

SandRidge Energy

North Park Basin

T7N-R81W-S10

Beaver Creek 0881 1-3H

Wellbore #1

Plan: Pilot Hole

Standard Survey Report

06 September, 2017

SandRidge Energy

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Beaver Creek 0881 1-3H
Project:	North Park Basin	TVD Reference:	KB @ 8266.0usft
Site:	T7N-R81W-S10	MD Reference:	KB @ 8266.0usft
Well:	Beaver Creek 0881 1-3H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Pilot Hole	Database:	EDMProd

Project	North Park Basin		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	T7N-R81W-S10					
Site Position:		Northing:	1,462,405.44 usft	Latitude:	40° 35' 55.092 N	
From:	Map	Easting:	2,729,967.12 usft	Longitude:	106° 28' 20.748 W	
Position Uncertainty:		0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.63 °

Well	Beaver Creek 0881 1-3H					
Well Position	+N-S	0.0 usft	Northing:	1,462,405.44 usft	Latitude:	40° 35' 55.092 N
	+E-W	0.0 usft	Easting:	2,729,967.12 usft	Longitude:	106° 28' 20.748 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	8,250.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	9.93	66.97	53,188

Design	Pilot Hole				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	0.00	

Survey Tool Program	Date	9/6/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	6,047.8	Pilot Hole (Wellbore #1)	Sperry MWD	Fixed:v2:standard declination	

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	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00	

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Pilot Hole	Database:	EDMPProd

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)
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
Start Build 2.00									
1,600.0	2.00	90.00	1,600.0	0.0	1.7	0.0	2.00	2.00	0.00
1,700.0	4.00	90.00	1,699.8	0.0	7.0	0.0	2.00	2.00	0.00
1,800.0	6.00	90.00	1,799.5	0.0	15.7	0.0	2.00	2.00	0.00
1,900.0	8.00	90.00	1,898.7	0.0	27.9	0.0	2.00	2.00	0.00
2,000.0	10.00	90.00	1,997.5	0.0	43.5	0.0	2.00	2.00	0.00
2,100.0	12.00	90.00	2,095.6	0.0	62.6	0.0	2.00	2.00	0.00
2,200.0	14.00	90.00	2,193.1	0.0	85.1	0.0	2.00	2.00	0.00
2,300.0	16.00	90.00	2,289.6	0.0	111.0	0.0	2.00	2.00	0.00
2,400.0	18.00	90.00	2,385.3	0.0	140.2	0.0	2.00	2.00	0.00
2,500.0	20.00	90.00	2,479.8	0.0	172.8	0.0	2.00	2.00	0.00
2,600.0	22.00	90.00	2,573.2	0.0	208.6	0.0	2.00	2.00	0.00
2,700.0	24.00	90.00	2,665.2	0.0	247.7	0.0	2.00	2.00	0.00
2,800.0	26.00	90.00	2,755.8	0.0	289.9	0.0	2.00	2.00	0.00
2,900.0	28.00	90.00	2,844.9	0.0	335.3	0.0	2.00	2.00	0.00
3,000.0	30.00	90.00	2,932.4	0.0	383.8	0.0	2.00	2.00	0.00
3,077.9	31.56	90.00	2,999.3	0.0	423.7	0.0	2.00	2.00	0.00
Start 2969.9 hold at 3077.9 MD									
3,100.0	31.56	90.00	3,018.2	0.0	435.2	0.0	0.00	0.00	0.00
3,200.0	31.56	90.00	3,103.4	0.0	487.6	0.0	0.00	0.00	0.00
3,300.0	31.56	90.00	3,188.6	0.0	539.9	0.0	0.00	0.00	0.00
3,400.0	31.56	90.00	3,273.8	0.0	592.2	0.0	0.00	0.00	0.00
3,500.0	31.56	90.00	3,359.0	0.0	644.6	0.0	0.00	0.00	0.00
3,600.0	31.56	90.00	3,444.2	0.0	696.9	0.0	0.00	0.00	0.00
3,700.0	31.56	90.00	3,529.4	0.0	749.3	0.0	0.00	0.00	0.00
3,800.0	31.56	90.00	3,614.6	0.0	801.6	0.0	0.00	0.00	0.00
3,900.0	31.56	90.00	3,699.8	0.0	853.9	0.0	0.00	0.00	0.00
4,000.0	31.56	90.00	3,785.1	0.0	906.3	0.0	0.00	0.00	0.00
4,100.0	31.56	90.00	3,870.3	0.0	958.6	0.0	0.00	0.00	0.00
4,200.0	31.56	90.00	3,955.5	0.0	1,010.9	0.0	0.00	0.00	0.00
4,300.0	31.56	90.00	4,040.7	0.0	1,063.3	0.0	0.00	0.00	0.00
4,400.0	31.56	90.00	4,125.9	0.0	1,115.6	0.0	0.00	0.00	0.00
4,500.0	31.56	90.00	4,211.1	0.0	1,167.9	0.0	0.00	0.00	0.00
4,600.0	31.56	90.00	4,296.3	0.0	1,220.3	0.0	0.00	0.00	0.00
4,700.0	31.56	90.00	4,381.5	0.0	1,272.6	0.0	0.00	0.00	0.00
4,800.0	31.56	90.00	4,466.7	0.0	1,325.0	0.0	0.00	0.00	0.00
4,900.0	31.56	90.00	4,552.0	0.0	1,377.3	0.0	0.00	0.00	0.00
5,000.0	31.56	90.00	4,637.2	0.0	1,429.6	0.0	0.00	0.00	0.00

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Well:	Beaver Creek 0881 1-3H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Pilot Hole	Database:	EDMProd

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)
5,100.0	31.56	90.00	4,722.4	0.0	1,482.0	0.0	0.00	0.00	0.00
5,200.0	31.56	90.00	4,807.6	0.0	1,534.3	0.0	0.00	0.00	0.00
5,300.0	31.56	90.00	4,892.8	0.0	1,586.6	0.0	0.00	0.00	0.00
5,400.0	31.56	90.00	4,978.0	0.0	1,639.0	0.0	0.00	0.00	0.00
5,425.8	31.56	90.00	5,000.0	0.0	1,652.5	0.0	0.00	0.00	0.00
Niobrara									
5,500.0	31.56	90.00	5,063.2	0.0	1,691.3	0.0	0.00	0.00	0.00
5,600.0	31.56	90.00	5,148.4	0.0	1,743.6	0.0	0.00	0.00	0.00
5,700.0	31.56	90.00	5,233.6	0.0	1,796.0	0.0	0.00	0.00	0.00
5,800.0	31.56	90.00	5,318.9	0.0	1,848.3	0.0	0.00	0.00	0.00
5,871.8	31.56	90.00	5,380.0	0.0	1,885.9	0.0	0.00	0.00	0.00
Carlile									
5,900.0	31.56	90.00	5,404.1	0.0	1,900.6	0.0	0.00	0.00	0.00
6,000.0	31.56	90.00	5,489.3	0.0	1,953.0	0.0	0.00	0.00	0.00
6,047.8	31.56	90.00	5,530.0	0.0	1,978.0	0.0	0.00	0.00	0.00
TD at 6047.8									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Beaver Creek 1	0.00	360.00	5,285.0	5,477.7	2,219.1	1,467,883.12	2,732,186.26	40° 36' 49.456 N	106° 27' 52.754 W
- plan misses target center by 5487.8usft at 5965.2usft MD (5459.6 TVD, 0.0 N, 1934.8 E)									
- Point									
Beaver Creek 1 MP	0.00	360.00	5,285.0	5,778.2	2,219.8	1,468,183.66	2,732,186.94	40° 36' 52.426 N	106° 27' 52.788 W
- plan misses target center by 5787.9usft at 5965.6usft MD (5459.9 TVD, 0.0 N, 1935.0 E)									
- Point									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
2,000.0	1,997.5	9 5/8" Surface Casing	9-5/8	12-1/4
16,727.0		5 1/2" Production Casing	5-1/2	8-3/4

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,425.8	5,000.0	Niobrara		0.00	
5,871.8	5,380.0	Carlile		0.00	

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Survey Report

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Site:	T7N-R81W-S10	MD Reference:	KB @ 8266.0usft
Well:	Beaver Creek 0881 1-3H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Pilot Hole	Database:	EDMProd

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1500	1500	0	0	Start Build 2.00
3078	2999	0	424	Start 2969.9 hold at 3077.9 MD
6048	5530	0	1978	TD at 6047.8

Checked By: _____ Approved By: _____ Date: _____