

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010**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.

HOBBS OCD

MAR 19 2012

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

RECEIVED

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMLC068281B
2. Name of Operator CONOCOPHILLIPS COMPANY		6. If Indian, Allottee or Tribe Name
3a. Address 3300 N "A" ST BLDG 6 MIDLAND, TX 79705		7. If Unit or CA/Agreement, Name and/or No.
3b. Phone No. (include area code) Ph: 432-688-6913		8. Well Name and No. BUCK FEDERAL 20#2H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 20 T26S R32E NWNE 30FNL 1660FEL Unit B		9. API Well No. 30-025-40483
		10. Field and Pool, or Exploratory RED HILLS
		11. County or Parish, and State LEA COUNTY, NM Spring Upper Scale

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

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

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 shall 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 shall be filed once testing has been completed. Final Abandonment Notices shall 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 change the csg design of the Buck Federal 20 #2H from 3 strings to 4.

13-3/8" Surface csg set @ 850'MD — See COA Approval Subject to General Requirements
9-5/8" Intermediate 1 csg set @ 8480'MD — See COA & Special Stipulations Attached
7" Intermediate 2 csg set @ 9695'MD
4-1/2" Production liner set @ 13635' MD

Surface Csg Cmt
13-3/8" Csg: lead w/580 sx Class C cement + HalCem-C (Yield: 1.33 cft)
Tail w/230 sx Class C cement + 1 lbm/sk EconoChem-HRLTRC (Yield 1.85 cft/sk)
Circulate to surface. Based on 17-1/2" OH, with 100% excess

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct.	
Electronic Submission #132775 verified by the BLM Well Information System For CONOCOPHILLIPS COMPANY, sent to the Hobbs Committed to AFMSS for processing by DEBORAH MCKINNEY on 03/14/2012 (12DLM0344SE)	
Name (Printed/Typed) BRIAN MAIORINO	Title AUTHORIZED REPRESENTATIVE
Signature (Electronic Submission)	Date 03/12/2012

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By TED MORGAN	Title PETROLEUM ENGINEER	Date 03/15/2012
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.		Office Hobbs

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.

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

MAR 20 2012

Additional data for EC transaction #132775 that would not fit on the form

32. Additional remarks, continued

Intermediate 1 Cmt

9-5/8" Csg: lead w/930 sx 50/50 Class C Poz + 2.5 gal/bbl WG-19 +
1 lbm/sk EconoCem-C (Yield: 2.48 cft/sk) Tail w/180 sx ?H? + HalCem C
(Yield 1.33 cft/sk) Circulate to surface. Based on 12.25" hole with 100% excess

Intermediate 2 Cmt

7" Csg lead w/420 sx 50/50 Class C Poz + 2.5 gal/bbl WG-19 +
1 lbm/sk EconoCem-C (Yield: 2.00 cft/sk) Tail w/79 sx ?H? + HalCem C (Yield 1.2 cft/sk)
circulate cement 500" into 9-5/8" casing. Based on 8-3/4"
Hole w/100% excess

4-1/2" Liner: No cmt to be pumped

All other aspects of the original APD are to stay the same.

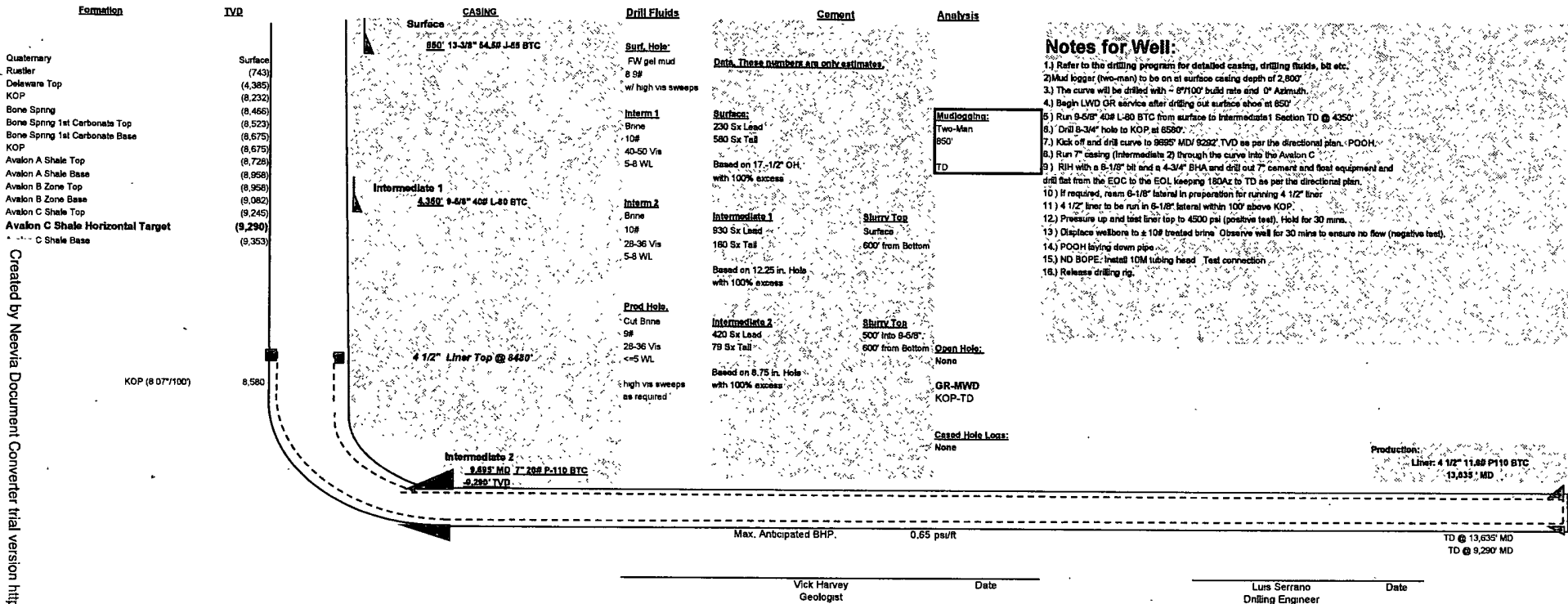
Please see attachments.

Revisions to Operator-Submitted EC Data for Sundry Notice #132775

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	APDCH NOI	APDCH NOI
Lease:	NMLC068281B	NMLC068281B
Agreement:		
Operator:	CONOCOPHILLIPS COMPANY 3300 N "A" ST MIDLAND, TX 79705 Ph: 432-688-6913	CONOCOPHILLIPS COMPANY 3300 N "A" ST BLDG 6 MIDLAND, TX 79705 Ph: 432.688.6913
Admin Contact:	BRIAN MAIORINO AUTHORIZED REPRESENTATIVE E-Mail: brian.d.maiorino@conocophillips.com Ph: 432-688-6913	BRIAN MAIORINO AUTHORIZED REPRESENTATIVE E-Mail: brian.d.maiorino@conocophillips.com Ph: 432-688-6913
Tech Contact:	BRIAN MAIORINO AUTHORIZED REPRESENTATIVE E-Mail: brian.d.maiorino@conocophillips.com Ph: 432-688-6913	BRIAN MAIORINO AUTHORIZED REPRESENTATIVE E-Mail: brian.d.maiorino@conocophillips.com Ph: 432-688-6913
Location:		
State:	NM	NM
County:	LEA	LEA
Field/Pool:	RED HILLS; BONE SPRINGS	RED HILLS
Well/Facility:	BUCK FEDERAL 20 2H Sec 20 T26S R32E 215FNL 1760FEL	BUCK FEDERAL 20 2H Sec 20 T26S R32E NWNE 330FNL 1650FEL

Buck Federal 20 #2H			
Surface Location:		Bottom Hole Location	
365FNL	1658FEL	330FSL	1668FEL

Directional:	MD	TVD	FN/FSL	FEL/FWL	S-T-R	AZI
Vertical KOP	8580	8580	0	0	0	180.0
End Build/ 7" Casing (90° curve)	9,895'	9,290'	0	0	0	180.0
Tangent	N/A	N/A	0	0	0	180.0
Turn	N/A	N/A	0	0	0	180.0
TD	13,635'	9,290'	0	0	0	180.0



DRILLING PLAN

PROSPECT/FIELD		Bonespring/Red Hills		COUNTY/STATE		Lea County, NM	
OWNERS		BURLINGTON RESOURCES		LEASE			
WELL NO.		Buck Federal 20 #2H		FNL		385	
LOCATION		Surface Location		FSL		1885	
EST. T.D.		Leg #1 13,635' MD		GROUND ELEV.		RKB 3155 (est) 3177'	

PROGNOSIS:				LOGS:			
Based on 3,155' KRB (+/-)				Type Interval			
MARKER		S.S. DEPTH		TVD		DEVIATION:	
Quaternary			Surface			Open Hole	KOP-TD
Rustler		2,412		743		GR-MWD	
Delaware Top		1,230		4,325			
Bone Spring		5,077		8,232			
Bone Spring 1st Carbonate Top		5,311		8,466		Surf:	3" max., evy every 50'
Bone Spring 1st Carbonate Base		1,368		8,523		Int1/2	3" max., evy every 90'
	KOP	5,520		8,676		Prod (vertical)	3" max., evy every 90'
Avalon A Shale Top		5,573		8,729		DST'S:	
Avalon A Shale Base		5,803		8,958			
Avalon B Zone Top		5,803		8,958			
Avalon B Zone Base		5,927		9,092			
Avalon C Shale Top		6,390		9,245			
Avalon C Shale Horizontal Target		6,135		9,290			
Avalon C Shale Base		6,198		9,353			

CORES:				SAMPLES:			
No core				Mudlogging Start End			
				Two-Man 850' TD Vertical and Horizontal sections			
BOP:				Surface Formation:			
Nations Pig M-09, BOPC (With Rotating Head)				COP Category 3 Well Control Requirements			
				13-5/8" SM pl Annular (Hydri GK)			
				13-5/8" SM pl Blind Ram (Cameron U)			
				13-5/8" SM pl Cross / Choke & Kill Line			
				13-5/8" SM pl Pipe Ram (Cameron U)			
				13-5/8" SM pl Spacer Spool			

MUD:		Interval		Type		Max. MW		Via		WL		Remarks	
Surface		0'-850'		Aquagel / Spud Mud		8.8		32-36		NC			
Intermediate 1		850'-4350'		Brine		10		28-30		5-8			
Intermediate 2		4350'-6695'		Brine		10		28-30		5-8			
Production		6695'-13685'		Cut Brine		0		30-40		5-8			

CASING:		Size		WT. ppf		Hole		Depth		Cement		WOC		Remarks	
Surface		13-3/8"		54.5		17-1/2"		850'		To Surface		18hr			
Intermediate 1		9-5/8"		40		12-1/4"		4,350'		To Surface		18hr			
Intermediate 2		7"		26		7"		6,695'		500' into the 9-5/8"		18hr			
Production Lat #1		5-1/2"		17		8-3/4"		13,635'		Packers and Sleeves		N/A		Liner	

DIRECTIONAL PLAN			
	MD	TVD	AZ
Surface	N/A	N/A	180
Vertical KOP	6,580'	8,580'	180.0
End Build 7" Casing (90° Curve)	9,595'	9,290'	180.0
Tangent	N/A	N/A	180.0
Turn	N/A	N/A	180.0
TD	13,635'	9,290'	180.0

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

Prep By:	Luis Serrano	Date:	2/28/12	Doc:	REV. 1
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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)

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

Intermediate1 Casing (Lead):

Intermediate Casing O.D. (In.)	9.625
Intermediate Casing ID (In)	8.835
Hole O.D. (In)	12.25
Excess (%)	100%
cap 12-1/4 - 9-5/8"	0.0558
Calculated fill:	3,650'

Yield Lead (Cu. Ft./Sx)

2.48

Calculated Total Lead (Cu. Ft.)

2,286

Calc. Lead Volume (Sx)

930

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")	5,400'
Yield Lead (Cu. Ft./Sx)	2.0

Calculated Total Lead (Cu. Ft.)

828

Calc. Lead Volume (Sx)

420

Intermediate1 Casing (Tail):

Intermediate Casing O.D. (In.)	9.625
Production Casing ID (In)	8.835
Hole O.D. (In)	12.25
Excess (%)	100%
cap 12-1/4 - 9-5/8"	0.0558
Calculated fill:	700'
Yield Tail (Cu. Ft./Sx)	1.33
Shoe Joint (Ft)	40
Shoe Volume (Cu. Ft)	17.0

Calc. Tail Volume (Cu. Ft.)

236

Required Tail Volume (Sx)

180

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



ConocoPhillips MCBU

Permian Hz Bonespring/Avalon

Buck Federal 20

Buck Federal 20 #2H

Buck Federal 20 #2H

Plan: Plan BLM

Standard Planning Report

28 February, 2012



Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Buck Federal 20 #2H
Company:	ConocoPhillips MCBU	TVD Reference:	WELL (copy) @ 3171.0ft (Original Well Elev)
Project:	Permian Hz Bonespring/Avalon	MD Reference:	WELL (copy) @ 3171.0ft (Original Well Elev)
Site:	Buck Federal 20	North Reference:	True
Well:	Buck Federal 20 #2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Buck Federal 20 #2H		
Design:	Plan BLM		

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	Buck Federal 20		
Site Position:		Northing:	m
From:	None	Easting:	m
Position Uncertainty:	0.0 ft	Slot Radius:	in
		Latitude:	
		Longitude:	
		Grid Convergence:	0.00 °

Well	Buck Federal 20 #2H		
Well Position	+N/-S	0.0 ft	Latitude: 27° 41' 16.664 N
	+E/-W	0.0 ft	Longitude: 105° 10' 51.259 W
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Ground Level:	3,149.0 ft

Wellbore	Buck Federal 20 #2H		
Magnetics	Model Name	Sample Date	Declination (°)
	BGGM2011	6/21/2011	7.92
			Dip Angle (°)
			55.41
			Field Strength (nT)
			45,610

Design	Plan BLM		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.0	0.0	0.0
			Direction (°)
			180.00

Plan Sections:										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(ft)	(ft)	Rate	Rate	Rate	(°)	
(ft)			(ft)			(°/100ft)	(°/100ft)	(°/100ft)		
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
8,580.0	0.00	0.00	8,580.0	0.0	0.0	0.00	0.00	0.00	0.00	
9,695.0	90.00	180.00	9,289.8	-709.8	0.0	8.07	8.07	0.00	180.00	
13,635.0	90.00	180.00	9,289.8	-4,649.8	0.0	0.00	0.00	0.00	0.00	

Database: EDM Central Planning
Company: ConocoPhillips MCBU
Project: Permian Hz Bonespring/Avalon
Site: Buck Federal 20
Well: Buck Federal 20 #2H
Wellbore: Buck Federal 20 #2H
Design: Plan BLM

Local Co-ordinate Reference: Well Buck Federal 20 #2H
TVD Reference: WELL (copy) @ 3171.0ft (Original Well Elev)
MD Reference: WELL (copy) @ 3171.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

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	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00

Database: EDM Central Planning
Company: ConocoPhillips MCBU
Project: Permian Hz Bonespring/Avalon
Site: Buck Federal 20
Well: Buck Federal 20 #2H
Wellbore: Buck Federal 20 #2H
Design: Plan BLM

Local Co-ordinate Reference: Well Buck Federal 20 #2H
TVD Reference: WELL (copy) @ 3171.0ft (Original Well Elev)
MD Reference: WELL (copy) @ 3171.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

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)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00
8,100.0	0.00	0.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,300.0	0.0	0.0	0.0	0.00	0.00	0.00
8,400.0	0.00	0.00	8,400.0	0.0	0.0	0.0	0.00	0.00	0.00
8,500.0	0.00	0.00	8,500.0	0.0	0.0	0.0	0.00	0.00	0.00
8,580.0	0.00	0.00	8,580.0	0.0	0.0	0.0	0.00	0.00	0.00
8,600.0	1.61	180.00	8,600.0	-0.3	0.0	0.3	8.06	8.06	0.00
8,700.0	9.69	180.00	8,699.4	-10.1	0.0	10.1	8.07	8.07	0.00
8,800.0	17.76	180.00	8,796.5	-33.8	0.0	33.8	8.07	8.07	0.00
8,900.0	25.83	180.00	8,889.3	-70.9	0.0	70.9	8.07	8.07	0.00
9,000.0	33.90	180.00	8,975.9	-120.7	0.0	120.7	8.07	8.07	0.00
9,100.0	41.97	180.00	9,054.7	-182.1	0.0	182.1	8.07	8.07	0.00
9,200.0	50.04	180.00	9,124.1	-254.0	0.0	254.0	8.07	8.07	0.00
9,300.0	58.12	180.00	9,182.7	-334.9	0.0	334.9	8.07	8.07	0.00
9,400.0	66.19	180.00	9,229.4	-423.3	0.0	423.3	8.07	8.07	0.00
9,500.0	74.26	180.00	9,263.2	-517.3	0.0	517.3	8.07	8.07	0.00
9,600.0	82.33	180.00	9,283.5	-615.1	0.0	615.1	8.07	8.07	0.00
9,695.0	90.00	180.00	9,289.8	-709.8	0.0	709.8	8.07	8.07	0.00
9,700.0	90.00	180.00	9,289.8	-714.9	0.0	714.9	0.00	0.00	0.00
9,800.0	90.00	180.00	9,289.8	-814.9	0.0	814.9	0.00	0.00	0.00
9,900.0	90.00	180.00	9,289.8	-914.9	0.0	914.9	0.00	0.00	0.00
10,000.0	90.00	180.00	9,289.8	-1,014.9	0.0	1,014.9	0.00	0.00	0.00
10,100.0	90.00	180.00	9,289.8	-1,114.9	0.0	1,114.9	0.00	0.00	0.00
10,200.0	90.00	180.00	9,289.8	-1,214.9	0.0	1,214.9	0.00	0.00	0.00
10,300.0	90.00	180.00	9,289.8	-1,314.9	0.0	1,314.9	0.00	0.00	0.00
10,400.0	90.00	180.00	9,289.8	-1,414.9	0.0	1,414.9	0.00	0.00	0.00

Database: EDM Central Planning
Company: ConocoPhillips MCBU
Project: Permian Hz Bonespring/Avalon
Site: Buck Federal 20
Well: Buck Federal 20 #2H
Wellbore: Buck Federal 20 #2H
Design: Plan BLM

Local Co-ordinate Reference: Well Buck Federal 20 #2H
TVD Reference: WELL (copy) @ 3171.0ft (Original Well Elev)
MD Reference: WELL (copy) @ 3171.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

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)
10,500.0	90.00	180.00	9,289.8	-1,514.9	0.0	1,514.9	0.00	0.00	0.00
10,600.0	90.00	180.00	9,289.8	-1,614.9	0.0	1,614.9	0.00	0.00	0.00
10,700.0	90.00	180.00	9,289.8	-1,714.9	0.0	1,714.9	0.00	0.00	0.00
10,800.0	90.00	180.00	9,289.8	-1,814.9	0.0	1,814.9	0.00	0.00	0.00
10,900.0	90.00	180.00	9,289.8	-1,914.9	0.0	1,914.9	0.00	0.00	0.00
11,000.0	90.00	180.00	9,289.8	-2,014.9	0.0	2,014.9	0.00	0.00	0.00
11,100.0	90.00	180.00	9,289.8	-2,114.9	0.0	2,114.9	0.00	0.00	0.00
11,200.0	90.00	180.00	9,289.8	-2,214.9	0.0	2,214.9	0.00	0.00	0.00
11,300.0	90.00	180.00	9,289.8	-2,314.9	0.0	2,314.9	0.00	0.00	0.00
11,400.0	90.00	180.00	9,289.8	-2,414.9	0.0	2,414.9	0.00	0.00	0.00
11,500.0	90.00	180.00	9,289.8	-2,514.9	0.0	2,514.9	0.00	0.00	0.00
11,600.0	90.00	180.00	9,289.8	-2,614.9	0.0	2,614.9	0.00	0.00	0.00
11,700.0	90.00	180.00	9,289.8	-2,714.9	0.0	2,714.9	0.00	0.00	0.00
11,800.0	90.00	180.00	9,289.8	-2,814.9	0.0	2,814.9	0.00	0.00	0.00
11,900.0	90.00	180.00	9,289.8	-2,914.9	0.0	2,914.9	0.00	0.00	0.00
12,000.0	90.00	180.00	9,289.8	-3,014.9	0.0	3,014.9	0.00	0.00	0.00
12,100.0	90.00	180.00	9,289.8	-3,114.9	0.0	3,114.9	0.00	0.00	0.00
12,200.0	90.00	180.00	9,289.8	-3,214.9	0.0	3,214.9	0.00	0.00	0.00
12,300.0	90.00	180.00	9,289.8	-3,314.9	0.0	3,314.9	0.00	0.00	0.00
12,400.0	90.00	180.00	9,289.8	-3,414.9	0.0	3,414.9	0.00	0.00	0.00
12,500.0	90.00	180.00	9,289.8	-3,514.9	0.0	3,514.9	0.00	0.00	0.00
12,600.0	90.00	180.00	9,289.8	-3,614.9	0.0	3,614.9	0.00	0.00	0.00
12,700.0	90.00	180.00	9,289.8	-3,714.9	0.0	3,714.9	0.00	0.00	0.00
12,800.0	90.00	180.00	9,289.8	-3,814.9	0.0	3,814.9	0.00	0.00	0.00
12,900.0	90.00	180.00	9,289.8	-3,914.9	0.0	3,914.9	0.00	0.00	0.00
13,000.0	90.00	180.00	9,289.8	-4,014.9	0.0	4,014.9	0.00	0.00	0.00
13,100.0	90.00	180.00	9,289.8	-4,114.9	0.0	4,114.9	0.00	0.00	0.00
13,200.0	90.00	180.00	9,289.8	-4,214.9	0.0	4,214.9	0.00	0.00	0.00
13,300.0	90.00	180.00	9,289.8	-4,314.9	0.0	4,314.9	0.00	0.00	0.00
13,400.0	90.00	180.00	9,289.8	-4,414.9	0.0	4,414.9	0.00	0.00	0.00
13,500.0	90.00	180.00	9,289.8	-4,514.9	0.0	4,514.9	0.00	0.00	0.00
13,600.0	90.00	180.00	9,289.8	-4,614.9	0.0	4,614.9	0.00	0.00	0.00
13,635.0	90.00	180.00	9,289.8	-4,649.8	0.0	4,649.8	0.00	0.00	0.00

Buck Federal 20 2H
ConocoPhillips Company
30-025-
March 15, 2012
Conditions of Approval

Summary of Current Status:

- APD approved with 13-3/8" x 9-5/8" x 5-1/2" casing with 5-1/2" cemented to TD.
- Bone Springs horizontal well.

Requests:

Sundry dated 3/12/2012 includes the following:

- Modify casing program to be 13-3/8" x 9-5/8" x 7" x 4-1/2" liner, with 7" set in build to 90°, and with uncemented liner in drainhole to TD. The Operator states intention to set the surface casing shoe at 850'.
- Adjust cement design for 13-3/8" x 9-5/8" x 7" with two strings cemented to surface.

Conditions of Approval:

1. The original APD COA and already approved sundries shall continue to be applicable for this well.
2. The **13-3/8"** surface casing shoe is required to be at approximately **1015'** (**a minimum of 25' into the Rustler Anhydrite and above the salt**). This is necessary to cover all anticipated fresh water zones. Please refer to the original Conditions of Approval for the APD.
3. The **9-5/8"** intermediate casing point is recommended to be **4360'** as stated in the directional drilling attachment of the sundry. This is within the Lamar Limestone.
4. Additionally, the currently approved 3M Blowout Preventer Equipment (BOPE) specification for this well has 13-5/8" bore and is installed on 13-5/8" multi-bowl wellhead system. **All BOPE shall always meet the standards of the Onshore Orders.** Should revisions to the BOPE be required as a result of this sundry for revised casing and liner specifications, then information on the modified BOPE must be submitted to the BLM for advance approval. **BOPE shall always be capable of complete closure of the wellbore.**

TMM 03/15/2012