0.00	0.00	0.00
12,700.0	90.00	180.00	9,380.3	-3,620.3	0.0	3,620.3	0.00	0.00	0.00
12,800.0	90.00	180.00	9,380.3	-3,720.3	0.0	3,720.3	0.00	0.00	0.00
12,900.0	90.00	180.00	9,380.3	-3,820.3	0.0	3,820.3	0.00	0.00	0.00
13,000.0	90.00	180.00	9,380.3	-3,920.3	0.0	3,920.3	0.00	0.00	0.00
13,100.0	90.00	180.00	9,380.3	-4,020.3	0.0	4,020.3	0.00	0.00	0.00
13,200.0	90.00	180.00	9,380.3	-4,120.3	0.0	4,120.3	0.00	0.00	0.00
13,300.0	90.00	180.00	9,380.3	-4,220.3	0.0	4,220.3	0.00	0.00	0.00
13,400.0	90.00	180.00	9,380.3	-4,320.3	0.0	4,320.3	0.00	0.00	0.00
13,455.0	90.00	180.00	9,380.3	-4,375.3	0.0	4,375.3	0.00	0.00	0.00
4 1/2" Production Liner									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
800.0	800.0	13 3/8" Conductor Casing	13.375	17.520
4,400.0	4,400.0	9 5/8" Surface Casing	9.625	12.250
9,700.0	9,375.7	7" Intermediate Casing	7.000	8.750
13,455.0	9,380.3	4 1/2" Production Liner	4.500	6.125

TOC 4350' 9700'

TMM 23 Aug 2011

DRILLING PLAN

PROSPECT/FIELD	Bonespring/Red Hills			COUNTY/STATE		Lea County, NM
OWNERS	BURLINGTON RESOURCES			LEASE		
WELL NO.	Wilder Federal 28 #1H (w/Pilot Hole)	FNL	FSL	FEL	FWL	
LOCATION	Surface Location					
	Bottom Hole Location					
EST. T.D.	Leg #1 13,455' MD			GROUND ELEV.		3,161' (est)

PROGNOSIS: Based on 3,183' KB(est)

MARKER	S.S. DEPTH	TVD
Quaternary		Surface
Rustler	2416	745
Delaware Top	1240	4,401
KOP		3,161
Bone Spring	5174	8,335
Bone Spring 1st Carbonate Top	5401	8,562
Bone Spring 1st Carbonate Base	5445	8,606
Proposed Core Point	5630	8,791
Avalon A Shale Top	5634	8,795
Avalon A Shale Base	5861	9,022
Avalon B Zone Top	5861	9,022
Avalon B Zone Base	6016	9,177
Avalon C Shale Top	6016	9,177
Avalon C Shale Horizontal Target	**6219**	**9,380**
Avalon C Shale Base	6280	9,441
Bone Spring 1st Sand Top	6280	9,441
Proposed Base of Core	6310	9,471
Total Depth	6638	9,800

Pilot Hole to 9,800'

Cores

Logs *TripleCombo/Sonic/SonicScanner/FMI

LOGS:

Type		Interval
Open Hole	TC-S-SS-FMI *	9,800' - 4,200'
GR-MWD		13,455' - 850'

DEVIATION:

Surf	3° max , svy every 500'
Int1/2	3° max , svy every 90'
Prod	

DST'S:

CORES: AVALON SHALE 8791' - 9471'

SAMPLES:

	Start	End	
Mudlogging,			
Two-Man	2,800'	9,800'	Pilot Hole
Two-Man	9,700'	13455	Horizontal Lateral

BOP:

COP Category 3 Well Control Requirements

Nabors Rig M-09 BOPE (With Rotating Head)

- 13-5/8"-5Mpsi Annular (Hydril GK)
- 13-5/8"-5Mpsi Blind Ram (Cameron U)
- 13-5/8"-5Mpsi Cross / Choke & Kill Lines
- 13-5/8"-5M psi Pipe Ram (Cameron U)
- 13-5/8"-5Mpsi Spacer Spool

Dip Rate (See inclination prediction)

Max. Anticipated BHP: 0 65 psi/ft

Surface Formation:

MUD:	Interval	Type	Max. MW	Vis	WL	Remarks
Surface	0'-850'	Aquagel - Spud Mud	8.9	32-36	NC	
Intermediate 1	850'-4200'	Brine	10 1	28-30	5-8	
Intermediate 2	4200'-9700'	Cut Brine	10	28-36	5-8	
Production Lat	9700'-13455'	Cut Brine	10	30-40	<=5	

CASING:	Size	Wt ppf	Hole	Depth	Cement	WOC	Remarks
Surface	13-3/8"	54 5	17-1/2	850'	To Surface	12 hrs	
Intermediate 1	9-5/8"	40	12-1/4"	4,200'	To Surface	24 hrs	
Intermediate 2	7"	26	8-3/4"	9,780'	500' into 9-5/8"	24 hrs	Long String
Production Lat #1	4-1/2"	18 8	6-1/8"	13455'	No Cement		Liner Top @ KOP +/- 8600'

DIRECTIONAL PLAN

	MD	TVD	AZ
Surface	N/A	N/A	N/A
Vertical KOP	8,680'	8,680'	180 0
End Build/ 7"Casing (90° curve)	9,780'	9,380'	180 0
Tangent	N/A	N/A	N/A
Turn	N/A	N/A	N/A
TD	13,455'	9,380'	180 0

Directional Company DDC
Vertical Build Rate 8 1 '/100'
Tan Leg Turn Rate 0 0 '/100'

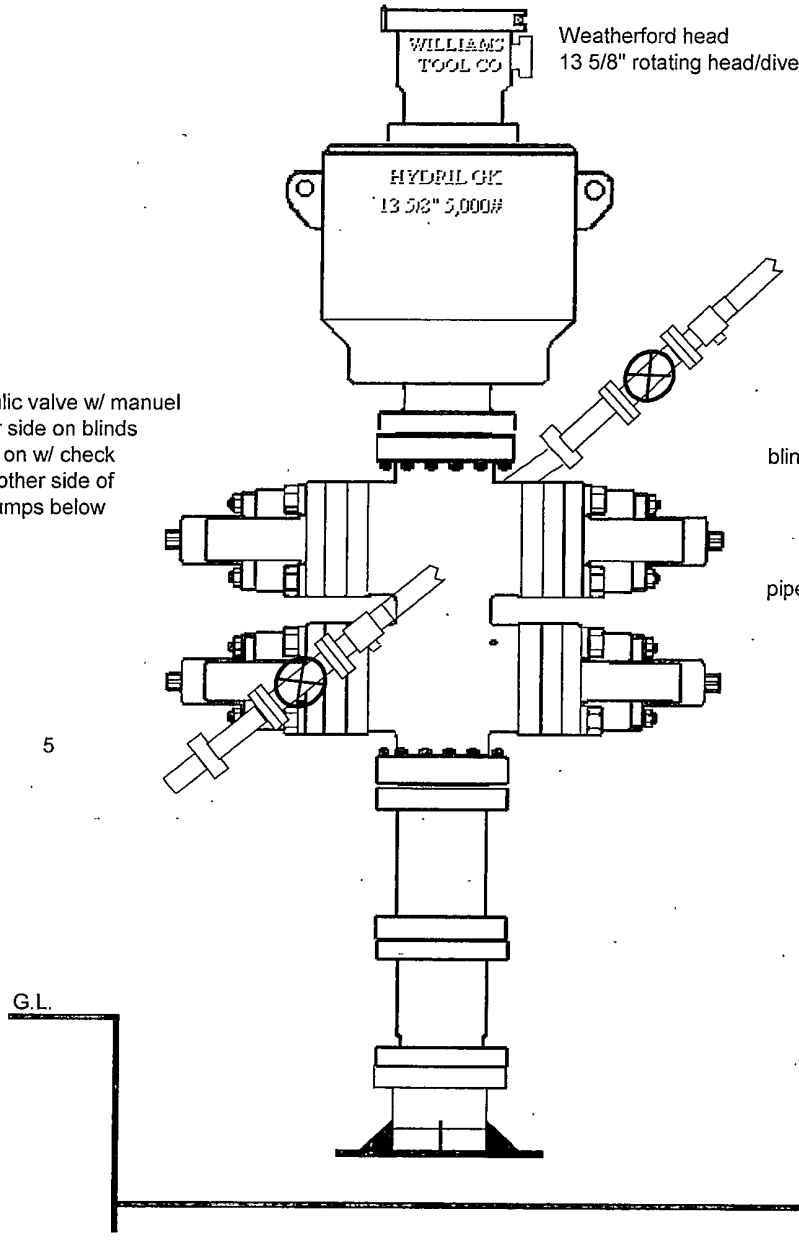
Land curve at 90° inc and 180Az hold flat to TD

Comments:
Surveys will be taken at 90' **interval below surface casing** while drilling with PDC / Motor / MWD

Prep By:	Luis Serrano	Date:	7/13/11	Doc:	REV 0

Tues 23 Aug 2011

Nabors M09



Weatherford head
13 5/8" rotating head/diverter

13 5/8" 5M Hydril

3" hydraulic valve w/ manuel on v-door side on blinds
2" valves on w/ check valve on other side of blinds. Pumps below blinds.

blind rams

13 5/8" 5M
Blind rams
3" Manuel w/ 3" Hydr valve on V-door side
2-2" manuel valve w/ 2" check valve.

pipe rams

13 5/8" 5M
5 1/2" Pipe Rams

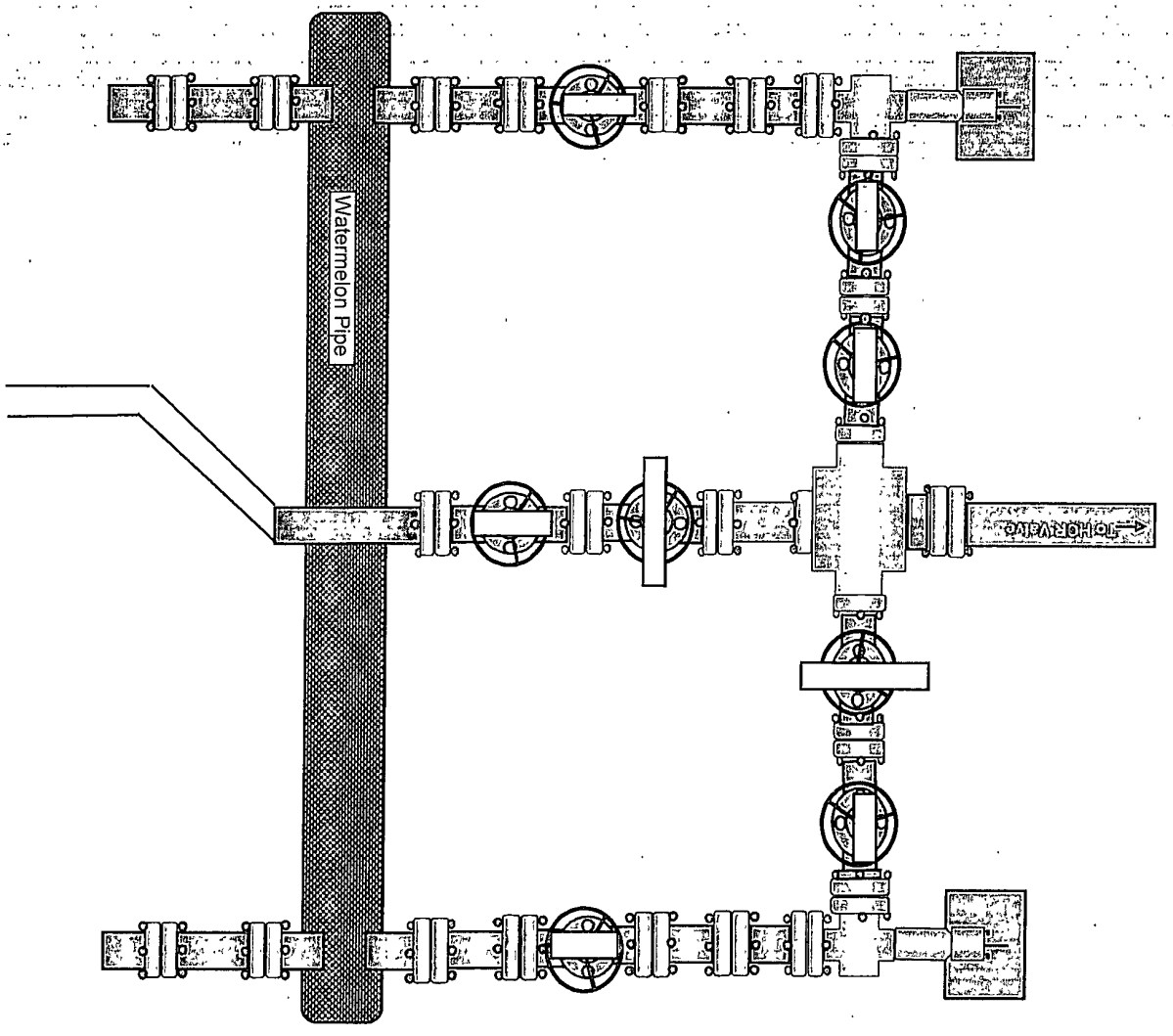
5

13 5/8" 5M spool

G.L.

13 5/8" 5M spool

Tues 23 Aug 2011



TAM
23 Aug 2011

August 09 2011

TenarisHydril

Size: 4.500 in.
Grade: API T95

Wall: 0.430 in.
Weight: 18.900 lbs/ft
Connection: Blue™

PIPE BODY DATA

GEOMETRY

Nominal OD	**4.500** in.	Nominal Weight	**18.90** lbs/ft	Standard Drift Diameter	**3.515** in.
Nominal ID	**3.640** in.	Wall Thickness	**0.430** in.	Special Drift Diameter	**N/A**
Plain End Weight	**18.71** lbs/ft				

PERFORMANCE

Body Yield Strength	**522** x 1000 lbs	Internal Yield	**15890** psi	Collapse	**16410** psi

BLUE™ CONNECTION DATA

GEOMETRY

Regular OD	**5.189** in.	Special Clearance OD	**5.051** in.	Connection ID	**3.740** in.
Critical Section Area	**5.768** sq. in.	Critical Section Area (Special Clearance)	**4.659** sq. in.	Make-Up Loss	**4.012** in.
Threads per in.	**5.00**	Coupling Length	**9.213** in.		

PERFORMANCE

Regular OD Tension Efficiency	**100** %	Joint Yield Strength	**522** x 1000 lbs	Internal Yield	**15890** psi
Compression Efficiency	**100** %	Compression Rating	**522** x 1000 lbs	Collapse	**16410** psi
Special Clearance Tension Efficiency	**85.0** %	Bending	**97** °/100 ft		

MAKE-UP TORQUES

Minimum	**8630** ft-lbs	Target	**9590** ft-lbs	Maximum	**10550** ft-lbs
Yield Torque	**15750** ft-lbs				

BLANKING DIMENSIONS

Blanking Dimensions

T Mar 23 Aug 2011