

# **SandRidge Energy**

**North Park Basin**

**T6N-R81W-S23**

**Rabbit Ears 0681 1-23H**

**Wellbore #1**

**Plan: Design #1**

## **Standard Survey Report**

**02 August, 2016**

# SandRidge Energy

## Survey Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Rabbit Ears 0681 1-23H
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	KB @ 8324.0usft
<b>Site:</b>	T6N-R81W-S23	<b>MD Reference:</b>	KB @ 8324.0usft
<b>Well:</b>	Rabbit Ears 0681 1-23H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Design #1	<b>Database:</b>	EDMProd

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

Site	T6N-R81W-S23					
Site Position:		Northing:	1,418,032.39 usft	Latitude:	40° 28' 37.133 N	
From:	Map	Easting:	2,734,606.19 usft	Longitude:	106° 27' 14.423 W	
Position Uncertainty:		0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.62 °

Well	Rabbit Ears 0681 1-23H					
Well Position	+N-S	0.0 usft	Northing:	1,418,032.39 usft	Latitude:	40° 28' 37.133 N
	+E-W	0.0 usft	Easting:	2,734,606.19 usft	Longitude:	106° 27' 14.423 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	8,308.0 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	12/31/2009	9.91	66.88	53,125

<b>Design</b>	Design #1				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0	
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	199.28	

<b>Survey Tool Program</b>	<b>Date</b>	8/2/2016			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
0.0	16,521.3	Design #1 (Wellbore #1)	Sperry MWD	Fixed:v2:standard declination	

<b>Planned Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
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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<b>Site:</b>	T6N-R81W-S23	<b>MD Reference:</b>	KB @ 8324.0usft
<b>Well:</b>	Rabbit Ears 0681 1-23H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Design #1	<b>Database:</b>	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)
16,300.0	90.00	198.01	5,585.0	-10,475.6	-3,670.1	11,099.9	0.00	0.00	0.00
16,400.0	90.00	198.01	5,585.0	-10,570.7	-3,701.0	11,199.9	0.00	0.00	0.00
16,500.0	90.00	198.01	5,585.0	-10,665.8	-3,732.0	11,299.9	0.00	0.00	0.00
16,521.3	90.00	198.01	5,585.0	-10,686.1	-3,738.6	11,321.2	0.00	0.00	0.00
TD at 16521.3									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Rabbit Ears 1 LP	0.00	360.00	5,585.0	-700.0	-493.9	1,417,332.39	2,734,112.31	40° 28' 30.164 N	106° 27' 20.716 W
- hit/miss target									
- Shape									
- plan misses target center by 2.3usft at 6021.3usft MD (5585.0 TVD, -700.7 N, -491.7 E)									
- Point									
Rabbit Ears 1	0.00	0.00	5,585.0	-10,686.1	-3,738.6	1,407,346.29	2,730,867.63	40° 26' 51.140 N	106° 28' 1.291 W
- plan hits target center									
- Point									

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
3000	3000	0	0	Start Build 2.00	
3268	3268	0	-13	Start 1577.9 hold at 3268.1 MD	
4846	4839	0	-160	Start DLS 8.00 TFO -68.98	
5570	5432	-314	-337	Start 150.0 hold at 5570.3 MD	
5720	5507	-432	-390	Start DLS 10.00 TFO -11.85	
6026	5585	-705	-493	Start 10495.6 hold at 6025.7 MD	
16,521	5585	-10,686	-3739	TD at 16521.3	

Checked By: _____	Approved By: _____	Date: _____
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