

SandRidge Energy

North Park Basin

T7N-R80W-S7

Marr 0780 4-6H

Wellbore #1

Plan: Design #1

Standard Survey Report

28 April, 2016

SandRidge Energy

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Marr 0780 4-6H
Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Well:	Marr 0780 4-6H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	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-R80W-S7		
Site Position:		Northing:	1,462,096.65 usft
From:	Map	Easting:	2,745,719.49 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	40° 35' 53.698 N
		Longitude:	106° 24' 56.506 W
		Grid Convergence:	-0.59 °

Well	Marr 0780 4-6H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	40° 35' 54.104 N
		Longitude:	106° 24' 56.270 W
		Ground Level:	8,129.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	9.90	66.98	53,195

Design	Design #1				
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	4/28/2016			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	12,245.3	Design #1 (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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Well:	Marr 0780 4-6H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	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)
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
Start Build 2.00									
3,500.0	2.00	232.43	3,500.0	-1.1	-1.4	-1.1	2.00	2.00	0.00
3,600.0	4.00	232.43	3,599.8	-4.3	-5.5	-4.3	2.00	2.00	0.00
3,700.0	6.00	232.43	3,699.5	-9.6	-12.4	-9.6	2.00	2.00	0.00
3,750.4	7.01	232.43	3,749.5	-13.0	-17.0	-13.0	2.00	2.00	0.00
Start 1841.0 hold at 3750.4 MD									
3,800.0	7.01	232.43	3,798.8	-16.7	-21.8	-16.7	0.00	0.00	0.00
3,900.0	7.01	232.43	3,898.0	-24.2	-31.4	-24.2	0.00	0.00	0.00
4,000.0	7.01	232.43	3,997.3	-31.6	-41.1	-31.6	0.00	0.00	0.00
4,100.0	7.01	232.43	4,096.5	-39.1	-50.8	-39.1	0.00	0.00	0.00
4,200.0	7.01	232.43	4,195.8	-46.5	-60.4	-46.5	0.00	0.00	0.00
4,300.0	7.01	232.43	4,295.0	-53.9	-70.1	-53.9	0.00	0.00	0.00
4,400.0	7.01	232.43	4,394.3	-61.4	-79.8	-61.4	0.00	0.00	0.00
4,500.0	7.01	232.43	4,493.5	-68.8	-89.5	-68.8	0.00	0.00	0.00
4,600.0	7.01	232.43	4,592.8	-76.2	-99.1	-76.2	0.00	0.00	0.00
4,700.0	7.01	232.43	4,692.0	-83.7	-108.8	-83.7	0.00	0.00	0.00
4,800.0	7.01	232.43	4,791.3	-91.1	-118.5	-91.1	0.00	0.00	0.00
4,900.0	7.01	232.43	4,890.5	-98.6	-128.1	-98.6	0.00	0.00	0.00
5,000.0	7.01	232.43	4,989.8	-106.0	-137.8	-106.0	0.00	0.00	0.00

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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	7.01	232.43	5,089.0	-113.4	-147.5	-113.4	0.00	0.00	0.00
5,200.0	7.01	232.43	5,188.3	-120.9	-157.1	-120.9	0.00	0.00	0.00
5,300.0	7.01	232.43	5,287.6	-128.3	-166.8	-128.3	0.00	0.00	0.00
5,400.0	7.01	232.43	5,386.8	-135.8	-176.5	-135.8	0.00	0.00	0.00
5,500.0	7.01	232.43	5,486.1	-143.2	-186.2	-143.2	0.00	0.00	0.00
5,591.4	7.01	232.43	5,576.8	-150.0	-195.0	-150.0	0.00	0.00	0.00
Start DLS 8.00 TFO 130.44									
5,600.0	6.58	236.99	5,585.3	-150.6	-195.8	-150.6	8.00	-4.95	53.16
5,650.0	5.33	274.45	5,635.1	-152.0	-200.5	-152.0	8.00	-2.51	74.93
5,700.0	6.74	310.94	5,684.8	-149.9	-205.1	-149.9	8.00	2.81	72.97
5,750.0	9.71	330.05	5,734.3	-144.3	-209.4	-144.3	8.00	5.94	38.24
5,800.0	13.23	339.72	5,783.3	-135.3	-213.5	-135.3	8.00	7.04	19.33
5,850.0	16.96	345.28	5,831.6	-122.8	-217.3	-122.8	8.00	7.46	11.13
5,900.0	20.79	348.87	5,878.9	-107.1	-220.9	-107.1	8.00	7.66	7.17
5,950.0	24.67	351.37	5,925.0	-88.0	-224.2	-88.0	8.00	7.76	5.01
6,000.0	28.59	353.23	5,969.7	-65.8	-227.2	-65.8	8.00	7.83	3.72
6,050.0	32.52	354.68	6,012.7	-40.6	-229.8	-40.6	8.00	7.86	2.89
6,100.0	36.46	355.84	6,053.9	-12.4	-232.1	-12.4	8.00	7.89	2.32
6,106.4	36.97	355.97	6,059.0	-8.6	-232.4	-8.6	8.00	7.90	2.08
Niobrara									
6,150.0	40.42	356.80	6,093.1	18.7	-234.1	18.7	8.00	7.91	1.90
6,200.0	44.38	357.62	6,130.0	52.3	-235.8	52.3	8.00	7.92	1.64
6,250.0	48.35	358.33	6,164.5	88.5	-237.0	88.5	8.00	7.93	1.42
6,300.0	52.32	358.96	6,196.4	127.0	-237.9	127.0	8.00	7.94	1.26
6,350.0	56.29	359.52	6,225.6	167.6	-238.5	167.6	8.00	7.95	1.13
6,396.6	60.00	360.00	6,250.2	207.1	-238.6	207.1	8.00	7.95	1.03
Start 150.0 hold at 6396.6 MD									
6,400.0	60.00	360.00	6,251.8	210.1	-238.6	210.1	0.00	0.00	0.00
6,500.0	60.00	360.00	6,301.8	296.7	-238.6	296.7	0.00	0.00	0.00
6,546.6	60.00	360.00	6,325.2	337.0	-238.6	337.0	0.00	0.00	0.00
Start DLS 10.00 TFO 0.00									
6,550.0	60.34	0.00	6,326.8	340.0	-238.6	340.0	10.00	10.00	0.00
6,600.0	65.34	0.00	6,349.7	384.5	-238.6	384.5	10.00	10.00	0.00
6,650.0	70.34	0.00	6,368.5	430.7	-238.6	430.7	10.00	10.00	0.00
6,700.0	75.34	0.00	6,383.3	478.5	-238.6	478.5	10.00	10.00	0.00
6,750.0	80.34	0.00	6,393.8	527.4	-238.6	527.4	10.00	10.00	0.00
6,789.6	84.30	0.00	6,399.1	566.6	-238.6	566.6	10.00	10.00	0.00
Start 5456.5 hold at 6789.6 MD									
6,800.0	84.30	0.00	6,400.1	577.0	-238.6	577.0	0.00	0.00	0.00
6,900.0	84.30	0.00	6,410.0	676.5	-238.6	676.5	0.00	0.00	0.00
7,000.0	84.30	0.00	6,420.0	776.0	-238.6	776.0	0.00	0.00	0.00
7,100.0	84.30	0.00	6,429.9	875.5	-238.6	875.5	0.00	0.00	0.00
7,200.0	84.30	0.00	6,439.8	975.0	-238.6	975.0	0.00	0.00	0.00
7,300.0	84.30	0.00	6,449.8	1,074.5	-238.6	1,074.5	0.00	0.00	0.00

SandRidge Energy

Survey Report

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Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Well:	Marr 0780 4-6H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	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)
7,400.0	84.30	0.00	6,459.7	1,174.0	-238.6	1,174.0	0.00	0.00	0.00
7,500.0	84.30	0.00	6,469.6	1,273.5	-238.6	1,273.5	0.00	0.00	0.00
7,600.0	84.30	0.00	6,479.6	1,373.0	-238.6	1,373.0	0.00	0.00	0.00
7,700.0	84.30	0.00	6,489.5	1,472.5	-238.6	1,472.5	0.00	0.00	0.00
7,800.0	84.30	0.00	6,499.4	1,572.0	-238.6	1,572.0	0.00	0.00	0.00
7,900.0	84.30	0.00	6,509.4	1,671.5	-238.6	1,671.5	0.00	0.00	0.00
8,000.0	84.30	0.00	6,519.3	1,771.0	-238.6	1,771.0	0.00	0.00	0.00
8,100.0	84.30	0.00	6,529.2	1,870.5	-238.6	1,870.5	0.00	0.00	0.00
8,200.0	84.30	0.00	6,539.2	1,970.0	-238.6	1,970.0	0.00	0.00	0.00
8,300.0	84.30	0.00	6,549.1	2,069.5	-238.6	2,069.5	0.00	0.00	0.00
8,400.0	84.30	0.00	6,559.0	2,169.0	-238.6	2,169.0	0.00	0.00	0.00
8,500.0	84.30	0.00	6,569.0	2,268.5	-238.6	2,268.5	0.00	0.00	0.00
8,600.0	84.30	0.00	6,578.9	2,368.1	-238.6	2,368.1	0.00	0.00	0.00
8,700.0	84.30	0.00	6,588.8	2,467.6	-238.6	2,467.6	0.00	0.00	0.00
8,800.0	84.30	0.00	6,598.8	2,567.1	-238.6	2,567.1	0.00	0.00	0.00
8,900.0	84.30	0.00	6,608.7	2,666.6	-238.6	2,666.6	0.00	0.00	0.00
9,000.0	84.30	0.00	6,618.6	2,766.1	-238.6	2,766.1	0.00	0.00	0.00
9,100.0	84.30	0.00	6,628.5	2,865.6	-238.6	2,865.6	0.00	0.00	0.00
9,200.0	84.30	0.00	6,638.5	2,965.1	-238.6	2,965.1	0.00	0.00	0.00
9,300.0	84.30	0.00	6,648.4	3,064.6	-238.6	3,064.6	0.00	0.00	0.00
9,400.0	84.30	0.00	6,658.3	3,164.1	-238.6	3,164.1	0.00	0.00	0.00
9,500.0	84.30	0.00	6,668.3	3,263.6	-238.6	3,263.6	0.00	0.00	0.00
9,600.0	84.30	0.00	6,678.2	3,363.1	-238.6	3,363.1	0.00	0.00	0.00
9,700.0	84.30	0.00	6,688.1	3,462.6	-238.5	3,462.6	0.00	0.00	0.00
9,800.0	84.30	0.00	6,698.1	3,562.1	-238.5	3,562.1	0.00	0.00	0.00
9,900.0	84.30	0.00	6,708.0	3,661.6	-238.5	3,661.6	0.00	0.00	0.00
10,000.0	84.30	0.00	6,717.9	3,761.1	-238.5	3,761.1	0.00	0.00	0.00
10,100.0	84.30	0.00	6,727.9	3,860.6	-238.5	3,860.6	0.00	0.00	0.00
10,200.0	84.30	0.00	6,737.8	3,960.1	-238.5	3,960.1	0.00	0.00	0.00
10,300.0	84.30	0.00	6,747.7	4,059.6	-238.5	4,059.6	0.00	0.00	0.00
10,400.0	84.30	0.00	6,757.7	4,159.2	-238.5	4,159.2	0.00	0.00	0.00
10,500.0	84.30	0.00	6,767.6	4,258.7	-238.5	4,258.7	0.00	0.00	0.00
10,600.0	84.30	0.00	6,777.5	4,358.2	-238.5	4,358.2	0.00	0.00	0.00
10,700.0	84.30	0.00	6,787.5	4,457.7	-238.5	4,457.7	0.00	0.00	0.00
10,800.0	84.30	0.00	6,797.4	4,557.2	-238.5	4,557.2	0.00	0.00	0.00
10,900.0	84.30	0.00	6,807.3	4,656.7	-238.5	4,656.7	0.00	0.00	0.00
11,000.0	84.30	0.00	6,817.3	4,756.2	-238.5	4,756.2	0.00	0.00	0.00
11,100.0	84.30	0.00	6,827.2	4,855.7	-238.5	4,855.7	0.00	0.00	0.00
11,200.0	84.30	0.00	6,837.1	4,955.2	-238.5	4,955.2	0.00	0.00	0.00
11,300.0	84.30	0.00	6,847.1	5,054.7	-238.5	5,054.7	0.00	0.00	0.00
11,400.0	84.30	0.00	6,857.0	5,154.2	-238.5	5,154.2	0.00	0.00	0.00
11,500.0	84.30	0.00	6,866.9	5,253.7	-238.5	5,253.7	0.00	0.00	0.00
11,600.0	84.30	0.00	6,876.8	5,353.2	-238.5	5,353.2	0.00	0.00	0.00
11,700.0	84.30	0.00	6,886.8	5,452.7	-238.5	5,452.7	0.00	0.00	0.00

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Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Well:	Marr 0780 4-6H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	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)
11,800.0	84.30	0.00	6,896.7	5,552.2	-238.5	5,552.2	0.00	0.00	0.00
11,900.0	84.30	0.00	6,906.6	5,651.7	-238.5	5,651.7	0.00	0.00	0.00
12,000.0	84.30	0.00	6,916.6	5,751.2	-238.5	5,751.2	0.00	0.00	0.00
12,100.0	84.30	0.00	6,926.5	5,850.7	-238.5	5,850.7	0.00	0.00	0.00
12,200.0	84.30	0.00	6,936.4	5,950.3	-238.5	5,950.3	0.00	0.00	0.00
12,246.1	84.30	0.00	6,941.0	5,996.1	-238.5	5,996.1	0.00	0.00	0.00
TD at 12246.1									

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									
Marr 4-6H	0.00	360.00	6,941.0	5,996.1	-238.5	1,468,133.71	2,745,499.65	40° 36' 53.328 N	106° 25' 0.165 W
- plan hits target center									
- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,106.4	6,059.0	Niobrara		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3400	3400	0	0	Start Build 2.00
3750	3750	-13	-17	Start 1841.0 hold at 3750.4 MD
5591	5577	-150	-195	Start DLS 8.00 TFO 130.44
6397	6250	207	-239	Start 150.0 hold at 6396.6 MD
6547	6325	337	-239	Start DLS 10.00 TFO 0.00
6790	6399	567	-239	Start 5456.5 hold at 6789.6 MD
12,246	6941	5996	-238	TD at 12246.1

Checked By: _____ Approved By: _____ Date: _____