

SandRidge Energy

North Park Basin

T7N-R80W-S9

Castle 0780 7-17H20

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 7-17H20
Project:	North Park Basin	TVD Reference:	WELL @ 8136.0usft (Original Well Elev)
Site:	T7N-R80W-S9	MD Reference:	WELL @ 8136.0usft (Original Well Elev)
Well:	Castle 0780 7-17H20	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 7-17H20					
Well Position	+N/-S	0.0 usft	Northing:	1,457,415.93 usft	Latitude:	40° 35' 8.230 N
	+E/-W	0.0 usft	Easting:	2,753,508.39 usft	Longitude:	106° 23' 14.930 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	187.09	

Survey Tool Program	Date	8/10/2016			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	18,135.5	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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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
Start Build 2.00									
2,900.0	2.00	280.01	2,900.0	0.3	-1.7	-0.1	2.00	2.00	0.00
3,000.0	4.00	280.01	2,999.8	1.2	-6.9	-0.4	2.00	2.00	0.00
3,100.0	6.00	280.01	3,099.5	2.7	-15.5	-0.8	2.00	2.00	0.00
3,200.0	8.00	280.01	3,198.7	4.8	-27.5	-1.4	2.00	2.00	0.00
3,300.0	10.00	280.01	3,297.5	7.6	-42.9	-2.2	2.00	2.00	0.00
3,400.0	12.00	280.01	3,395.6	10.9	-61.6	-3.2	2.00	2.00	0.00
3,463.1	13.26	280.01	3,457.2	13.3	-75.2	-3.9	2.00	2.00	0.00
Start 3429.5 hold at 3463.1 MD									
3,500.0	13.26	280.01	3,493.1	14.7	-83.6	-4.3	0.00	0.00	0.00
3,600.0	13.26	280.01	3,590.4	18.7	-106.2	-5.5	0.00	0.00	0.00
3,700.0	13.26	280.01	3,687.8	22.7	-128.8	-6.7	0.00	0.00	0.00
3,800.0	13.26	280.01	3,785.1	26.7	-151.3	-7.8	0.00	0.00	0.00
3,900.0	13.26	280.01	3,882.4	30.7	-173.9	-9.0	0.00	0.00	0.00
4,000.0	13.26	280.01	3,979.8	34.7	-196.5	-10.2	0.00	0.00	0.00
4,100.0	13.26	280.01	4,077.1	38.7	-219.1	-11.3	0.00	0.00	0.00
4,200.0	13.26	280.01	4,174.4	42.7	-241.7	-12.5	0.00	0.00	0.00
4,300.0	13.26	280.01	4,271.8	46.6	-264.3	-13.7	0.00	0.00	0.00
4,400.0	13.26	280.01	4,369.1	50.6	-286.9	-14.9	0.00	0.00	0.00
4,500.0	13.26	280.01	4,466.4	54.6	-309.5	-16.0	0.00	0.00	0.00
4,600.0	13.26	280.01	4,563.8	58.6	-332.1	-17.2	0.00	0.00	0.00
4,700.0	13.26	280.01	4,661.1	62.6	-354.7	-18.4	0.00	0.00	0.00
4,800.0	13.26	280.01	4,758.4	66.6	-377.3	-19.5	0.00	0.00	0.00
4,900.0	13.26	280.01	4,855.8	70.6	-399.9	-20.7	0.00	0.00	0.00
5,000.0	13.26	280.01	4,953.1	74.5	-422.4	-21.9	0.00	0.00	0.00

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5,100.0	13.26	280.01	5,050.4	78.5	-445.0	-23.0	0.00	0.00	0.00
5,200.0	13.26	280.01	5,147.8	82.5	-467.6	-24.2	0.00	0.00	0.00
5,300.0	13.26	280.01	5,245.1	86.5	-490.2	-25.4	0.00	0.00	0.00
5,400.0	13.26	280.01	5,342.4	90.5	-512.8	-26.5	0.00	0.00	0.00
5,500.0	13.26	280.01	5,439.8	94.5	-535.4	-27.7	0.00	0.00	0.00
5,600.0	13.26	280.01	5,537.1	98.5	-558.0	-28.9	0.00	0.00	0.00
5,700.0	13.26	280.01	5,634.4	102.5	-580.6	-30.1	0.00	0.00	0.00
5,800.0	13.26	280.01	5,731.8	106.4	-603.2	-31.2	0.00	0.00	0.00
5,900.0	13.26	280.01	5,829.1	110.4	-625.8	-32.4	0.00	0.00	0.00
6,000.0	13.26	280.01	5,926.4	114.4	-648.4	-33.6	0.00	0.00	0.00
6,100.0	13.26	280.01	6,023.8	118.4	-670.9	-34.7	0.00	0.00	0.00
6,200.0	13.26	280.01	6,121.1	122.4	-693.5	-35.9	0.00	0.00	0.00
6,300.0	13.26	280.01	6,218.4	126.4	-716.1	-37.1	0.00	0.00	0.00
6,400.0	13.26	280.01	6,315.8	130.4	-738.7	-38.2	0.00	0.00	0.00
6,500.0	13.26	280.01	6,413.1	134.3	-761.3	-39.4	0.00	0.00	0.00
6,600.0	13.26	280.01	6,510.4	138.3	-783.9	-40.6	0.00	0.00	0.00
6,700.0	13.26	280.01	6,607.8	142.3	-806.5	-41.7	0.00	0.00	0.00
6,800.0	13.26	280.01	6,705.1	146.3	-829.1	-42.9	0.00	0.00	0.00
6,892.6	13.26	280.01	6,795.2	150.0	-850.0	-44.0	0.00	0.00	0.00
Start DLS 8.00 TFO -72.80									
6,900.0	13.45	277.56	6,802.4	150.3	-851.7	-44.0	8.00	2.52	-32.87
6,950.0	15.25	263.10	6,850.9	150.2	-864.0	-42.5	8.00	3.61	-28.93
7,000.0	17.77	252.13	6,898.8	147.1	-877.8	-37.7	8.00	5.04	-21.94
7,050.0	20.75	244.00	6,946.0	140.9	-893.0	-29.6	8.00	5.96	-16.25
7,100.0	24.02	237.92	6,992.3	131.6	-909.6	-18.4	8.00	6.53	-12.17
7,150.0	27.47	233.25	7,037.3	119.3	-927.5	-3.9	8.00	6.90	-9.34
7,200.0	31.04	229.56	7,080.9	104.0	-946.5	13.6	8.00	7.15	-7.37
7,250.0	34.70	226.58	7,122.9	85.9	-966.7	34.1	8.00	7.32	-5.97
7,300.0	38.42	224.10	7,163.1	64.9	-987.9	57.5	8.00	7.44	-4.95
7,350.0	42.18	222.00	7,201.2	41.3	-1,009.9	83.6	8.00	7.53	-4.20
7,353.8	42.47	221.85	7,204.0	39.4	-1,011.6	85.7	8.00	7.56	-3.87
Niobrara									
7,400.0	45.98	220.19	7,237.1	15.0	-1,032.8	112.5	8.00	7.59	-3.61
7,450.0	49.80	218.59	7,270.6	-13.6	-1,056.3	143.8	8.00	7.64	-3.19
7,500.0	53.64	217.17	7,301.6	-44.6	-1,080.4	177.5	8.00	7.68	-2.85
7,550.0	57.50	215.88	7,329.9	-77.7	-1,104.9	213.4	8.00	7.71	-2.58
7,582.4	60.00	215.10	7,346.7	-100.3	-1,121.0	237.8	8.00	7.73	-2.40
Start 150.0 hold at 7582.4 MD									
7,600.0	60.00	215.10	7,355.5	-112.8	-1,129.7	251.3	0.00	0.00	0.00
7,700.0	60.00	215.10	7,405.5	-183.6	-1,179.5	327.7	0.00	0.00	0.00
7,732.4	60.00	215.10	7,421.7	-206.6	-1,195.6	352.5	0.00	0.00	0.00
Start DLS 10.00 TFO -54.57									
7,750.0	61.03	213.46	7,430.3	-219.2	-1,204.3	366.1	10.00	5.85	-9.31
7,800.0	64.06	208.98	7,453.4	-257.2	-1,227.2	406.6	10.00	6.06	-8.97

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Well:	Castle 0780 7-17H20	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)
7,850.0	67.22	204.72	7,474.0	-297.8	-1,247.8	449.5	10.00	6.32	-8.51
7,900.0	70.49	200.66	7,492.1	-340.8	-1,265.8	494.4	10.00	6.54	-8.12
7,950.0	73.84	196.77	7,507.4	-385.9	-1,281.0	541.0	10.00	6.71	-7.79
8,000.0	77.27	193.00	7,519.9	-432.7	-1,293.4	588.9	10.00	6.85	-7.53
8,050.0	80.74	189.34	7,529.4	-480.8	-1,302.9	637.9	10.00	6.95	-7.33
8,100.0	84.25	185.75	7,535.9	-529.9	-1,309.4	687.4	10.00	7.02	-7.18
8,150.0	87.79	182.20	7,539.4	-579.7	-1,312.9	737.2	10.00	7.07	-7.09
8,181.2	90.00	180.00	7,540.0	-610.9	-1,313.5	768.3	10.00	7.08	-7.06
Start 9954.8 hold at 8181.2 MD									
8,200.0	90.00	180.00	7,540.0	-629.7	-1,313.5	786.9	0.00	0.00	0.00
8,300.0	90.00	180.00	7,540.0	-729.7	-1,313.5	886.1	0.00	0.00	0.00
8,400.0	90.00	180.00	7,540.0	-829.7	-1,313.5	985.4	0.00	0.00	0.00
8,500.0	90.00	180.00	7,540.0	-929.7	-1,313.5	1,084.6	0.00	0.00	0.00
8,600.0	90.00	180.00	7,540.0	-1,029.7	-1,313.5	1,183.8	0.00	0.00	0.00
8,700.0	90.00	180.00	7,540.0	-1,129.7	-1,313.5	1,283.1	0.00	0.00	0.00
8,800.0	90.00	180.00	7,540.0	-1,229.7	-1,313.5	1,382.3	0.00	0.00	0.00
8,900.0	90.00	180.00	7,540.0	-1,329.7	-1,313.5	1,481.5	0.00	0.00	0.00
9,000.0	90.00	180.00	7,540.0	-1,429.7	-1,313.5	1,580.8	0.00	0.00	0.00
9,100.0	90.00	180.00	7,540.0	-1,529.7	-1,313.5	1,680.0	0.00	0.00	0.00
9,200.0	90.00	180.00	7,540.0	-1,629.7	-1,313.5	1,779.2	0.00	0.00	0.00
9,300.0	90.00	180.00	7,540.0	-1,729.7	-1,313.5	1,878.5	0.00	0.00	0.00
9,400.0	90.00	180.00	7,540.0	-1,829.7	-1,313.5	1,977.7	0.00	0.00	0.00
9,500.0	90.00	180.00	7,540.0	-1,929.7	-1,313.5	2,077.0	0.00	0.00	0.00
9,600.0	90.00	180.00	7,540.0	-2,029.7	-1,313.5	2,176.2	0.00	0.00	0.00
9,700.0	90.00	180.00	7,540.0	-2,129.7	-1,313.5	2,275.4	0.00	0.00	0.00
9,800.0	90.00	180.00	7,540.0	-2,229.7	-1,313.5	2,374.7	0.00	0.00	0.00
9,900.0	90.00	180.00	7,540.0	-2,329.7	-1,313.5	2,473.9	0.00	0.00	0.00
10,000.0	90.00	180.00	7,540.0	-2,429.7	-1,313.5	2,573.1	0.00	0.00	0.00
10,100.0	90.00	180.00	7,540.0	-2,529.7	-1,313.5	2,672.4	0.00	0.00	0.00
10,200.0	90.00	180.00	7,540.0	-2,629.7	-1,313.5	2,771.6	0.00	0.00	0.00
10,300.0	90.00	180.00	7,540.0	-2,729.7	-1,313.5	2,870.8	0.00	0.00	0.00
10,400.0	90.00	180.00	7,540.0	-2,829.7	-1,313.5	2,970.1	0.00	0.00	0.00
10,500.0	90.00	180.00	7,540.0	-2,929.7	-1,313.5	3,069.3	0.00	0.00	0.00
10,600.0	90.00	180.00	7,540.0	-3,029.7	-1,313.5	3,168.6	0.00	0.00	0.00
10,700.0	90.00	180.00	7,540.0	-3,129.7	-1,313.5	3,267.8	0.00	0.00	0.00
10,800.0	90.00	180.00	7,540.0	-3,229.7	-1,313.5	3,367.0	0.00	0.00	0.00
10,900.0	90.00	180.00	7,540.0	-3,329.7	-1,313.5	3,466.3	0.00	0.00	0.00
11,000.0	90.00	180.00	7,540.0	-3,429.7	-1,313.5	3,565.5	0.00	0.00	0.00
11,100.0	90.00	180.00	7,540.0	-3,529.7	-1,313.5	3,664.7	0.00	0.00	0.00
11,200.0	90.00	180.00	7,540.0	-3,629.7	-1,313.5	3,764.0	0.00	0.00	0.00
11,300.0	90.00	180.00	7,540.0	-3,729.7	-1,313.5	3,863.2	0.00	0.00	0.00
11,400.0	90.00	180.00	7,540.0	-3,829.7	-1,313.5	3,962.4	0.00	0.00	0.00
11,500.0	90.00	180.00	7,540.0	-3,929.7	-1,313.5	4,061.7	0.00	0.00	0.00
11,600.0	90.00	180.00	7,540.0	-4,029.7	-1,313.5	4,160.9	0.00	0.00	0.00

SandRidge Energy

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Castle 0780 7-17H20
Project:	North Park Basin	TVD Reference:	WELL @ 8136.0usft (Original Well Elev)
Site:	T7N-R80W-S9	MD Reference:	WELL @ 8136.0usft (Original Well Elev)
Well:	Castle 0780 7-17H20	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)
11,700.0	90.00	180.00	7,540.0	-4,129.7	-1,313.5	4,260.1	0.00	0.00	0.00
11,800.0	90.00	180.00	7,540.0	-4,229.7	-1,313.5	4,359.4	0.00	0.00	0.00
11,900.0	90.00	180.00	7,540.0	-4,329.7	-1,313.5	4,458.6	0.00	0.00	0.00
12,000.0	90.00	180.00	7,540.0	-4,429.7	-1,313.5	4,557.9	0.00	0.00	0.00
12,100.0	90.00	180.00	7,540.0	-4,529.7	-1,313.5	4,657.1	0.00	0.00	0.00
12,200.0	90.00	180.00	7,540.0	-4,629.7	-1,313.5	4,756.3	0.00	0.00	0.00
12,300.0	90.00	180.00	7,540.0	-4,729.7	-1,313.5	4,855.6	0.00	0.00	0.00
12,400.0	90.00	180.00	7,540.0	-4,829.7	-1,313.5	4,954.8	0.00	0.00	0.00
12,500.0	90.00	180.00	7,540.0	-4,929.7	-1,313.5	5,054.0	0.00	0.00	0.00
12,600.0	90.00	180.00	7,540.0	-5,029.7	-1,313.5	5,153.3	0.00	0.00	0.00
12,700.0	90.00	180.00	7,540.0	-5,129.7	-1,313.5	5,252.5	0.00	0.00	0.00
12,800.0	90.00	180.00	7,540.0	-5,229.7	-1,313.5	5,351.7	0.00	0.00	0.00
12,900.0	90.00	180.00	7,540.0	-5,329.7	-1,313.5	5,451.0	0.00	0.00	0.00
13,000.0	90.00	180.00	7,540.0	-5,429.7	-1,313.5	5,550.2	0.00	0.00	0.00
13,100.0	90.00	180.00	7,540.0	-5,529.7	-1,313.5	5,649.5	0.00	0.00	0.00
13,200.0	90.00	180.00	7,540.0	-5,629.7	-1,313.5	5,748.7	0.00	0.00	0.00
13,300.0	90.00	180.00	7,540.0	-5,729.7	-1,313.5	5,847.9	0.00	0.00	0.00
13,400.0	90.00	180.00	7,540.0	-5,829.7	-1,313.5	5,947.2	0.00	0.00	0.00
13,500.0	90.00	180.00	7,540.0	-5,929.7	-1,313.5	6,046.4	0.00	0.00	0.00
13,600.0	90.00	180.00	7,540.0	-6,029.7	-1,313.5	6,145.6	0.00	0.00	0.00
13,700.0	90.00	180.00	7,540.0	-6,129.7	-1,313.5	6,244.9	0.00	0.00	0.00
13,800.0	90.00	180.00	7,540.0	-6,229.7	-1,313.5	6,344.1	0.00	0.00	0.00
13,900.0	90.00	180.00	7,540.0	-6,329.7	-1,313.5	6,443.3	0.00	0.00	0.00
14,000.0	90.00	180.00	7,540.0	-6,429.7	-1,313.4	6,542.6	0.00	0.00	0.00
14,100.0	90.00	180.00	7,540.0	-6,529.7	-1,313.4	6,641.8	0.00	0.00	0.00
14,200.0	90.00	180.00	7,540.0	-6,629.7	-1,313.4	6,741.1	0.00	0.00	0.00
14,300.0	90.00	180.00	7,540.0	-6,729.7	-1,313.4	6,840.3	0.00	0.00	0.00
14,400.0	90.00	180.00	7,540.0	-6,829.7	-1,313.4	6,939.5	0.00	0.00	0.00
14,500.0	90.00	180.00	7,540.0	-6,929.7	-1,313.4	7,038.8	0.00	0.00	0.00
14,600.0	90.00	180.00	7,540.0	-7,029.7	-1,313.4	7,138.0	0.00	0.00	0.00
14,700.0	90.00	180.00	7,540.0	-7,129.7	-1,313.4	7,237.2	0.00	0.00	0.00
14,800.0	90.00	180.00	7,540.0	-7,229.7	-1,313.4	7,336.5	0.00	0.00	0.00
14,900.0	90.00	180.00	7,540.0	-7,329.7	-1,313.4	7,435.7	0.00	0.00	0.00
15,000.0	90.00	180.00	7,540.0	-7,429.7	-1,313.4	7,534.9	0.00	0.00	0.00
15,100.0	90.00	180.00	7,540.0	-7,529.7	-1,313.4	7,634.2	0.00	0.00	0.00
15,200.0	90.00	180.00	7,540.0	-7,629.7	-1,313.4	7,733.4	0.00	0.00	0.00
15,300.0	90.00	180.00	7,540.0	-7,729.7	-1,313.4	7,832.6	0.00	0.00	0.00
15,400.0	90.00	180.00	7,540.0	-7,829.7	-1,313.4	7,931.9	0.00	0.00	0.00
15,500.0	90.00	180.00	7,540.0	-7,929.7	-1,313.4	8,031.1	0.00	0.00	0.00
15,600.0	90.00	180.00	7,540.0	-8,029.7	-1,313.4	8,130.4	0.00	0.00	0.00
15,700.0	90.00	180.00	7,540.0	-8,129.7	-1,313.4	8,229.6	0.00	0.00	0.00
15,800.0	90.00	180.00	7,540.0	-8,229.7	-1,313.4	8,328.8	0.00	0.00	0.00
15,900.0	90.00	180.00	7,540.0	-8,329.7	-1,313.4	8,428.1	0.00	0.00	0.00

SandRidge Energy

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Castle 0780 7-17H20
Project:	North Park Basin	TVD Reference:	WELL @ 8136.0usft (Original Well Elev)
Site:	T7N-R80W-S9	MD Reference:	WELL @ 8136.0usft (Original Well Elev)
Well:	Castle 0780 7-17H20	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)
16,000.0	90.00	180.00	7,540.0	-8,429.7	-1,313.4	8,527.3	0.00	0.00	0.00
16,100.0	90.00	180.00	7,540.0	-8,529.7	-1,313.4	8,626.5	0.00	0.00	0.00
16,200.0	90.00	180.00	7,540.0	-8,629.7	-1,313.4	8,725.8	0.00	0.00	0.00
16,300.0	90.00	180.00	7,540.0	-8,729.7	-1,313.4	8,825.0	0.00	0.00	0.00
16,400.0	90.00	180.00	7,540.0	-8,829.7	-1,313.4	8,924.2	0.00	0.00	0.00
16,500.0	90.00	180.00	7,540.0	-8,929.7	-1,313.4	9,023.5	0.00	0.00	0.00
16,600.0	90.00	180.00	7,540.0	-9,029.7	-1,313.4	9,122.7	0.00	0.00	0.00
16,700.0	90.00	180.00	7,540.0	-9,129.7	-1,313.4	9,222.0	0.00	0.00	0.00
16,800.0	90.00	180.00	7,540.0	-9,229.7	-1,313.4	9,321.2	0.00	0.00	0.00
16,900.0	90.00	180.00	7,540.0	-9,329.7	-1,313.4	9,420.4	0.00	0.00	0.00
17,000.0	90.00	180.00	7,540.0	-9,429.7	-1,313.4	9,519.7	0.00	0.00	0.00
17,100.0	90.00	180.00	7,540.0	-9,529.7	-1,313.4	9,618.9	0.00	0.00	0.00
17,200.0	90.00	180.00	7,540.0	-9,629.7	-1,313.4	9,718.1	0.00	0.00	0.00
17,300.0	90.00	180.00	7,540.0	-9,729.7	-1,313.4	9,817.4	0.00	0.00	0.00
17,400.0	90.00	180.00	7,540.0	-9,829.7	-1,313.4	9,916.6	0.00	0.00	0.00
17,500.0	90.00	180.00	7,540.0	-9,929.7	-1,313.4	10,015.8	0.00	0.00	0.00
17,600.0	90.00	180.00	7,540.0	-10,029.7	-1,313.4	10,115.1	0.00	0.00	0.00
17,700.0	90.00	180.00	7,540.0	-10,129.7	-1,313.4	10,214.3	0.00	0.00	0.00
17,800.0	90.00	180.00	7,540.0	-10,229.7	-1,313.4	10,313.6	0.00	0.00	0.00
17,900.0	90.00	180.00	7,540.0	-10,329.7	-1,313.4	10,412.8	0.00	0.00	0.00
18,000.0	90.00	180.00	7,540.0	-10,429.7	-1,313.4	10,512.0	0.00	0.00	0.00
18,100.0	90.00	180.00	7,540.0	-10,529.7	-1,313.4	10,611.3	0.00	0.00	0.00
18,136.0	90.00	180.00	7,540.0	-10,565.7	-1,313.4	10,647.0	0.00	0.00	0.00
TD at 18136.0									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Castle 7	0.00	360.00	7,540.0	-10,565.7	-1,313.4	1,446,850.27	2,752,194.97	40° 33' 23.699 N	106° 23' 30.575 W
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,353.8	7,204.0	Niobrara		0.00	

SandRidge Energy

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Castle 0780 7-17H20
Project:	North Park Basin	TVD Reference:	WELL @ 8136.0usft (Original Well Elev)
Site:	T7N-R80W-S9	MD Reference:	WELL @ 8136.0usft (Original Well Elev)
Well:	Castle 0780 7-17H20	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)	
2800	2800	0	0	Start Build 2.00
3463	3457	13	-75	Start 3429.5 hold at 3463.1 MD
6893	6795	150	-850	Start DLS 8.00 TFO -72.80
7582	7347	-100	-1121	Start 150.0 hold at 7582.4 MD
7732	7422	-207	-1196	Start DLS 10.00 TFO -54.57
8181	7540	-611	-1313	Start 9954.8 hold at 8181.2 MD
18,136	7540	-10,566	-1313	TD at 18136.0

Checked By: _____ Approved By: _____ Date: _____