

SandRidge Energy

North Park Basin

T7N-R80W-S9

Castle 0780 8-17H20

Wellbore #1

Plan: Design #1

Standard Survey Report

29 August, 2016

SandRidge Energy

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Castle 0780 8-17H20
Project:	North Park Basin	TVD Reference:	WELL @ 8134.0usft
Site:	T7N-R80W-S9	MD Reference:	WELL @ 8134.0usft
Well:	Castle 0780 8-17H20	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-S9			
Site Position:		Northing:	1,457,270.18 usft	Latitude:	40° 35' 6.782 N
From:	Map	Easting:	2,753,429.57 usft	Longitude:	106° 23' 15.932 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.57 °

Well	Castle 0780 8-17H20					
Well Position	+N/-S	0.0 usft	Northing:	1,457,410.67 usft	Latitude:	40° 35' 8.179 N
	+E/-W	0.0 usft	Easting:	2,753,522.57 usft	Longitude:	106° 23' 14.745 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	8,118.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	9.88	66.98	53,192

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	183.62	

Survey Tool Program	Date	8/10/2016			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	18,064.5	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:	Castle 0780 8-17H20	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
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
3,600.0	2.00	293.39	3,600.0	0.7	-1.6	-0.6	2.00	2.00	0.00
3,700.0	4.00	293.39	3,699.8	2.8	-6.4	-2.4	2.00	2.00	0.00
3,800.0	6.00	293.39	3,799.5	6.2	-14.4	-5.3	2.00	2.00	0.00
3,900.0	8.00	293.39	3,898.7	11.1	-25.6	-9.4	2.00	2.00	0.00
4,000.0	10.00	293.39	3,997.5	17.3	-39.9	-14.7	2.00	2.00	0.00
4,100.0	12.00	293.39	4,095.6	24.9	-57.5	-21.2	2.00	2.00	0.00
4,112.4	12.25	293.39	4,107.7	25.9	-59.8	-22.1	2.00	2.00	0.00
Start 2661.4 hold at 4112.4 MD									
4,200.0	12.25	293.39	4,193.4	33.3	-76.9	-28.3	0.00	0.00	0.00
4,300.0	12.25	293.39	4,291.1	41.7	-96.4	-35.5	0.00	0.00	0.00
4,400.0	12.25	293.39	4,388.8	50.1	-115.8	-42.7	0.00	0.00	0.00
4,500.0	12.25	293.39	4,486.5	58.5	-135.3	-49.9	0.00	0.00	0.00
4,600.0	12.25	293.39	4,584.2	66.9	-154.8	-57.0	0.00	0.00	0.00
4,700.0	12.25	293.39	4,682.0	75.4	-174.3	-64.2	0.00	0.00	0.00
4,800.0	12.25	293.39	4,779.7	83.8	-193.7	-71.4	0.00	0.00	0.00
4,900.0	12.25	293.39	4,877.4	92.2	-213.2	-78.6	0.00	0.00	0.00
5,000.0	12.25	293.39	4,975.1	100.6	-232.7	-85.7	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	12.25	293.39	5,072.9	109.1	-252.1	-92.9	0.00	0.00	0.00
5,200.0	12.25	293.39	5,170.6	117.5	-271.6	-100.1	0.00	0.00	0.00
5,300.0	12.25	293.39	5,268.3	125.9	-291.1	-107.3	0.00	0.00	0.00
5,400.0	12.25	293.39	5,366.0	134.3	-310.5	-114.4	0.00	0.00	0.00
5,500.0	12.25	293.39	5,463.8	142.7	-330.0	-121.6	0.00	0.00	0.00
5,600.0	12.25	293.39	5,561.5	151.2	-349.5	-128.8	0.00	0.00	0.00
5,700.0	12.25	293.39	5,659.2	159.6	-368.9	-136.0	0.00	0.00	0.00
5,800.0	12.25	293.39	5,756.9	168.0	-388.4	-143.1	0.00	0.00	0.00
5,900.0	12.25	293.39	5,854.7	176.4	-407.9	-150.3	0.00	0.00	0.00
6,000.0	12.25	293.39	5,952.4	184.8	-427.4	-157.5	0.00	0.00	0.00
6,100.0	12.25	293.39	6,050.1	193.3	-446.8	-164.7	0.00	0.00	0.00
6,200.0	12.25	293.39	6,147.8	201.7	-466.3	-171.9	0.00	0.00	0.00
6,300.0	12.25	293.39	6,245.6	210.1	-485.8	-179.0	0.00	0.00	0.00
6,400.0	12.25	293.39	6,343.3	218.5	-505.2	-186.2	0.00	0.00	0.00
6,500.0	12.25	293.39	6,441.0	226.9	-524.7	-193.4	0.00	0.00	0.00
6,600.0	12.25	293.39	6,538.7	235.4	-544.2	-200.6	0.00	0.00	0.00
6,700.0	12.25	293.39	6,636.5	243.8	-563.6	-207.7	0.00	0.00	0.00
6,773.7	12.25	293.39	6,708.5	250.0	-578.0	-213.0	0.00	0.00	0.00
Start DLS 8.00 TFO -119.08									
6,800.0	11.37	284.03	6,734.2	251.7	-583.1	-214.4	8.00	-3.33	-35.61
6,850.0	10.68	263.32	6,783.3	252.4	-592.5	-214.5	8.00	-1.38	-41.43
6,900.0	11.43	242.70	6,832.4	249.6	-601.5	-211.1	8.00	1.49	-41.23
6,950.0	13.37	226.30	6,881.3	243.3	-610.1	-204.3	8.00	3.88	-32.80
7,000.0	16.07	214.65	6,929.6	233.6	-618.2	-194.1	8.00	5.41	-23.31
7,050.0	19.23	206.49	6,977.3	220.6	-625.8	-180.6	8.00	6.31	-16.31
7,100.0	22.64	200.64	7,024.0	204.2	-632.8	-163.8	8.00	6.83	-11.71
7,150.0	26.21	196.27	7,069.5	184.6	-639.3	-143.8	8.00	7.15	-8.72
7,200.0	29.89	192.91	7,113.6	161.8	-645.2	-120.8	8.00	7.35	-6.74
7,250.0	33.63	190.22	7,156.1	136.0	-650.5	-94.7	8.00	7.49	-5.37
7,300.0	37.42	188.02	7,196.8	107.3	-655.0	-65.8	8.00	7.58	-4.40
7,309.1	38.11	187.66	7,204.0	101.8	-655.8	-60.2	8.00	7.62	-3.95
Niobrara									
7,350.0	41.25	186.17	7,235.5	75.9	-658.9	-34.2	8.00	7.65	-3.64
7,400.0	45.10	184.58	7,271.9	41.8	-662.1	0.0	8.00	7.70	-3.17
7,450.0	48.97	183.20	7,306.0	5.4	-664.6	36.6	8.00	7.74	-2.77
7,500.0	52.85	181.96	7,337.5	-33.4	-666.3	75.4	8.00	7.77	-2.46
7,550.0	56.74	180.85	7,366.4	-74.2	-667.3	116.2	8.00	7.79	-2.22
7,591.7	60.00	180.00	7,388.2	-109.7	-667.6	151.6	8.00	7.81	-2.05
Start 150.0 hold at 7591.7 MD									
7,600.0	60.00	180.00	7,392.4	-116.9	-667.6	158.8	0.00	0.00	0.00
7,700.0	60.00	180.00	7,442.4	-203.5	-667.6	245.3	0.00	0.00	0.00
7,741.7	60.00	180.00	7,463.2	-239.6	-667.6	281.3	0.00	0.00	0.00
Start Build 10.00									
7,750.0	60.83	180.00	7,467.3	-246.9	-667.6	288.5	10.00	10.00	0.00

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Survey Report

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Project:	North Park Basin	TVD Reference:	WELL @ 8134.0usft
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Well:	Castle 0780 8-17H20	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)
7,800.0	65.83	180.00	7,489.7	-291.5	-667.6	333.1	10.00	10.00	0.00
7,850.0	70.83	180.00	7,508.2	-338.0	-667.6	379.4	10.00	10.00	0.00
7,900.0	75.83	180.00	7,522.5	-385.9	-667.6	427.2	10.00	10.00	0.00
7,950.0	80.83	180.00	7,532.7	-434.8	-667.6	476.1	10.00	10.00	0.00
8,000.0	85.83	180.00	7,538.5	-484.5	-667.6	525.6	10.00	10.00	0.00
8,041.7	90.00	180.00	7,540.0	-526.1	-667.6	567.2	10.00	10.00	0.00
Start 10022.8 hold at 8041.7 MD									
8,100.0	90.00	180.00	7,540.0	-584.4	-667.6	625.4	0.00	0.00	0.00
8,200.0	90.00	180.00	7,540.0	-684.4	-667.5	725.2	0.00	0.00	0.00
8,300.0	90.00	180.00	7,540.0	-784.4	-667.5	825.0	0.00	0.00	0.00
8,400.0	90.00	180.00	7,540.0	-884.4	-667.5	924.8	0.00	0.00	0.00
8,500.0	90.00	180.00	7,540.0	-984.4	-667.5	1,024.6	0.00	0.00	0.00
8,600.0	90.00	180.00	7,540.0	-1,084.4	-667.5	1,124.4	0.00	0.00	0.00
8,700.0	90.00	180.00	7,540.0	-1,184.4	-667.5	1,224.2	0.00	0.00	0.00
8,800.0	90.00	180.00	7,540.0	-1,284.4	-667.5	1,324.0	0.00	0.00	0.00
8,900.0	90.00	180.00	7,540.0	-1,384.4	-667.5	1,423.8	0.00	0.00	0.00
9,000.0	90.00	180.00	7,540.0	-1,484.4	-667.5	1,523.6	0.00	0.00	0.00
9,100.0	90.00	180.00	7,540.0	-1,584.4	-667.5	1,623.4	0.00	0.00	0.00
9,200.0	90.00	180.00	7,540.0	-1,684.4	-667.5	1,723.2	0.00	0.00	0.00
9,300.0	90.00	180.00	7,540.0	-1,784.4	-667.5	1,823.0	0.00	0.00	0.00
9,400.0	90.00	180.00	7,540.0	-1,884.4	-667.5	1,922.8	0.00	0.00	0.00
9,500.0	90.00	180.00	7,540.0	-1,984.4	-667.5	2,022.6	0.00	0.00	0.00
9,600.0	90.00	180.00	7,540.0	-2,084.4	-667.5	2,122.4	0.00	0.00	0.00
9,700.0	90.00	180.00	7,540.0	-2,184.4	-667.5	2,222.2	0.00	0.00	0.00
9,800.0	90.00	180.00	7,540.0	-2,284.4	-667.5	2,322.0	0.00	0.00	0.00
9,900.0	90.00	180.00	7,540.0	-2,384.4	-667.5	2,421.8	0.00	0.00	0.00
10,000.0	90.00	180.00	7,540.0	-2,484.4	-667.5	2,521.6	0.00	0.00	0.00
10,100.0	90.00	180.00	7,540.0	-2,584.4	-667.5	2,621.4	0.00	0.00	0.00
10,200.0	90.00	180.00	7,540.0	-2,684.4	-667.5	2,721.2	0.00	0.00	0.00
10,300.0	90.00	180.00	7,540.0	-2,784.4	-667.5	2,821.0	0.00	0.00	0.00
10,400.0	90.00	180.00	7,540.0	-2,884.4	-667.5	2,920.8	0.00	0.00	0.00
10,500.0	90.00	180.00	7,540.0	-2,984.4	-667.5	3,020.6	0.00	0.00	0.00
10,600.0	90.00	180.00	7,540.0	-3,084.4	-667.5	3,120.4	0.00	0.00	0.00
10,700.0	90.00	180.00	7,540.0	-3,184.4	-667.5	3,220.2	0.00	0.00	0.00
10,800.0	90.00	180.00	7,540.0	-3,284.4	-667.4	3,320.0	0.00	0.00	0.00
10,900.0	90.00	180.00	7,540.0	-3,384.4	-667.4	3,419.8	0.00	0.00	0.00
11,000.0	90.00	180.00	7,540.0	-3,484.4	-667.4	3,519.6	0.00	0.00	0.00
11,100.0	90.00	180.00	7,540.0	-3,584.4	-667.4	3,619.4	0.00	0.00	0.00
11,200.0	90.00	180.00	7,540.0	-3,684.4	-667.4	3,719.2	0.00	0.00	0.00
11,300.0	90.00	180.00	7,540.0	-3,784.4	-667.4	3,819.0	0.00	0.00	0.00
11,400.0	90.00	180.00	7,540.0	-3,884.4	-667.4	3,918.8	0.00	0.00	0.00
11,500.0	90.00	180.00	7,540.0	-3,984.4	-667.4	4,018.6	0.00	0.00	0.00
11,600.0	90.00	180.00	7,540.0	-4,084.4	-667.4	4,118.4	0.00	0.00	0.00
11,700.0	90.00	180.00	7,540.0	-4,184.4	-667.4	4,218.2	0.00	0.00	0.00

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Project:	North Park Basin	TVD Reference:	WELL @ 8134.0usft
Site:	T7N-R80W-S9	MD Reference:	WELL @ 8134.0usft
Well:	Castle 0780 8-17H20	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	90.00	180.00	7,540.0	-4,284.4	-667.4	4,318.0	0.00	0.00	0.00
11,900.0	90.00	180.00	7,540.0	-4,384.4	-667.4	4,417.8	0.00	0.00	0.00
12,000.0	90.00	180.00	7,540.0	-4,484.4	-667.4	4,517.6	0.00	0.00	0.00
12,100.0	90.00	180.00	7,540.0	-4,584.4	-667.4	4,617.4	0.00	0.00	0.00
12,200.0	90.00	180.00	7,540.0	-4,684.4	-667.4	4,717.2	0.00	0.00	0.00
12,300.0	90.00	180.00	7,540.0	-4,784.4	-667.4	4,817.0	0.00	0.00	0.00
12,400.0	90.00	180.00	7,540.0	-4,884.4	-667.4	4,916.8	0.00	0.00	0.00
12,500.0	90.00	180.00	7,540.0	-4,984.4	-667.4	5,016.6	0.00	0.00	0.00
12,600.0	90.00	180.00	7,540.0	-5,084.4	-667.4	5,116.4	0.00	0.00	0.00
12,700.0	90.00	180.00	7,540.0	-5,184.4	-667.4	5,216.2	0.00	0.00	0.00
12,800.0	90.00	180.00	7,540.0	-5,284.4	-667.4	5,316.0	0.00	0.00	0.00
12,900.0	90.00	180.00	7,540.0	-5,384.4	-667.4	5,415.8	0.00	0.00	0.00
13,000.0	90.00	180.00	7,540.0	-5,484.4	-667.4	5,515.6	0.00	0.00	0.00
13,100.0	90.00	180.00	7,540.0	-5,584.4	-667.4	5,615.4	0.00	0.00	0.00
13,200.0	90.00	180.00	7,540.0	-5,684.4	-667.4	5,715.2	0.00	0.00	0.00
13,300.0	90.00	180.00	7,540.0	-5,784.4	-667.4	5,815.0	0.00	0.00	0.00
13,400.0	90.00	180.00	7,540.0	-5,884.4	-667.3	5,914.8	0.00	0.00	0.00
13,500.0	90.00	180.00	7,540.0	-5,984.4	-667.3	6,014.6	0.00	0.00	0.00
13,600.0	90.00	180.00	7,540.0	-6,084.4	-667.3	6,114.4	0.00	0.00	0.00
13,700.0	90.00	180.00	7,540.0	-6,184.4	-667.3	6,214.2	0.00	0.00	0.00
13,800.0	90.00	180.00	7,540.0	-6,284.4	-667.3	6,314.0	0.00	0.00	0.00
13,900.0	90.00	180.00	7,540.0	-6,384.4	-667.3	6,413.8	0.00	0.00	0.00
14,000.0	90.00	180.00	7,540.0	-6,484.4	-667.3	6,513.6	0.00	0.00	0.00
14,100.0	90.00	180.00	7,540.0	-6,584.4	-667.3	6,613.4	0.00	0.00	0.00
14,200.0	90.00	180.00	7,540.0	-6,684.4	-667.3	6,713.2	0.00	0.00	0.00
14,300.0	90.00	180.00	7,540.0	-6,784.4	-667.3	6,813.0	0.00	0.00	0.00
14,400.0	90.00	180.00	7,540.0	-6,884.4	-667.3	6,912.8	0.00	0.00	0.00
14,500.0	90.00	180.00	7,540.0	-6,984.4	-667.3	7,012.6	0.00	0.00	0.00
14,600.0	90.00	180.00	7,540.0	-7,084.4	-667.3	7,112.4	0.00	0.00	0.00
14,700.0	90.00	180.00	7,540.0	-7,184.4	-667.3	7,212.2	0.00	0.00	0.00
14,800.0	90.00	180.00	7,540.0	-7,284.4	-667.3	7,312.0	0.00	0.00	0.00
14,900.0	90.00	180.00	7,540.0	-7,384.4	-667.3	7,411.8	0.00	0.00	0.00
15,000.0	90.00	180.00	7,540.0	-7,484.4	-667.3	7,511.6	0.00	0.00	0.00
15,100.0	90.00	180.00	7,540.0	-7,584.4	-667.3	7,611.4	0.00	0.00	0.00
15,200.0	90.00	180.00	7,540.0	-7,684.4	-667.3	7,711.2	0.00	0.00	0.00
15,300.0	90.00	180.00	7,540.0	-7,784.4	-667.3	7,811.0	0.00	0.00	0.00
15,400.0	90.00	180.00	7,540.0	-7,884.4	-667.3	7,910.8	0.00	0.00	0.00
15,500.0	90.00	180.00	7,540.0	-7,984.4	-667.3	8,010.6	0.00	0.00	0.00
15,600.0	90.00	180.00	7,540.0	-8,084.4	-667.3	8,110.4	0.00	0.00	0.00
15,700.0	90.00	180.00	7,540.0	-8,184.4	-667.3	8,210.2	0.00	0.00	0.00
15,800.0	90.00	180.00	7,540.0	-8,284.4	-667.3	8,310.0	0.00	0.00	0.00
15,900.0	90.00	180.00	7,540.0	-8,384.4	-667.3	8,409.8	0.00	0.00	0.00
16,000.0	90.00	180.00	7,540.0	-8,484.4	-667.2	8,509.6	0.00	0.00	0.00

SandRidge Energy

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Castle 0780 8-17H20
Project:	North Park Basin	TVD Reference:	WELL @ 8134.0usft
Site:	T7N-R80W-S9	MD Reference:	WELL @ 8134.0usft
Well:	Castle 0780 8-17H20	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)
16,100.0	90.00	180.00	7,540.0	-8,584.4	-667.2	8,609.4	0.00	0.00	0.00
16,200.0	90.00	180.00	7,540.0	-8,684.4	-667.2	8,709.2	0.00	0.00	0.00
16,300.0	90.00	180.00	7,540.0	-8,784.4	-667.2	8,809.0	0.00	0.00	0.00
16,400.0	90.00	180.00	7,540.0	-8,884.4	-667.2	8,908.8	0.00	0.00	0.00
16,500.0	90.00	180.00	7,540.0	-8,984.4	-667.2	9,008.6	0.00	0.00	0.00
16,600.0	90.00	180.00	7,540.0	-9,084.4	-667.2	9,108.4	0.00	0.00	0.00
16,700.0	90.00	180.00	7,540.0	-9,184.4	-667.2	9,208.2	0.00	0.00	0.00
16,800.0	90.00	180.00	7,540.0	-9,284.4	-667.2	9,308.0	0.00	0.00	0.00
16,900.0	90.00	180.00	7,540.0	-9,384.4	-667.2	9,407.8	0.00	0.00	0.00
17,000.0	90.00	180.00	7,540.0	-9,484.4	-667.2	9,507.6	0.00	0.00	0.00
17,100.0	90.00	180.00	7,540.0	-9,584.4	-667.2	9,607.4	0.00	0.00	0.00
17,200.0	90.00	180.00	7,540.0	-9,684.4	-667.2	9,707.2	0.00	0.00	0.00
17,300.0	90.00	180.00	7,540.0	-9,784.4	-667.2	9,807.0	0.00	0.00	0.00
17,400.0	90.00	180.00	7,540.0	-9,884.4	-667.2	9,906.8	0.00	0.00	0.00
17,500.0	90.00	180.00	7,540.0	-9,984.4	-667.2	10,006.6	0.00	0.00	0.00
17,600.0	90.00	180.00	7,540.0	-10,084.4	-667.2	10,106.4	0.00	0.00	0.00
17,700.0	90.00	180.00	7,540.0	-10,184.4	-667.2	10,206.2	0.00	0.00	0.00
17,800.0	90.00	180.00	7,540.0	-10,284.4	-667.2	10,306.0	0.00	0.00	0.00
17,900.0	90.00	180.00	7,540.0	-10,384.4	-667.2	10,405.8	0.00	0.00	0.00
18,000.0	90.00	180.00	7,540.0	-10,484.4	-667.2	10,505.6	0.00	0.00	0.00
18,064.5	90.00	180.00	7,540.0	-10,548.9	-667.2	10,570.0	0.00	0.00	0.00

TD at 18064.5

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Castle 8	0.00	360.00	7,540.0	-10,548.9	-667.2	1,446,861.72	2,752,855.40	40° 33' 23.877 N	106° 23' 22.021 W
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,309.1	7,204.0	Niobrara		0.00	

SandRidge Energy

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Castle 0780 8-17H20
Project:	North Park Basin	TVD Reference:	WELL @ 8134.0usft
Site:	T7N-R80W-S9	MD Reference:	WELL @ 8134.0usft
Well:	Castle 0780 8-17H20	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDMProd

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3500	3500	0	0	Start Build 2.00
4112	4108	26	-60	Start 2661.4 hold at 4112.4 MD
6774	6708	250	-578	Start DLS 8.00 TFO -119.08
7592	7388	-110	-668	Start 150.0 hold at 7591.7 MD
7742	7463	-240	-668	Start Build 10.00
8042	7540	-526	-668	Start 10022.8 hold at 8041.7 MD
18,065	7540	-10,549	-667	TD at 18064.5

Checked By: _____ Approved By: _____ Date: _____