

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HOBBS OCD

JUN 17 2013

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2014

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

Lease Serial No.
NM27508

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE – Other instructions on page 2.

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator
ConocoPhillips Company

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

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

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

8. Well Name and No.
Wilder Federal 28 # 4H

9. API Well No.
30-025-40502

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
330 FNL & 330 FWL
NWNW of Section 28-26S-32E

10. Field and Pool or Exploratory Area
Bone Spring Upper Shale

11. County or Parish, State
Lea County, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Revised Drill plan & bottomhole
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

ConocoPhillips Company respectfully request to amend the approved permit to drill. It is our intent to drill into the corrected section south of Section 28 and the proposed bottomhole is revised to 330 FSL & 330 FWL of Section 33-26S-32E. Please find attached the amended drill plan and C102 plat.

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)
Donna Williams

Title Sr. Regulatory Advisor

Signature

Date 06/11/2013

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Petroleum Engineer

JUN 18 2013

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Title

Date

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

JUN 18 2013

DRILLING PLAN

PROSPECT/FIELD	Bonespring/Red Hills	COUNTY/STATE	Lea County, NM
OWNERS	ConocoPhillips	LEASE	
WELL NO.	Wilder Federal 28 #4H	FNL	FSL
LOCATION		FEL	FWL
	Surface Location:	330	330
	Bottom Hole Location:	330	330
EST. T.D.	Leg #1 16,204' MD	GROUND ELEV.	3,153' (est)
		RKB	3,178' (est)

PROGNOSIS:

Based on 3,169' KB(est)

Marker	TVD	S.S. Depth
Quaternary	Surface	
Rustler	953	2,225
Delaware Top	4,370	-1,192
Ford Shale	4,410	1,232
Bone Spring	8,204	-5,026
Bone Spring 1st Carbonate Top	8,523	-5,345
Bone Spring 1st Carbonate Base	8,500	-5,322
Avalon A Shale Top	8,716	-5,538
Avalon A Shale Base	8,934	-5,756
Avalon B Zone Top	8,934	-5,756
Avalon B Zone Base	9,122	-5,944
Avalon C Shale Top	9,122	-5,944
Avalon C Shale Base (Should not penetrate)	9,362	-6,184

LOGS:

Type	Interval
Open Hole:	
GR-MWD	16204 - 8483

DEVIATION:

Surf.	5" max., svy every 500'
Interm1.	10" max., svy every 90'
Interm2.	5" max., svy every 200' in vertical
Prod.	93" max., svy every 30' in curve
	93" max., svy every 100' in lateral

DST'S:

CORES:

No core.

SAMPLES:

Mudlogging	Start	End	
Two-Man	1040'	TD	Vertical and Horizontal sections

BOP:

HnP486/BOPE (With Rotating Head)	COP Category 3 Well Control Requirements 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 Spacer Spool
-------------------------------------	---

Dip Rate: Slight Down Dip

Max. Anticipated BHP:

0.65 psi/ft

Surface Formation:

MUD:	Interval	Type	Max. MW	Vis	WL	Remarks
Surface:	0'-1040'	Aqueous / Spud Mud	8.9	32-36	NC	
Intermediate 1:	1040'-4430'	Brine	10.5	28-30	5-6	
Intermediate 2:	4470'-9645'	Cut Brine	9.5	30-39	<=4	
Production:	9645'-16058'	Cut Brine	9.6	30-40	<=5	

CASING:	Size	Wt ppf	Hole	Depth	Cement	WOC	Remarks
Surface:	13-3/8"	54.5	17-1/2"	1,040'	To Surface	18hrs	
Intermediate 1:	9-5/8"	36	12-1/4"	4,430'	To Surface	18hrs	
Intermediate 2:	17"	29	8-3/4"	9,645'	500' into intermediate	18hrs	
Production Liner	4-1/2"	11.6	6"	16,058'	Uncemented	0	Sleeves & Packers

DIRECTIONAL PLAN

	MD	TVD	AZ	
Surface	N/A	N/A	179.84	Directional Company, DDC
Vertical KOP	8,783	8,768	179.84	Vertical Build Rate: 12.0 '100'
End Build	9,530	9,245	179.84	Tan Leg Turn Rate: 0.0 '100'
Tangent	N/A	N/A	179.84	
Turn	N/A	N/A	179.84	
TD	16,204	9,269	179.84	

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: 5/1/13 Doc: REV.4

Wilder, Federal 28 #4H	
Surface Location:	Bottom Hole Location
0	330
0	0

Formation	TVD
Quaternary	Surface
Rustler	-953
Delaware Top	-4370
Bone Spring	-8204
Bone Spring 1st Carbonate Top	-8523
Bone Spring 1st Carbonate Base	-8500
Avalon A Shale Top	-8716
Avalon A Shale Base	-8934
Avalon B Zone Top	-8934
Avalon B Zone Base	-9122
Avalon C Shale Top	-9122
Avalon C Shale Base (Should not penetrate)	-9362

Optional DV+ACP 50-80ft Above
Weak Zone

KOP (12°/100') 8,783

Landing Point @ 9,530 ft MD
9,245 ft TVD

CASING	Drill Fluids
Surface 1.040" 13.35' 64.68' J-58 STC	Surf. Hole: FW gel mud: 8.98 w/ high vis sweeps
Intermediate 4.432" 168' J-58 LTC	Interm. 1: Brine 10.5# 40-50 Vls 5-8 VWL
TOL 48" INC #160' MD/ #100' TVD Intermediate 2: 9.845" 72.29# P-110 BTC	Prod. Hole: Cut Brine 9.6# 28-36 Vls ≤5 VWL high vis sweeps as required.

Cement	Analysis
Surface: 320 Sx Lead 740 Sx Tail Based on 17'-1/2" OH with 150% excess	Surf. Hole: Data. These numbers are only estimates.
Intermediate: 1,250 Sx Lead 250 Sx Tail Based on 8.75 in. Hole with 200% excess	Intermediate: 1,250 Sx Lead 250 Sx Tail Based on 8.75 in. Hole with 200% excess
Production: 350 Sx Lead 148 Sx Tail Based on 0.00 in. Hole with 135% excess	Prod. Hole: Cut Brine 9.6# 28-36 Vls ≤5 VWL high vis sweeps as required.

Open Hole:
0
0
GR-MWD
8483
TD @ 16,204' MD

Cased Hole Loss:
None.

Completion:
Open hole Sliding Sleeves & Packers
or I/Bal system

Frac:
35-45 stages

Production:
18,088' MD 4-12' 11.88' P-110 BTC
9,289' TVD

Max. Anticipated BHP: 0.65

Vick Harvey
Geologist

Date
5/1/2013

Katie Filina
Drilling Engineer

Date
5/1/2013

Directional:	MD	TVD	FNL/FSL	FEL/FWL	S-T-R	AZI
Vertical KOP:	8783	8783	0	0	0	179.54
End Build:	9,530'	9,245'	0	0	0	179.5
Tangent:	N/A	N/A	0	0	0	179.5
Turn:	N/A	N/A	0	0	0	179.5
TD:	16,204'	9,289'	0	0	0	179.5

Notes for Well:

Refer to the drilling program for detailed casing, drilling fluids, bit etc.
Drill 17 1/2" surface hole with conventional BHA and INC Survey Tool or MWD. R/H 13.35' CSG and cement it up to surface.
Install well head and NU BOP. CSG Pressure Test 1500psi and FIT 12.50psi.
Mud logger (two-man) to be on at surface casing depth of 1040'
Drill 12 1/4" intermediate #1 hole with Motor + MWD or Vertical Seeking Scout Tool+Motor and INC Survey Tool or MWD.
R/H 9 5/8" CSG and cement it up to surface. Pressure Test 2500psi.
Drill 8 3/4" intermediate #2 hole with Packed Hole BHA (Straight Motor+MWD) or Directional Motor+MWD or KOP.
Run Gyro III KOP if run INC Tool before. If run MWD, consider Gyro optional.
Begin GR-MWD service after KOP.
The 8 3/4" curve will be drilled with ~ 12°/100' build rate and ~150° Azimuth with Motor+MWD or Rotary steerable.
Run 7" CSG from surface to Landing Point and cement it 500ft into a 5/8" Pressure Test 3500psi.
The 6 1/8" Lateral will be drilled with POM+MWD or Rotary Steerable.
TOOH to change bit and/or BHA.
The 6 1/8" Lateral will be drilled with POM+MWD or RSS to TD. 89.9° INC 180° Azim.
POOH Backreaming after circulating the hole until clean returns.
R/H 4 1/2" Lateral with around 35-42 Stages of Open Hole Completion. Packers and Sliding Sleeves or I/Bal system.
Displace cement with 5% KCL Brine.
POOH laying down 4th Drill Pipe.
NO ROPE. Install 10M tubing head. Test connection.
Release drilling rig.

HOBBS OCD

DISTRICT I

1625 N. French Dr., Hobbs, NM 88240
Phone (575) 393-8161 Fax: (575) 393-0720

DISTRICT II

811 S. First St., Artesia, NM 88210
Phone (505) 746-1283 Fax: (505) 746-9720

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone (505) 334-8178 Fax: (505) 334-8170

DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax: (505) 476-3462State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District Office

RECEIVED

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-025-40502	Pool Code 97838	Pool Name Bone Spring Upper Shale
Property Code 39134	Property Name WILDER FEDERAL 28	Well Number 4H
OGRID No. 217817	Operator Name CONOCO PHILLIPS	Elevation 3153'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	28	26 S	32 E		330	NORTH	330	WEST	LEA

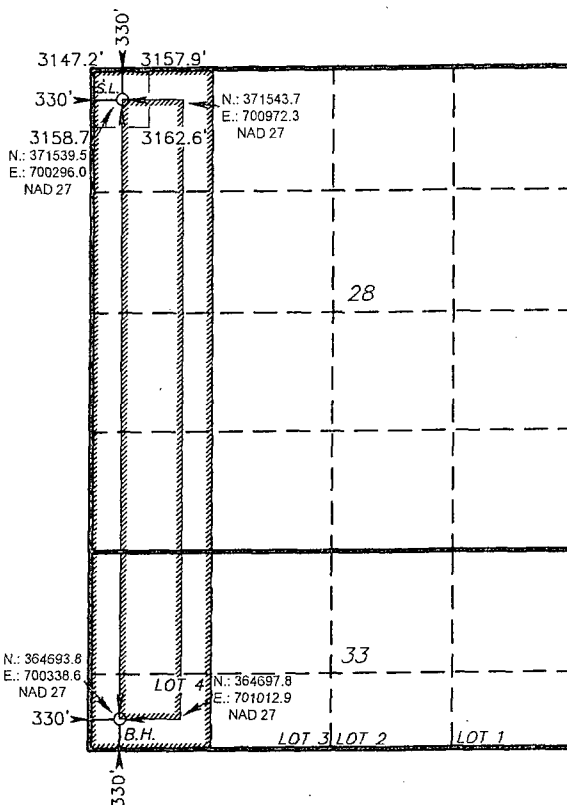
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
LOT 4	33	26 S	32 E		330	SOUTH	330	WEST	LEA
Dedicated Acres 230.09	Joint or Infill	Consolidation Code	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

SURFACE LOCATION

Lat - N 32°01'11.84"
Long - W 103°41'15.15"
NMSPCE - N 371596.6
E 741483.2
(NAD-83)
Lat - N 32°01'12.43"
Long - W 103°40'59.37"
NMSPCE - N 371539.5
E 700296.0
(NAD-27)

PROPOSED BOTTOM
HOLE LOCATION

Lat - N 32°00'04.09"
Long - W 103°41'15.13"
NMSPCE - N 364750.7
E 741526.1
(NAD-83)
Lat - N 32°00'03.64"
Long - W 103°41'13.44"
NMSPCE - N 364693.8
E 700338.6
(NAD-27)

OPERATOR CERTIFICATION

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

[Signature] *4/11/13*
Signature Date

Dana Williams
Printed Name
Dana.S.Williams@conoco.com
Email Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date Surveyed
Signature
Professional Surveyor

Certificate No. Gary L. Jones 7977

BASIN SURVEYS 27890

Bonespring/Red Hills
ConocoPhillips
Wilder Federal 28 #4H

0

Surface Casing:

Surface Casing Depth (Ft)	1,040
Surface Casing O.D. (In.)	13.375
Surface Casing ID (In)	12.715
Hole O.D. (In)	17.5
Excess (%)	150%
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.)	1,737
Calc. Tail Volume (Cu. Ft.)	417
Calc. Lead Volume (Cu. Ft.)	1,285
Calc. Lead Volume (Sx)	740

Intermediate #1 Casing (Lead):

Intermediate Casing O.D. (In.)	9.625
Intermediate Casing ID (In)	8.835
Hole O.D. (In)	12.25
Excess (%)	150%
cap 12-1/4 - 9-5/8"	0.0558
Calculated fill:	3,930'
Yield Lead (Cu. Ft./Sx)	2.47
Calculated Total Lead (Cu. Ft.)	3,077
Calc. Lead Volume (Sx)	1250

Intermediate #2 Casing (Lead):

Intermediate Casing O.D. (In.)	7.000
Intermediate Casing ID (In)	6.184
Hole O.D. (In)	8.75
Excess (%)	135%
cap 5-1/2" - 8-3/4" bls/ft	0.0268
cap 5-1/2 - 9-5/8" bls/ft	0.02823
Calculated fill: (500' into 9-5/8")	4,600'
Yield Lead (Cu. Ft./Sx)	2.7
Calculated Total Lead (Cu. Ft.)	934
Calc. Lead Volume (Sx)	350
	8,530
	3930

Intermediate #1 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:	500'
Yield Tail (Cu. Ft./Sx)	1.33
Shoe Joint (Ft)	40
Shoe Volume (Cu. Ft)	17.0
Calc. Tail Volume (Cu. Ft.)	330
Required Tail Volume (Sx)	250

Intermediate #2 Casing (Tail):

Intermediate Casing O.D. (In.)	7.000
Intermediate Casing ID (In)	6.184
Hole O.D. (In)	8.75
Excess (%)	135%
cap 5-1/2" - 8-3/4" bls/ft	0.0268
cap 7 - 9-5/8" bls/ft	
Calculated fill:	1,000'
Yield Lead (Cu. Ft./Sx)	1.39
Calculated Total Tail (Cu. Ft.)	203
Required Tail Volume (Sx)	146

4050

ConocoPhillips MCBU

Permian Delaware Hz New Mexico

Wilder Federal AC COM 28 4H

Wilder Federal AC COM 28 4H

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JUN 17 2013

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Original Borehole

Plan: Design #1

Standard Planning Report - Geographic

01 May, 2013

ConocoPhillips
Planning Report - Geographic

Database:	EDM Central Planning	Local Co-ordinate Reference:	Site Wilder Federal AC COM 28 4H
Company:	ConocoPhillips MCBU	TVD Reference:	KB @ 3178.0usft (Original Well Elev)
Project:	Permian Delaware Hz New Mexico	MD Reference:	KB @ 3178.0usft (Original Well Elev)
Site:	Wilder Federal AC COM 28 4H	North Reference:	Grid
Well:	Wilder Federal AC COM 28 4H	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 4H		
Site Position:		Northing:	371,539.50 usft
From:	Map	Easting:	700,296.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/8 "
		Latitude:	32° 1' 11.387 N
		Longitude:	103° 41' 13.463 W
		Grid Convergence:	0.34 °

Well	Wilder Federal AC COM 28 4H		
Well Position	+N-S	0.0 usft	Northing:
	+E-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	
		Latitude:	32° 1' 11.387 N
		Longitude:	103° 41' 13.463 W
		Ground Level:	3,153.0 usft

Wellbore	Original Borehole		
Magnetics	Model Name	Sample Date	Declination (°)
	BGGM2012	3/12/2013	7.50
			Dip Angle (°)
			59.87
			Field Strength (nT)
			48,288

Design	Design #1		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N-S	+E-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction (°)
			179.64

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	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.00	-0.00	0.00	0.00	
1,400.0	6.00	4.00	1,399.5	15.7	1.1	2.00	2.00	0.00	4.00	
4,000.0	6.00	4.00	3,985.2	286.8	20.1	0.00	0.00	0.00	0.00	
4,300.0	0.00	0.00	4,284.7	302.4	21.1	2.00	-2.00	0.00	180.00	
8,783.0	0.00	0.00	8,767.7	302.4	21.1	0.00	0.00	0.00	0.00	
9,529.7	89.62	179.83	9,245.0	-171.8	22.6	12.00	12.00	0.00	179.83	
16,203.8	89.62	179.83	9,289.0	-6,845.7	42.6	0.00	0.00	0.00	-42.68	Wilder Federal 28 4H

ConocoPhillips

Planning Report - Geographic

Database:	EDM Central Planning	Local Co-ordinate Reference:	Site Wilder Federal AC COM 28 4H
Company:	ConocoPhillips MCBU	TVD Reference:	KB @ 3178.0ush (Original Well Elev)
Project:	Permian Delaware Hz New Mexico	MD Reference:	KB @ 3178.0ush (Original Well Elev)
Site:	Wilder Federal AC COM 28 4H	North Reference:	Grid
Well:	Wilder Federal AC COM 28 4H	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	371,539.50	700,296.00	32° 1' 11.387 N	103° 41' 13.463 W
200.0	0.00	0.00	200.0	0.0	0.0	371,539.50	700,296.00	32° 1' 11.387 N	103° 41' 13.463 W
400.0	0.00	0.00	400.0	0.0	0.0	371,539.50	700,296.00	32° 1' 11.387 N	103° 41' 13.463 W
600.0	0.00	0.00	600.0	0.0	0.0	371,539.50	700,296.00	32° 1' 11.387 N	103° 41' 13.463 W
800.0	0.00	0.00	800.0	0.0	0.0	371,539.50	700,296.00	32° 1' 11.387 N	103° 41' 13.463 W
1,000.0	0.00	0.00	1,000.0	0.0	0.0	371,539.50	700,296.00	32° 1' 11.387 N	103° 41' 13.463 W
1,003.0	0.00	0.00	1,003.0	0.0	0.0	371,539.50	700,296.00	32° 1' 11.387 N	103° 41' 13.463 W
13 3/8"									
1,100.0	0.00	0.00	1,100.0	0.0	0.0	371,539.50	700,296.00	32° 1' 11.387 N	103° 41' 13.463 W
1,200.0	2.00	4.00	1,200.0	1.7	0.1	371,541.24	700,296.12	32° 1' 11.404 N	103° 41' 13.461 W
1,400.0	6.00	4.00	1,399.5	15.7	1.1	371,555.15	700,297.09	32° 1' 11.542 N	103° 41' 13.449 W
1,600.0	6.00	4.00	1,598.4	36.5	2.6	371,576.01	700,298.55	32° 1' 11.748 N	103° 41' 13.431 W
1,800.0	6.00	4.00	1,797.3	57.4	4.0	371,596.86	700,300.01	32° 1' 11.954 N	103° 41' 13.412 W
2,000.0	6.00	4.00	1,996.2	78.2	5.5	371,617.72	700,301.47	32° 1' 12.161 N	103° 41' 13.394 W
2,200.0	6.00	4.00	2,195.1	99.1	6.9	371,638.57	700,302.92	32° 1' 12.367 N	103° 41' 13.376 W
2,400.0	6.00	4.00	2,394.0	119.9	8.4	371,659.43	700,304.38	32° 1' 12.573 N	103° 41' 13.357 W
2,600.0	6.00	4.00	2,592.9	140.8	9.8	371,680.28	700,305.84	32° 1' 12.779 N	103° 41' 13.339 W
2,800.0	6.00	4.00	2,791.8	161.6	11.3	371,701.14	700,307.30	32° 1' 12.986 N	103° 41' 13.320 W
3,000.0	6.00	4.00	2,990.7	182.5	12.8	371,721.99	700,308.76	32° 1' 13.192 N	103° 41' 13.302 W
3,200.0	6.00	4.00	3,189.6	203.3	14.2	371,742.85	700,310.22	32° 1' 13.398 N	103° 41' 13.284 W
3,400.0	6.00	4.00	3,388.5	224.2	15.7	371,763.70	700,311.67	32° 1' 13.605 N	103° 41' 13.265 W
3,600.0	6.00	4.00	3,587.4	245.1	17.1	371,784.56	700,313.13	32° 1' 13.811 N	103° 41' 13.247 W
3,800.0	6.00	4.00	3,786.3	265.9	18.6	371,805.41	700,314.59	32° 1' 14.017 N	103° 41' 13.229 W
4,000.0	6.00	4.00	3,985.2	286.8	20.1	371,826.27	700,316.05	32° 1' 14.224 N	103° 41' 13.210 W
4,200.0	2.00	4.00	4,184.7	300.7	21.0	371,840.18	700,317.02	32° 1' 14.361 N	103° 41' 13.198 W
4,300.0	0.00	0.00	4,284.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
4,400.0	0.00	0.00	4,384.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
4,485.3	0.00	0.00	4,470.0	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
9 5/8"									
4,600.0	0.00	0.00	4,584.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
4,800.0	0.00	0.00	4,784.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
5,000.0	0.00	0.00	4,984.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
5,200.0	0.00	0.00	5,184.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
5,400.0	0.00	0.00	5,384.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
5,600.0	0.00	0.00	5,584.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
5,800.0	0.00	0.00	5,784.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
6,000.0	0.00	0.00	5,984.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
6,200.0	0.00	0.00	6,184.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
6,400.0	0.00	0.00	6,384.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
6,600.0	0.00	0.00	6,584.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
6,800.0	0.00	0.00	6,784.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
7,000.0	0.00	0.00	6,984.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
7,200.0	0.00	0.00	7,184.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
7,400.0	0.00	0.00	7,384.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
7,600.0	0.00	0.00	7,584.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
7,800.0	0.00	0.00	7,784.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
8,000.0	0.00	0.00	7,984.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
8,200.0	0.00	0.00	8,184.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
8,400.0	0.00	0.00	8,384.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
8,600.0	0.00	0.00	8,584.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
8,783.0	0.00	0.00	8,767.7	302.4	21.1	371,841.92	700,317.14	32° 1' 14.378 N	103° 41' 13.196 W
8,800.0	2.04	179.83	8,784.7	302.1	21.1	371,841.62	700,317.14	32° 1' 14.375 N	103° 41' 13.196 W
9,000.0	26.05	179.83	8,977.3	253.9	21.3	371,793.44	700,317.29	32° 1' 13.899 N	103° 41' 13.198 W
9,200.0	50.05	179.83	9,133.6	131.6	21.7	371,671.07	700,317.65	32° 1' 12.688 N	103° 41' 13.202 W

ConocoPhillips

Planning Report - Geographic

Database:	EDM Central Planning	Local Co-ordinate Reference:	Site Wilder Federal AC COM 28 4H
Company:	ConocoPhillips MCBU	TVD Reference:	KB @ 3178.0usft (Original Well Elev)
Project:	Permian Delaware Hz New Mexico	MD Reference:	KB @ 3178.0usft (Original Well Elev)
Site:	Wilder Federal AC COM 28 4H	North Reference:	Grid
Well:	Wilder Federal AC COM 28 4H	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	
9,400.0	74.06	179.83	9,226.7	-43.8	22.2	371,495.68	700,318.17	32° 1' 10.952 N	103° 41' 13.208 W	
9,529.7	89.62	179.83	9,245.0	-171.8	22.6	371,367.74	700,318.55	32° 1' 9.686 N	103° 41' 13.213 W	
9,600.0	89.62	179.83	9,245.5	-242.1	22.8	371,297.39	700,318.76	32° 1' 8.990 N	103° 41' 13.215 W	
9,642.0	89.62	179.83	9,245.7	-284.1	22.9	371,255.40	700,318.88	32° 1' 8.574 N	103° 41' 13.217 W	
7"										
9,800.0	89.62	179.83	9,246.8	-442.1	23.4	371,097.40	700,319.35	32° 1' 7.010 N	103° 41' 13.222 W	
10,000.0	89.62	179.83	9,248.1	-642.1	24.0	370,897.40	700,319.95	32° 1' 5.031 N	103° 41' 13.229 W	
10,200.0	89.62	179.83	9,249.4	-842.1	24.5	370,697.41	700,320.54	32° 1' 3.052 N	103° 41' 13.236 W	
10,400.0	89.62	179.83	9,250.8	-1,042.1	25.1	370,497.42	700,321.14	32° 1' 1.073 N	103° 41' 13.243 W	
10,600.0	89.62	179.83	9,252.1	-1,242.1	25.7	370,297.42	700,321.73	32° 0' 59.094 N	103° 41' 13.250 W	
10,800.0	89.62	179.83	9,253.4	-1,442.1	26.3	370,097.43	700,322.33	32° 0' 57.114 N	103° 41' 13.257 W	
11,000.0	89.62	179.83	9,254.7	-1,642.1	26.9	369,897.43	700,322.92	32° 0' 55.135 N	103° 41' 13.264 W	
11,200.0	89.62	179.83	9,256.1	-1,842.1	27.5	369,697.44	700,323.52	32° 0' 53.156 N	103° 41' 13.271 W	
11,400.0	89.62	179.83	9,257.4	-2,042.1	28.1	369,497.44	700,324.12	32° 0' 51.177 N	103° 41' 13.278 W	
11,600.0	89.62	179.83	9,258.7	-2,242.1	28.7	369,297.45	700,324.72	32° 0' 49.198 N	103° 41' 13.285 W	
11,800.0	89.62	179.83	9,260.0	-2,442.0	29.3	369,097.45	700,325.31	32° 0' 47.218 N	103° 41' 13.292 W	
12,000.0	89.62	179.83	9,261.3	-2,642.0	29.9	368,897.46	700,325.91	32° 0' 45.239 N	103° 41' 13.299 W	
12,200.0	89.62	179.83	9,262.7	-2,842.0	30.5	368,697.46	700,326.51	32° 0' 43.260 N	103° 41' 13.306 W	
12,400.0	89.62	179.83	9,264.0	-3,042.0	31.1	368,497.47	700,327.11	32° 0' 41.281 N	103° 41' 13.313 W	
12,600.0	89.62	179.83	9,265.3	-3,242.0	31.7	368,297.47	700,327.71	32° 0' 39.302 N	103° 41' 13.320 W	
12,800.0	89.62	179.83	9,266.6	-3,442.0	32.3	368,097.48	700,328.31	32° 0' 37.322 N	103° 41' 13.327 W	
13,000.0	89.62	179.83	9,267.9	-3,642.0	32.9	367,897.48	700,328.91	32° 0' 35.343 N	103° 41' 13.334 W	
13,200.0	89.62	179.83	9,269.3	-3,842.0	33.5	367,697.49	700,329.51	32° 0' 33.364 N	103° 41' 13.341 W	
13,400.0	89.62	179.83	9,270.6	-4,042.0	34.1	367,497.49	700,330.12	32° 0' 31.385 N	103° 41' 13.347 W	
13,600.0	89.62	179.83	9,271.9	-4,242.0	34.7	367,297.50	700,330.72	32° 0' 29.406 N	103° 41' 13.354 W	
13,800.0	89.62	179.83	9,273.2	-4,442.0	35.3	367,097.50	700,331.32	32° 0' 27.426 N	103° 41' 13.361 W	
14,000.0	89.62	179.83	9,274.5	-4,642.0	35.9	366,897.51	700,331.92	32° 0' 25.447 N	103° 41' 13.368 W	
14,200.0	89.62	179.83	9,275.8	-4,842.0	36.5	366,697.52	700,332.53	32° 0' 23.468 N	103° 41' 13.375 W	
14,400.0	89.62	179.83	9,277.2	-5,042.0	37.1	366,497.52	700,333.13	32° 0' 21.489 N	103° 41' 13.382 W	
14,600.0	89.62	179.83	9,278.5	-5,242.0	37.7	366,297.53	700,333.73	32° 0' 19.510 N	103° 41' 13.389 W	
14,800.0	89.62	179.83	9,279.8	-5,442.0	38.3	366,097.53	700,334.34	32° 0' 17.530 N	103° 41' 13.396 W	
15,000.0	89.62	179.83	9,281.1	-5,642.0	38.9	365,897.54	700,334.94	32° 0' 15.551 N	103° 41' 13.402 W	
15,200.0	89.62	179.83	9,282.4	-5,842.0	39.6	365,697.54	700,335.55	32° 0' 13.572 N	103° 41' 13.409 W	
15,400.0	89.62	179.83	9,283.7	-6,042.0	40.2	365,497.55	700,336.16	32° 0' 11.593 N	103° 41' 13.416 W	
15,600.0	89.62	179.83	9,285.0	-6,241.9	40.8	365,297.55	700,336.76	32° 0' 9.614 N	103° 41' 13.423 W	
15,800.0	89.62	179.83	9,286.4	-6,441.9	41.4	365,097.56	700,337.37	32° 0' 7.634 N	103° 41' 13.430 W	
16,000.0	89.62	179.83	9,287.7	-6,641.9	42.0	364,897.56	700,337.98	32° 0' 5.655 N	103° 41' 13.437 W	
16,200.0	89.62	179.83	9,289.0	-6,841.9	42.6	364,697.57	700,338.58	32° 0' 3.676 N	103° 41' 13.443 W	
16,203.8	89.62	179.83	9,289.0	-6,845.7	42.6	364,693.80	700,338.60	32° 0' 3.639 N	103° 41' 13.444 W	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Wilder Federal 28 4H Lo	0.00	0.00	9,289.0	-6,845.7	42.6	364,693.80	700,338.60	32° 0' 3.639 N	103° 41' 13.444 W	
- hit/miss target										
- Shape										
- plan hits target center										
- Point										

ConocoPhillips

Planning Report - Geographic

Database:	EDM Central Planning	Local Co-ordinate Reference:	Site Wilder Federal AC COM 28 4H
Company:	ConocoPhillips MCBU	TVD Reference:	KB @ 3178.0usft (Original Well Elev)
Project:	Permian Delaware Hz New Mexico	MD Reference:	KB @ 3178.0usft (Original Well Elev)
Site:	Wilder Federal AC COM 28 4H	North Reference:	Grid
Well:	Wilder Federal AC COM 28 4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Borehole		
Design:	Design #1		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,003.0	1,003.0	13 3/8"	13-3/8	17-1/2	
4,485.3	4,470.0	9 5/8"	9-5/8	12-1/4	
9,642.0	9,245.7	7"	7	8-3/4	

Wilder Federal AC Com 28 4H Proposed Tops				GL 3153		KB (est) H&P 486 = 25'		3,178	
Notes:		No pilot hole will be drilled. This horizontal well will be drilled into the Avalon C Shale Zone from N to S from section 28 into section 33 with at ~6,500' lateral.							
Surface Location		Sec 28	T26S	R32E		Lea Co. NM Surface Location: 330' FNL & 330' FWL			
Bottom Hole Location		Sec 33	T26S	R32E		Lea Co. NM Terminus Location: 330' FSL & 330' FWL			
Formation Name	Formation Top (TVD)	Subsea Depth	Gross Thickness	Gross Thickness	Gross Thickness	Comments			
Quaternary	Surface								
Rustler	953	2,225							
Castile	2,580	598							
Delaware Top	4,370	-1,192							
Ramsey	4,410	-1,232							
Ford Sh	4,468	-1,290							
Olds	4,478	-1,300							
Cherry Canyon Top	5,341	-2,163							
Bone Spring Top	8,204	-5,026							
Bone Spring 1st Carbonate Top	8,472	-5,294							
KOP (est)	8,510		51						
Bone Spring 1st Carbonate Base	8,523	-5,345							
Avalon A Shale Top	8,716	-5,538	218						
Avalon A Shale Base	8,934	-5,756							
Avalon B Zone Top	8,934	-5,756	188						
Avalon B Zone Base	9,122	-5,944							
Avalon C Shale Top	9,122	-5,944							
LANDING: Avalon C Shale Horizontal Upper Target Limit	9,242	-6,064							
LANDING: Avalon C Shale Horizontal Target Center	9,267	-6,089	50						
LANDING: Avalon C Shale Horizontal Lower Target Limit	9,292	-6,114							
TERMINUS: Avalon C Shale Horizontal Upper Target Limit	9,264	-6,086							
TERMINUS: Avalon C Shale Horizontal Target Center	9,289	-6,111	50						
TERMINUS: Avalon C Shale Horizontal Lower Target Limit	9,314	-6,136							
Avalon C Shale Base (Should not penetrate)	9,362	-6,184							
Estimated Proposed total MD of well ~ TBD'									