

Submit 1 Copy To Appropriate District
Office
District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II - (575) 748-1283
811 S First St, Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Rd, Aztec, NM 87001
District IV - (505) 476-3460
1220 S St Francis Dr, Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103

Revised August 1, 2011

WELL API NO. 30-025-40415
5. Indicate Type of Lease STATE ☒ FEE ☐
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name Red Hills West 16 State
8. Well Number 6H
9. OGRID Number 217817
10. Pool name or Wildcat Bone Spring
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3202

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH
PROPOSALS.)

1. Type of Well: Oil Well ☒ Gas Well ☐ Other

2. Name of Operator
ConocoPhillips Company

3. Address of Operator
P.O. Box 51810 Midland, Tx 79710

4. Well Location
Unit Letter C : 180 feet from the N line and 2010 feet from the W line
Section 16 Township 26S Range 32E NMPM Lea County

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐

SUBSEQUENT REPORT OF:

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

OTHER: Revise Drill Plan

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

ConocoPhillips Company respectfully request to amend the drill plan that is currently on file for the above proposed well. Please see attached information.

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE

TITLE

Sr. Regulatory Advisor

DATE

9/21/12

Type or print name

Donna Williams

E-mail address

Donna.J.Williams@

Conocophillips.com

PHONE:

432-688-6943

For State Use Only

APPROVED BY:

TITLE

Petroleum Engineer

DATE

SEP 26 2012

Conditions of Approval (if any):

SEP 26 2012

DRILLING PLAN

PROSPECT/FIELD	Bonespring/Red Hills	COUNTY/STATE	Lea County, NM
OWNERS	ConocoPhillips	LEASE	
WELL NO	Red Hills West 16 State 6H	FNL	FSL
LOCATION	Surface Location	180	FEL
	Bottom Hole Location	330	FWL
EST. T.D	Leg #1 13,898' MD	GROUND ELEV.	3,202' (est)
		RKB	3,218' (est)

PROGNOSIS:	Based on 3,218' KB(est)	LOGS	Type	Interval
MARKER			Open Hole	
Quaternary			GR-MWD	KOP-TD
Rustler	2,350			
Delaware Top	-1,213			
Bone Spring	-8,278			
Bone Spring 1st Carbonate Top	-5,275			
Bone Spring 1st Carbonate Base	-5,575			
KOP				9,042
Avalon A Shale Top	-5,575			8,793
Avalon A Shale Base	-5,805			9,023
Avalon B Zone Top	-5,805	9,111		9,023
Avalon B Zone Base	-5,945	9,292		9,163
Avalon C Shale Top	-5,945	9,375		9,163
Avalon C Shale Horizontal Target	-6,123			9,341
Avalon C Shale Base	-6,210			9,428

DEVIATION	Surf	3" max, svy every 200' with MWD
	Int #1/2	7" max, svy every 30' with MWD (Nudge)
	Interm #2 Curve	90° svy every 30'
	Prod Lateral	90° svy every 30'
DST'S		
CORES	No core	
SAMPLES:	Mudlogging	Start
	Two-Man	910'
		End
		TD
		Vertical and Horizontal sections
BOP		
		COP Category 3 Well Control Requirements
		(Precision 827 BOPE
		(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 Spacer Spool

Dip Rate (See inclination prediction)

Max. Anticipated BHP	0.65 psi/ft	Surface Formation:	
MUD	Interval	Type	Max. MW
Surface	0'-910'	Aqueal - Spud Mud	8.9
Intermediate 1	910'-4465'	Brine	10
Intermediate 2	4465'-9799'	Brine	9.3
Production	9799'-13891'	Cut Brine	9.3

CASING	Size	Wt ppf	Hole	Depth	Cement	WOC	Remarks
Surface	13-3/8"	54.5	17-1/2"	910'	To Surface	18hrs	
Intermediate 1	9-5/8"	36	12-1/4"	4,465'	To Surface	18hrs	
Intermediate 2	7"	29	8 3/4"	9,799'	500' into the 9-5/8"	18hrs	
Production Lat #1	4 1/2"	11.6	6 1/8"	13,898'	Packers and Sleeves	N/A	Liner

DIRECTIONAL PLAN	MD	TVD	AZ	
Surface	N/A	N/A	0	
Vertical KOP	8,572	8,572	0.0	Directional Company DDC
End Build/ 7" Casing (90° curve)	9,799	9,341	143.0	Vertical Build Rate 8.0 ' /100'
Tangent	N/A	N/A	179.6	Tan Leg Turn Rate 4.8 ' /100'
Turn	N/A	N/A	179.6	
TD	13,898	9,348	179.6	

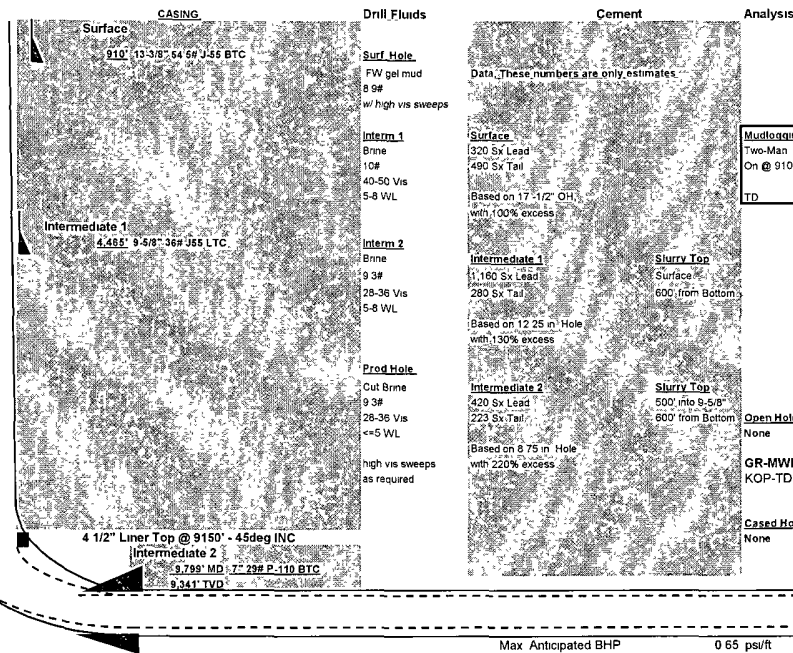
Comments
Surveys will be taken with INC Survey Tool below surface casing while drilling with PDC + Scout Vertical Seeking Tool + Straight Motor BHA

Prep By:	Katia Filina	Date	9/20/12	Doc	REV 1
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Red Hills West 16 State 6H	
Surface Location: 180FNL	Bottom Hole Location: 330FSU
FEL	FEL

Directional:	MD	TVD	FNL/FSL	FEL/FWL	S.T.R	AZI
Vertical KOP	8572	8572	0	0	0	0
End Build 7" Casing (90° curve)	9,799	9,341	0	0	0	143.0
Tangent	N/A	N/A	0	0	0	179.6
Turn	N/A	N/A	0	0	0	179.6
TD	13,898	9,348	0	0	0	179.6

Formation	TVD
Quaternary	Surface
Rustler	868
Delaware Top	4,431
KOP	8,278
Bone Spring	8,493
Bone Spring 1st Carbonate Top	8,793
Bone Spring 1st Carbonate Base	9,042
KOP	9,042
Avalon A Shale Top	8,793
Avalon A Shale Base	9,023



Notes for Well:

Drill 17-1/2" surface hole with conventional BHA and MWD. RIH 13 3/8" CSG and cement it up to surface. Install well head and NU BOP. CSG Pressure Test and FIT.
Mud logger (two-man) to be on at surface casing depth of 910'.
Drill 12-1/4" Intermediate #1 hole with Mud Motor Directional BHA+MWD nudging 5-6deg INC away from 16 2H well on the pad.
RIH 9 5/8" CSG till 4465' and cement it up to surface.
Drill 8 3/4" Intermediate #2 hole with directional mud motor BHA+MWD till 8571'.
Begin GR-MWD service after KOP 8571'.
The 8 3/4" curve will be drilled with ~ 8"/100' build rate and 179.6° Azimuth with PDM+MWD till 9799' MD/ 9341' TVD.
Run 7" CSG from surface to 9799' and cement it 500ft into 9 5/8".
The 6 1/8" Lateral will be drilled with PDM+MWD till TD 13898' MD/ 9348' TVD holding 89.9° INC & 179.6° Azim.
POOH Backreaming after circulating the hole until clean returns.
RIH 4 1/2" Liner with around 20-28 Stages of Open Hole Completion. Packers and Sliding Sleeves.
Displace cement with 5% KCl Brine.
POOH laying down 4in Drill Pipe.
NO BOPE. Install 10M Lubing head. Test connection.
Release drilling rig.

Mudlogging
Two-Man
On @ 910'
TD

Open Hole
None
GR-MWD
KOP-TD

Cased Hole Logs
None

Production
Liner 4 1/2" 11 6/8" P110 BTC
13,898' MD

Max Anticipated BHP 0.65 psi/ft

TD @ 13,898' MD
TD @ 9,348' MD

David Sills
Geologist
Date 9/20/2012

Katra Fitma
Drilling Engineer
Date 9/20/2012

Bonespring/Red Hills
 ConocoPhillips
 Red Hills West 16 State 6H

Surface Casing:

Surface Casing Depth (Ft)	910
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.)	1,299
Calc. Tail Volume (Cu. Ft.)	417
Calc. Lead Volume (Cu. Ft.)	847
Calc. Lead Volume (Sx)	490

Intermediate1 Casing (Lead):

Intermediate Casing O.D. (In.)	9.625
Intermediate Casing ID (In)	8.921
Hole O.D. (In)	12.25
Excess (%)	130%
cap 12-1/4 - 9-5/8"	0.0558
Calculated fill:	3,965'
Yield Lead (Cu. Ft./Sx)	2.47
Calculated Total Lead (Cu. Ft.)	2,856
Calc. Lead Volume (Sx)	1,160

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")	4,584'
Yield Lead (Cu. Ft./Sx)	2.0
Calculated Total Lead (Cu. Ft.)	828
Calc. Lead Volume (Sx)	420

3965
 8,549'

Intermediate1 Casing (Tail):

Intermediate Casing O.D. (In.)	9.625
Production Casing ID (In)	8.921
Hole O.D. (In)	12.25
Excess (%)	220%
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)	17.4
Calc. Tail Volume (Cu. Ft.)	362
Required Tail Volume (Sx)	280

Intermediate2 Casing (Tail):

Intermediate Casing O.D. (In.)	7.000
Intermediate Casing ID (In)	6.184
Hole O.D. (In)	8.75
Excess (%)	135%
cap 7" - 8-3/4" bls/ft	0.0268
cap 7 - 9-5/8" bls/ft	0.02823
Calculated fill:	1,250'
Yield Lead (Cu. Ft./Sx)	1.2
Calculated Total Tail (Cu. Ft.)	267
Required Tail Volume (Sx)	223



Conoco Phillips

Lea County, New Mexico
Sec 16, T26S, R32E NMPM
Red Hills West 16 State #6H

Wellbore #1

Plan: Design #1

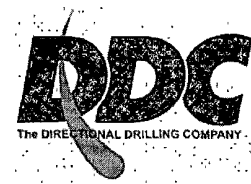
HOBBS OCD

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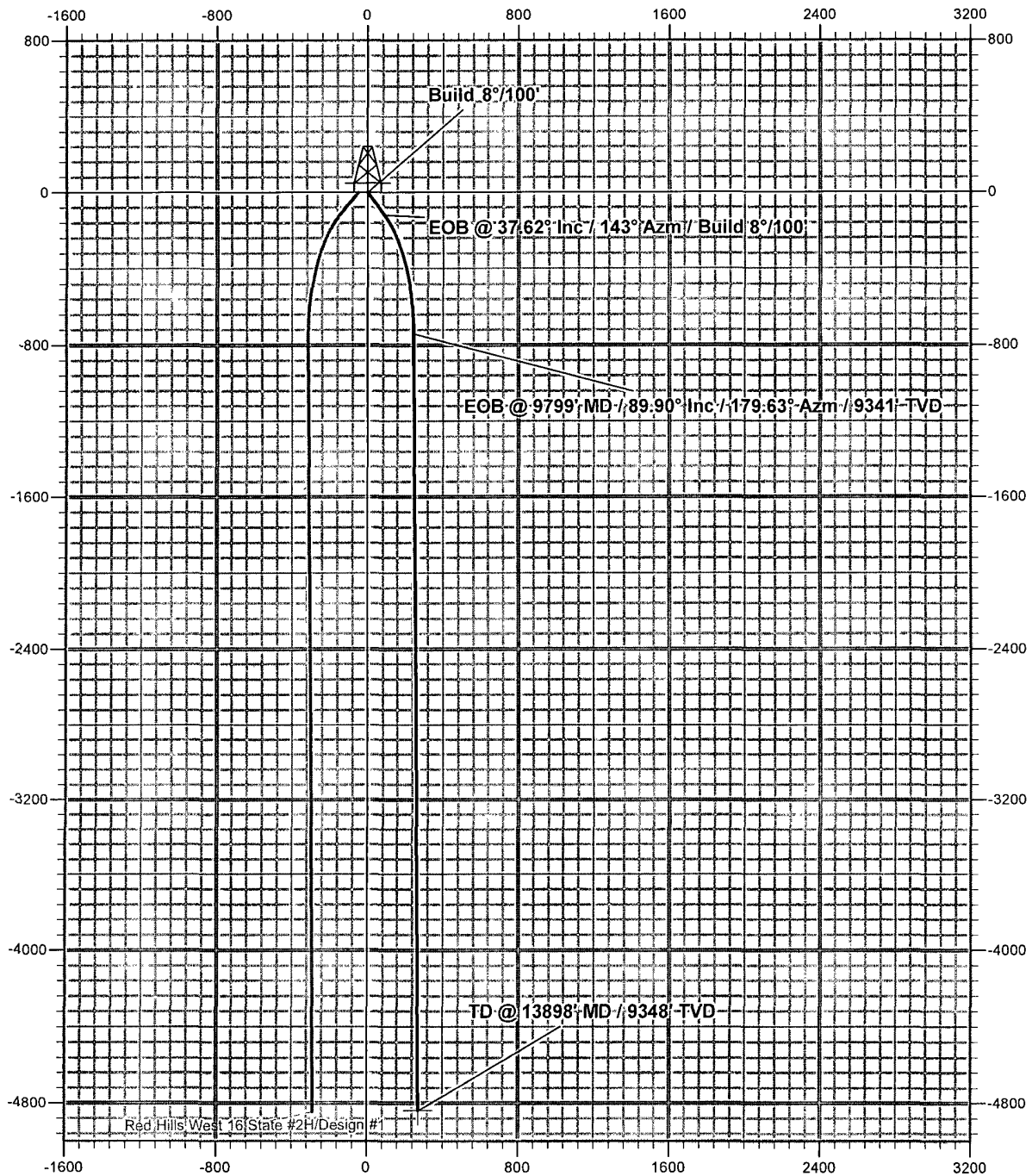
DDC Well Planning Report

10 September, 2012



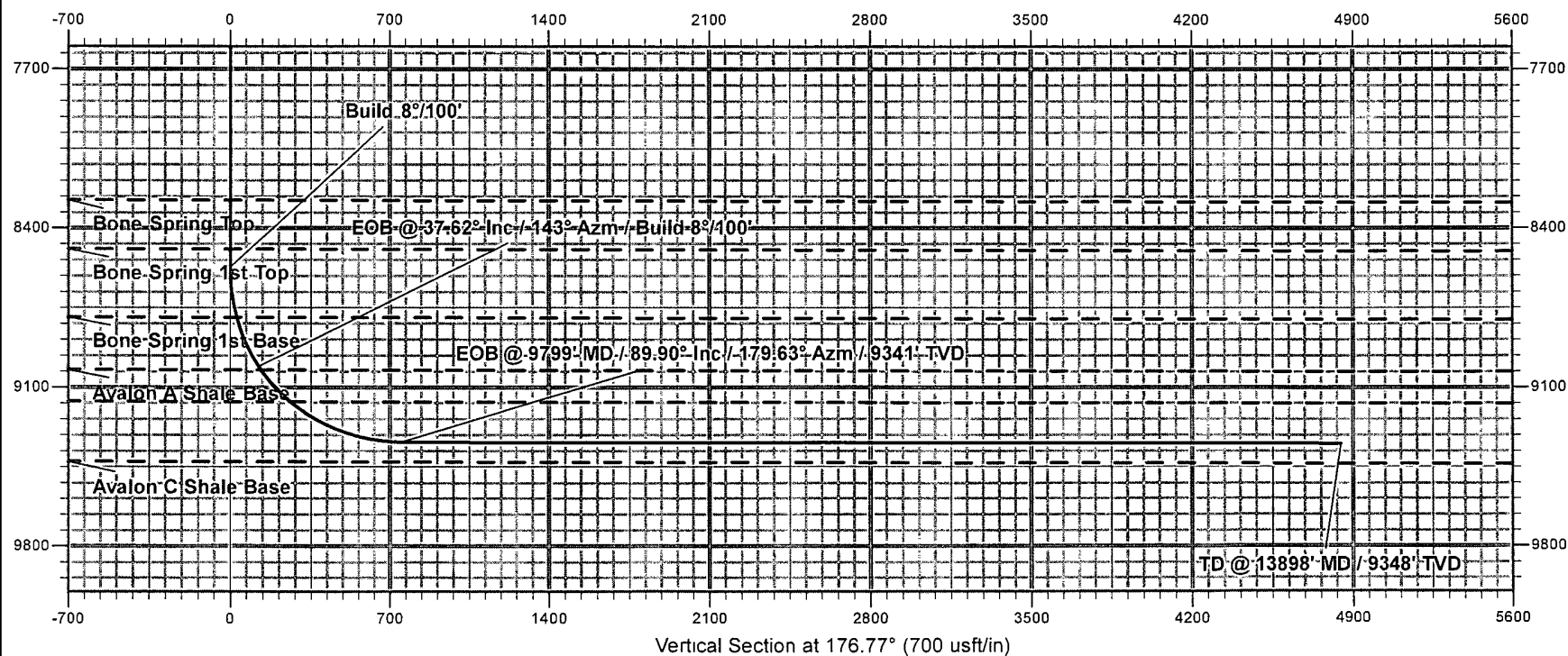
ConocoPhillips

Lea County, New Mexico
Red Hills West 16 State #6H
Design #1





Lea County, New Mexico
Red Hills West 16 State #6H
Design #1



Database:	EDM 5000 1 Single User Db	Local Co-ordinate Reference:	Well Red Hills West 16 State #6H
Company:	Conoco Phillips	TVD Reference:	WELL @ 3218 0usft (Original Well Elev)
Project:	Lea County, New Mexico	MD Reference:	WELL @ 3218 0usft (Original Well Elev)
Site:	Sec 16, T26S, R32E NMPM	North Reference:	Grid
Well:	Red Hills West 16 State #6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project: Lea County, New 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		Sec 16, T26S, R32E NMPM			
Site Position:		Northing:	382,382 50 usft	Latitude:	32° 2' 58.675 N
From:	Map	Easting:	700,544 80 usft	Longitude:	103° 41' 9.818 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0 34

Well	Red Hills West 16 State #6H					
Well Position	+N/-S	-11 0 usft	Northing:	382,371.46 usft	Latitude:	32° 2' 58.484 N
	+E/-W	1,365.8 usft	Easting:	701,910.57 usft	Longitude:	103° 40' 53.951 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	3,202.0 usft

Wellbore					
Wellbore #1					
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	9/10/2012	7.47	59.98	48,377

Design	Design #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E/-W (usft)	Direction (°)
	0 0	0.0	0.0	176.77

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	
8,571.8	0.00	0.00	8,571.8	0.0	0.0	0.00	0.00	0.00	0.00	
9,042.0	37.62	143.00	9,009.0	-118.9	89.6	8.00	8.00	0.00	143.00	
9,799.3	89.90	179.63	9,341.0	-741.2	246.0	8.00	6.90	4.84	43.23	
13,898.1	89.90	179.63	9,348.0	-4,839.9	272.8	0.00	0.00	0.00	0.00	PBHL Red Hills We

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Red Hills West 16 State #6H
Company:	Conoco Phillips	TVD Reference:	WELL @ 3218.0usft (Original Well Elev)
Project:	Lea County, New Mexico	MD Reference:	WELL @ 3218.0usft (Original Well Elev)
Site:	Sec 16, T26S, R32E, NMPM	North Reference:	Grid
Well:	Red Hills West 16 State #6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (%/100usft)	Build Rate (%/100usft)	Turn Rate (%/100usft)
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
Rustler									
868.0	0.00	0.00	868.0	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
Salado									
964.0	0.00	0.00	964.0	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
Castile									
2,768.0	0.00	0.00	2,768.0	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
Delaware Top									
4,431.0	0.00	0.00	4,431.0	0.0	0.0	0.0	0.00	0.00	0.00
Ramsey									

Database: EDM:5000:1 Single User Db
Company: ConocoPhillips
Project: Lea County, New Mexico
Site: Sec 16 T26S R32E NMPM
Well: Red Hills West 16 State #6H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well Red Hills West 16 State #6H
TVD Reference: WELL @ 3218'0usft (Original Well Elev)
MD Reference: WELL @ 3218'0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,469.0	0.00	0.00	4,469.0	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
Ford Sh									
4,530.0	0.00	0.00	4,530.0	0.0	0.0	0.0	0.00	0.00	0.00
Olds									
4,543.0	0.00	0.00	4,543.0	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
Cherry Canyon									
5,398.0	0.00	0.00	5,398.0	0.0	0.0	0.0	0.00	0.00	0.00
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
Brushy Canyon									
7,118.0	0.00	0.00	7,118.0	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
Bone Spring Top									
8,278.0	0.00	0.00	8,278.0	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
Bone Spring 1st Top									
8,493.0	0.00	0.00	8,493.0	0.0	0.0	0.0	0.00	0.00	0.00

Database:	EDM:5000-1-Single User Db	Local Co-ordinate Reference:	Well Red Hills West 16 State #6H
Company:	Conoco Phillips	TVD Reference:	WELL @ 3218.0usft (Original Well Elev)
Project:	Lea County: New Mexico	MD Reference:	WELL @ 3218.0usft (Original Well Elev)
Site:	Sec 16 T26S, R32E NMPM	North Reference:	Grid
Well:	Red Hills West 16 State #6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,500.0	0.00	0.00	8,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Build 8°/100									
8,571.8	0.00	0.00	8,571.8	0.0	0.0	0.0	0.00	0.00	0.00
8,600.0	2.26	143.00	8,600.0	-0.4	0.3	0.5	8.00	8.00	0.00
8,700.0	10.26	143.00	8,699.3	-9.1	6.9	9.5	8.00	8.00	0.00
Bone Spring 1st Base - Avalon A Shale Top									
8,796.7	17.99	143.00	8,793.1	-28.0	21.1	29.1	8.00	8.00	0.00
8,800.0	18.26	143.00	8,796.2	-28.8	21.7	30.0	8.00	8.00	0.00
8,900.0	26.26	143.00	8,888.6	-59.0	44.5	61.4	8.00	8.00	0.00
9,000.0	34.26	143.00	8,974.9	-99.2	74.8	103.3	8.00	8.00	0.00
EOB @ 37.62° Inc / 143° Azm / Build 8°/100									
9,042.0	37.62	143.00	9,009.0	-118.9	89.6	123.8	8.00	8.00	0.00
Avalon A Shale Base - Avalon B Zone Top									
9,060.2	38.69	144.59	9,023.2	-128.0	96.2	133.2	8.00	5.89	8.77
9,100.0	41.10	147.83	9,053.8	-149.2	110.4	155.2	8.00	6.06	8.14
9,200.0	47.50	154.73	9,125.4	-210.5	143.7	218.2	8.00	6.40	6.90
Avalon B Zone Base - Avalon C Shale Top									
9,258.6	51.41	158.12	9,163.5	-251.3	161.5	259.9	8.00	6.68	5.80
9,300.0	54.23	160.31	9,188.5	-282.1	173.2	291.4	8.00	6.81	5.27
9,400.0	61.18	165.00	9,241.9	-362.7	198.2	373.3	8.00	6.95	4.69
9,500.0	68.27	169.10	9,284.6	-450.8	218.4	462.4	8.00	7.09	4.10
9,600.0	75.45	172.81	9,315.7	-544.6	233.2	556.9	8.00	7.18	3.71
9,700.0	82.69	176.29	9,334.6	-642.3	242.5	654.9	8.00	7.24	3.47
EOB @ 89.90° MD / 89.90° Inc / 179.63° Azm / 9341.1 TVD									
9,799.3	89.90	179.63	9,341.0	-741.2	246.0	753.9	8.00	7.26	3.36
9,800.0	89.90	179.63	9,341.0	-741.9	246.0	754.6	0.00	0.00	0.00
9,900.0	89.90	179.63	9,341.2	-841.9	246.7	854.5	0.00	0.00	0.00
10,000.0	89.90	179.63	9,341.4	-941.9	247.3	954.3	0.00	0.00	0.00
10,100.0	89.90	179.63	9,341.6	-1,041.9	248.0	1,054.2	0.00	0.00	0.00
10,200.0	89.90	179.63	9,341.7	-1,141.9	248.6	1,154.1	0.00	0.00	0.00
10,300.0	89.90	179.63	9,341.9	-1,241.9	249.3	1,254.0	0.00	0.00	0.00
10,400.0	89.90	179.63	9,342.1	-1,341.9	249.9	1,353.8	0.00	0.00	0.00
10,500.0	89.90	179.63	9,342.2	-1,441.9	250.6	1,453.7	0.00	0.00	0.00
10,600.0	89.90	179.63	9,342.4	-1,541.9	251.3	1,553.6	0.00	0.00	0.00
10,700.0	89.90	179.63	9,342.6	-1,641.9	251.9	1,653.5	0.00	0.00	0.00
10,800.0	89.90	179.63	9,342.7	-1,741.9	252.6	1,753.3	0.00	0.00	0.00
10,900.0	89.90	179.63	9,342.9	-1,841.9	253.2	1,853.2	0.00	0.00	0.00
11,000.0	89.90	179.63	9,343.1	-1,941.9	253.9	1,953.1	0.00	0.00	0.00
11,100.0	89.90	179.63	9,343.2	-2,041.9	254.5	2,053.0	0.00	0.00	0.00
11,200.0	89.90	179.63	9,343.4	-2,141.9	255.2	2,152.8	0.00	0.00	0.00
11,300.0	89.90	179.63	9,343.6	-2,241.9	255.8	2,252.7	0.00	0.00	0.00
11,400.0	89.90	179.63	9,343.8	-2,341.9	256.5	2,352.6	0.00	0.00	0.00
11,500.0	89.90	179.63	9,343.9	-2,441.9	257.1	2,452.5	0.00	0.00	0.00
11,600.0	89.90	179.63	9,344.1	-2,541.9	257.8	2,552.3	0.00	0.00	0.00
11,700.0	89.90	179.63	9,344.3	-2,641.9	258.4	2,652.2	0.00	0.00	0.00
11,800.0	89.90	179.63	9,344.4	-2,741.9	259.1	2,752.1	0.00	0.00	0.00
11,900.0	89.90	179.63	9,344.6	-2,841.9	259.7	2,852.0	0.00	0.00	0.00
12,000.0	89.90	179.63	9,344.8	-2,941.9	260.4	2,951.8	0.00	0.00	0.00
12,100.0	89.90	179.63	9,344.9	-3,041.9	261.0	3,051.7	0.00	0.00	0.00
12,200.0	89.90	179.63	9,345.1	-3,141.9	261.7	3,151.6	0.00	0.00	0.00
12,300.0	89.90	179.63	9,345.3	-3,241.9	262.3	3,251.5	0.00	0.00	0.00
12,400.0	89.90	179.63	9,345.5	-3,341.8	263.0	3,351.4	0.00	0.00	0.00
12,500.0	89.90	179.63	9,345.6	-3,441.8	263.7	3,451.2	0.00	0.00	0.00

Database:	EDM 5000.1, Single User Db	Local Co-ordinate Reference:	Well Red Hills West 16 State #6H
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Project:	Lea County, New Mexico	MD Reference:	WELL @ 3218.0usft (Original Well Elev)
Site:	Sec 16, T26S, R32E NMPM	North Reference:	Grid
Well:	Red Hills West 16 State #6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
12,600.0	89.90	179.63	9,345.8	-3,541.8	264.3	3,551.1	0.00	0.00	0.00	
12,700.0	89.90	179.63	9,346.0	-3,641.8	265.0	3,651.0	0.00	0.00	0.00	
12,800.0	89.90	179.63	9,346.1	-3,741.8	265.6	3,750.9	0.00	0.00	0.00	
12,900.0	89.90	179.63	9,346.3	-3,841.8	266.3	3,850.7	0.00	0.00	0.00	
13,000.0	89.90	179.63	9,346.5	-3,941.8	266.9	3,950.6	0.00	0.00	0.00	
13,100.0	89.90	179.63	9,346.6	-4,041.8	267.6	4,050.5	0.00	0.00	0.00	
13,200.0	89.90	179.63	9,346.8	-4,141.8	268.2	4,150.4	0.00	0.00	0.00	
13,300.0	89.90	179.63	9,347.0	-4,241.8	268.9	4,250.2	0.00	0.00	0.00	
13,400.0	89.90	179.63	9,347.2	-4,341.8	269.5	4,350.1	0.00	0.00	0.00	
13,500.0	89.90	179.63	9,347.3	-4,441.8	270.2	4,450.0	0.00	0.00	0.00	
13,600.0	89.90	179.63	9,347.5	-4,541.8	270.8	4,549.9	0.00	0.00	0.00	
13,700.0	89.90	179.63	9,347.7	-4,641.8	271.5	4,649.7	0.00	0.00	0.00	
13,800.0	89.90	179.63	9,347.8	-4,741.8	272.1	4,749.6	0.00	0.00	0.00	
TD @ 13898 MD / 9348 TVD										
13,898.1	89.90	179.63	9,348.0	-4,839.9	272.8	4,847.6	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude		
- hit/miss target										
- Shape										
PBHL Red Hills West	0.00	0.00	9,348.0	-4,839.9	272.8	377,531.53	702,183.35	32° 2' 10.572 N 103° 40' 51.121 W		
- plan hits target center										
- Point										

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
868.0	868.0	Rustler		0.10	176.77	
964.0	964.0	Salado		0.10	176.77	
2,768.0	2,768.0	Castile		0.10	176.77	
4,431.0	4,431.0	Delaware Top		0.10	176.77	
4,469.0	4,469.0	Ramsey		0.10	176.77	
4,530.0	4,530.0	Ford Sh		0.10	176.77	
4,543.0	4,543.0	Olds		0.10	176.77	
5,398.0	5,398.0	Cherry Canyon		0.10	176.77	
7,118.0	7,118.0	Brushy Canyon		0.10	176.77	
8,278.0	8,278.0	Bone Spring Top		0.10	176.77	
8,493.0	8,493.0	Bone Spring 1st Top		0.10	176.77	
8,796.7	8,793.1	Bone Spring 1st Base		0.10	176.77	
8,796.7	8,793.1	Avalon A Shale Top		0.10	176.77	
9,060.2	9,023.2	Avalon A Shale Base		0.10	176.77	
9,060.2	9,023.2	Avalon B Zone Top		0.10	176.77	
9,258.6	9,163.5	Avalon B Zone Base		0.10	176.77	
9,258.6	9,163.5	Avalon C Shale Top		0.10	176.77	

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Site:	Sec 16, T26S, R32E, NMPM	North Reference:	Grid
Well:	Red Hills West 16 State #6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,571.8	8,571.8	0.0	0.0	Build 8°/100'
9,042.0	9,009.0	-118.9	89.6	EOB @ 37.62° Inc / 143° Azm / Build 8°/100'
9,799.3	9,341.0	-741.2	246.0	EOB @ 9799' MD / 89.90° Inc / 179 63° Azm / 9341' TVD
13,898.1	9,348.0	-4,839.9	272.8	TD @ 13898' MD / 9348' TVD