

SandRidge Energy

North Park Basin

T7N-R80W-S7

Marr 0780 1-6H

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 1-6H
Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Well:	Marr 0780 1-6H	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 1-6H		
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' 53.698 N
		Longitude:	106° 24' 56.506 W
		Ground Level:	8,129.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
			(°)
	User Defined	4/28/2016	0.00
			(°)
			0.00
			0

Design	Design #1		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			0.00

Survey Tool Program	Date	4/28/2016		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
0.0	12,987.3	Design #1 (Wellbore #1)	Sperry MWD	Fixed:v2:standard declination

Planned Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/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 1-6H	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
Start Build 2.00									
2,600.0	2.00	270.00	2,600.0	0.0	-1.7	0.0	2.00	2.00	0.00
2,700.0	4.00	270.00	2,699.8	0.0	-7.0	0.0	2.00	2.00	0.00
2,800.0	6.00	270.00	2,799.5	0.0	-15.7	0.0	2.00	2.00	0.00
2,900.0	8.00	270.00	2,898.7	0.0	-27.9	0.0	2.00	2.00	0.00
3,000.0	10.00	270.00	2,997.5	0.0	-43.5	0.0	2.00	2.00	0.00
3,100.0	12.00	270.00	3,095.6	0.0	-62.6	0.0	2.00	2.00	0.00
3,200.0	14.00	270.00	3,193.1	0.0	-85.1	0.0	2.00	2.00	0.00
3,300.0	16.00	270.00	3,289.6	0.0	-111.0	0.0	2.00	2.00	0.00
3,400.0	18.00	270.00	3,385.3	0.0	-140.2	0.0	2.00	2.00	0.00
3,500.0	20.00	270.00	3,479.8	0.0	-172.8	0.0	2.00	2.00	0.00
3,600.0	22.00	270.00	3,573.2	0.0	-208.6	0.0	2.00	2.00	0.00
3,700.0	24.00	270.00	3,665.2	0.0	-247.7	0.0	2.00	2.00	0.00
3,800.0	26.00	270.00	3,755.8	0.0	-289.9	0.0	2.00	2.00	0.00
3,871.4	27.43	270.00	3,819.6	0.0	-322.0	0.0	2.00	2.00	0.00
Start 2166.5 hold at 3871.4 MD									
3,900.0	27.43	270.00	3,845.0	0.0	-335.2	0.0	0.00	0.00	0.00
4,000.0	27.43	270.00	3,933.8	0.0	-381.3	0.0	0.00	0.00	0.00
4,100.0	27.43	270.00	4,022.5	0.0	-427.3	0.0	0.00	0.00	0.00
4,200.0	27.43	270.00	4,111.3	0.0	-473.4	0.0	0.00	0.00	0.00
4,300.0	27.43	270.00	4,200.0	0.0	-519.5	0.0	0.00	0.00	0.00
4,400.0	27.43	270.00	4,288.8	0.0	-565.5	0.0	0.00	0.00	0.00
4,500.0	27.43	270.00	4,377.6	0.0	-611.6	0.0	0.00	0.00	0.00
4,600.0	27.43	270.00	4,466.3	0.0	-657.6	0.0	0.00	0.00	0.00
4,700.0	27.43	270.00	4,555.1	0.0	-703.7	0.0	0.00	0.00	0.00
4,800.0	27.43	270.00	4,643.8	0.0	-749.8	0.0	0.00	0.00	0.00
4,900.0	27.43	270.00	4,732.6	0.0	-795.8	0.0	0.00	0.00	0.00
5,000.0	27.43	270.00	4,821.4	0.0	-841.9	0.0	0.00	0.00	0.00

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Design:	Design #1	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)
5,100.0	27.43	270.00	4,910.1	0.0	-888.0	0.0	0.00	0.00	0.00
5,200.0	27.43	270.00	4,998.9	0.0	-934.0	0.0	0.00	0.00	0.00
5,300.0	27.43	270.00	5,087.6	0.0	-980.1	0.0	0.00	0.00	0.00
5,400.0	27.43	270.00	5,176.4	0.0	-1,026.2	0.0	0.00	0.00	0.00
5,500.0	27.43	270.00	5,265.1	0.0	-1,072.2	0.0	0.00	0.00	0.00
5,600.0	27.43	270.00	5,353.9	0.0	-1,118.3	0.0	0.00	0.00	0.00
5,700.0	27.43	270.00	5,442.7	0.0	-1,164.3	0.0	0.00	0.00	0.00
5,800.0	27.43	270.00	5,531.4	0.0	-1,210.4	0.0	0.00	0.00	0.00
5,900.0	27.43	270.00	5,620.2	0.0	-1,256.5	0.0	0.00	0.00	0.00
6,000.0	27.43	270.00	5,708.9	0.0	-1,302.5	0.0	0.00	0.00	0.00
6,037.9	27.43	270.00	5,742.6	0.0	-1,320.0	0.0	0.00	0.00	0.00
Start DLS 8.00 TFO 0.00									
6,050.0	28.39	270.00	5,753.3	0.0	-1,325.7	0.0	8.00	8.00	0.00
6,100.0	32.39	270.00	5,796.4	0.0	-1,350.9	0.0	8.00	8.00	0.00
6,150.0	36.39	270.00	5,837.6	0.0	-1,379.2	0.0	8.00	8.00	0.00
6,200.0	40.39	270.00	5,876.8	0.0	-1,410.2	0.0	8.00	8.00	0.00
6,250.0	44.39	270.00	5,913.7	0.0	-1,443.9	0.0	8.00	8.00	0.00
6,300.0	48.39	270.00	5,948.2	0.0	-1,480.1	0.0	8.00	8.00	0.00
6,350.0	52.39	270.00	5,980.1	0.0	-1,518.7	0.0	8.00	8.00	0.00
6,400.0	56.39	270.00	6,009.2	0.0	-1,559.3	0.0	8.00	8.00	0.00
6,445.1	60.00	270.00	6,032.9	0.0	-1,597.6	0.0	8.00	8.00	0.00
Start 150.0 hold at 6445.1 MD									
6,497.2	60.00	270.00	6,059.0	0.0	-1,642.7	0.0	0.00	0.00	0.00
Niobrara									
6,500.0	60.00	270.00	6,060.4	0.0	-1,645.2	0.0	0.00	0.00	0.00
6,595.1	60.00	270.00	6,107.9	0.0	-1,727.5	0.0	0.00	0.00	0.00
Start DLS 10.00 TFO 94.94									
6,600.0	59.96	270.57	6,110.4	0.0	-1,731.8	0.0	10.00	-0.84	11.51
6,650.0	59.68	276.34	6,135.6	2.6	-1,774.9	2.6	10.00	-0.56	11.55
6,700.0	59.65	282.14	6,160.8	9.5	-1,817.4	9.5	10.00	-0.05	11.59
6,750.0	59.88	287.92	6,186.0	20.7	-1,859.1	20.7	10.00	0.46	11.56
6,800.0	60.36	293.66	6,210.9	36.1	-1,899.6	36.1	10.00	0.96	11.48
6,850.0	61.09	299.33	6,235.4	55.6	-1,938.7	55.6	10.00	1.45	11.34
6,900.0	62.05	304.91	6,259.2	79.0	-1,975.9	79.0	10.00	1.92	11.16
6,950.0	63.23	310.38	6,282.2	106.1	-2,011.0	106.1	10.00	2.36	10.94
7,000.0	64.62	315.73	6,304.2	136.7	-2,043.8	136.7	10.00	2.77	10.70
7,050.0	66.19	320.95	6,325.0	170.7	-2,074.0	170.7	10.00	3.15	10.44
7,100.0	67.94	326.04	6,344.5	207.7	-2,101.4	207.7	10.00	3.49	10.18
7,150.0	69.83	331.00	6,362.5	247.5	-2,125.7	247.5	10.00	3.80	9.92
7,200.0	71.87	335.83	6,379.0	289.7	-2,146.8	289.7	10.00	4.07	9.67
7,250.0	74.02	340.55	6,393.6	334.0	-2,164.5	334.0	10.00	4.30	9.44
7,300.0	76.27	345.17	6,406.4	380.2	-2,178.8	380.2	10.00	4.51	9.24
7,350.0	78.61	349.70	6,417.3	427.8	-2,189.4	427.8	10.00	4.67	9.06
7,400.0	81.02	354.16	6,426.2	476.5	-2,196.3	476.5	10.00	4.81	8.91

SandRidge Energy

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Marr 0780 1-6H
Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Well:	Marr 0780 1-6H	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)
7,450.0	83.47	358.55	6,432.9	526.0	-2,199.4	526.0	10.00	4.92	8.79
7,466.6	84.30	0.00	6,434.7	542.5	-2,199.6	542.5	10.01	4.97	8.73
Start 5520.8 hold at 7466.6 MD									
7,500.0	84.30	0.00	6,438.0	575.7	-2,199.6	575.7	0.00	0.00	0.00
7,600.0	84.30	0.00	6,447.9	675.2	-2,199.6	675.2	0.00	0.00	0.00
7,700.0	84.30	0.00	6,457.9	774.7	-2,199.6	774.7	0.00	0.00	0.00
7,800.0	84.30	0.00	6,467.8	874.2	-2,199.6	874.2	0.00	0.00	0.00
7,900.0	84.30	0.00	6,477.7	973.7	-2,199.6	973.7	0.00	0.00	0.00
8,000.0	84.30	0.00	6,487.7	1,073.2	-2,199.6	1,073.2	0.00	0.00	0.00
8,100.0	84.30	0.00	6,497.6	1,172.7	-2,199.6	1,172.7	0.00	0.00	0.00
8,200.0	84.30	0.00	6,507.5	1,272.3	-2,199.6	1,272.3	0.00	0.00	0.00
8,300.0	84.30	0.00	6,517.5	1,371.8	-2,199.6	1,371.8	0.00	0.00	0.00
8,400.0	84.30	0.00	6,527.4	1,471.3	-2,199.6	1,471.3	0.00	0.00	0.00
8,500.0	84.30	0.00	6,537.3	1,570.8	-2,199.6	1,570.8	0.00	0.00	0.00
8,600.0	84.30	0.00	6,547.2	1,670.3	-2,199.6	1,670.3	0.00	0.00	0.00
8,700.0	84.30	0.00	6,557.2	1,769.8	-2,199.6	1,769.8	0.00	0.00	0.00
8,800.0	84.30	0.00	6,567.1	1,869.3	-2,199.6	1,869.3	0.00	0.00	0.00
8,900.0	84.30	0.00	6,577.0	1,968.8	-2,199.6	1,968.8	0.00	0.00	0.00
9,000.0	84.30	0.00	6,587.0	2,068.3	-2,199.6	2,068.3	0.00	0.00	0.00
9,100.0	84.30	0.00	6,596.9	2,167.8	-2,199.6	2,167.8	0.00	0.00	0.00
9,200.0	84.30	0.00	6,606.8	2,267.3	-2,199.5	2,267.3	0.00	0.00	0.00
9,300.0	84.30	0.00	6,616.8	2,366.8	-2,199.5	2,366.8	0.00	0.00	0.00
9,400.0	84.30	0.00	6,626.7	2,466.3	-2,199.5	2,466.3	0.00	0.00	0.00
9,500.0	84.30	0.00	6,636.6	2,565.8	-2,199.5	2,565.8	0.00	0.00	0.00
9,600.0	84.30	0.00	6,646.6	2,665.3	-2,199.5	2,665.3	0.00	0.00	0.00
9,700.0	84.30	0.00	6,656.5	2,764.8	-2,199.5	2,764.8	0.00	0.00	0.00
9,800.0	84.30	0.00	6,666.4	2,864.3	-2,199.5	2,864.3	0.00	0.00	0.00
9,900.0	84.30	0.00	6,676.4	2,963.8	-2,199.5	2,963.8	0.00	0.00	0.00
10,000.0	84.30	0.00	6,686.3	3,063.4	-2,199.5	3,063.4	0.00	0.00	0.00
10,100.0	84.30	0.00	6,696.2	3,162.9	-2,199.5	3,162.9	0.00	0.00	0.00
10,200.0	84.30	0.00	6,706.2	3,262.4	-2,199.5	3,262.4	0.00	0.00	0.00
10,300.0	84.30	0.00	6,716.1	3,361.9	-2,199.5	3,361.9	0.00	0.00	0.00
10,400.0	84.30	0.00	6,726.0	3,461.4	-2,199.5	3,461.4	0.00	0.00	0.00
10,500.0	84.30	0.00	6,736.0	3,560.9	-2,199.5	3,560.9	0.00	0.00	0.00
10,600.0	84.30	0.00	6,745.9	3,660.4	-2,199.5	3,660.4	0.00	0.00	0.00
10,700.0	84.30	0.00	6,755.8	3,759.9	-2,199.5	3,759.9	0.00	0.00	0.00
10,800.0	84.30	0.00	6,765.8	3,859.4	-2,199.5	3,859.4	0.00	0.00	0.00
10,900.0	84.30	0.00	6,775.7	3,958.9	-2,199.5	3,958.9	0.00	0.00	0.00
11,000.0	84.30	0.00	6,785.6	4,058.4	-2,199.5	4,058.4	0.00	0.00	0.00
11,100.0	84.30	0.00	6,795.5	4,157.9	-2,199.5	4,157.9	0.00	0.00	0.00
11,200.0	84.30	0.00	6,805.5	4,257.4	-2,199.5	4,257.4	0.00	0.00	0.00
11,300.0	84.30	0.00	6,815.4	4,356.9	-2,199.5	4,356.9	0.00	0.00	0.00
11,400.0	84.30	0.00	6,825.3	4,456.4	-2,199.5	4,456.4	0.00	0.00	0.00
11,500.0	84.30	0.00	6,835.3	4,555.9	-2,199.5	4,555.9	0.00	0.00	0.00

SandRidge Energy

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Marr 0780 1-6H
Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Well:	Marr 0780 1-6H	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)
11,600.0	84.30	0.00	6,845.2	4,655.4	-2,199.4	4,655.4	0.00	0.00	0.00
11,700.0	84.30	0.00	6,855.1	4,754.9	-2,199.4	4,754.9	0.00	0.00	0.00
11,800.0	84.30	0.00	6,865.1	4,854.5	-2,199.4	4,854.5	0.00	0.00	0.00
11,900.0	84.30	0.00	6,875.0	4,954.0	-2,199.4	4,954.0	0.00	0.00	0.00
12,000.0	84.30	0.00	6,884.9	5,053.5	-2,199.4	5,053.5	0.00	0.00	0.00
12,100.0	84.30	0.00	6,894.9	5,153.0	-2,199.4	5,153.0	0.00	0.00	0.00
12,200.0	84.30	0.00	6,904.8	5,252.5	-2,199.4	5,252.5	0.00	0.00	0.00
12,300.0	84.30	0.00	6,914.7	5,352.0	-2,199.4	5,352.0	0.00	0.00	0.00
12,400.0	84.30	0.00	6,924.7	5,451.5	-2,199.4	5,451.5	0.00	0.00	0.00
12,500.0	84.30	0.00	6,934.6	5,551.0	-2,199.4	5,551.0	0.00	0.00	0.00
12,600.0	84.30	0.00	6,944.5	5,650.5	-2,199.4	5,650.5	0.00	0.00	0.00
12,700.0	84.30	0.00	6,954.5	5,750.0	-2,199.4	5,750.0	0.00	0.00	0.00
12,800.0	84.30	0.00	6,964.4	5,849.5	-2,199.4	5,849.5	0.00	0.00	0.00
12,900.0	84.30	0.00	6,974.3	5,949.0	-2,199.4	5,949.0	0.00	0.00	0.00
12,987.5	84.30	0.00	6,983.0	6,036.0	-2,199.4	6,036.0	0.00	0.00	0.00
TD at 12987.5									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Marr 1-6H	0.00	0.00	6,983.0	6,036.0	-2,199.4	1,468,132.68	2,743,520.10	40° 36' 53.114 N	106° 25' 25.832 W
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,497.2	6,059.0	Niobrara		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
2500	2500	0	0	Start Build 2.00
3871	3820	0	-322	Start 2166.5 hold at 3871.4 MD
6038	5743	0	-1320	Start DLS 8.00 TFO 0.00
6445	6033	0	-1598	Start 150.0 hold at 6445.1 MD
6595	6108	0	-1727	Start DLS 10.00 TFO 94.94
7467	6435	542	-2200	Start 5520.8 hold at 7466.6 MD
12,987	6983	6036	-2199	TD at 12987.5

Checked By: _____ Approved By: _____ Date: _____