

SandRidge Energy

**North Park Basin
T7N-R80W-S18
Hebron 0780 6-18H**

Wellbore #1

Plan: Design #1

Standard Survey Report

07 July, 2016

SandRidge Energy

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Hebron 0780 6-18H
Project:	North Park Basin	TVD Reference:	WELL @ 8223.8usft (Original Well Elev)
Site:	T7N-R80W-S18	MD Reference:	WELL @ 8223.8usft (Original Well Elev)
Well:	Hebron 0780 6-18H	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-S18				
Site Position:		Northing:	1,456,963.79 usft	Latitude:	40° 35' 2.980 N
From:	Lat/Long	Easting:	2,745,723.26 usft	Longitude:	106° 24' 55.770 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.59 °

Well	Hebron 0780 6-18H					
Well Position	+N/-S	0.0 usft	Northing:	1,452,261.41 usft	Latitude:	40° 34' 16.259 N
	+E/-W	0.0 usft	Easting:	2,743,218.95 usft	Longitude:	106° 25' 27.592 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	8,207.8 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	9.90	66.96	53,179

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	1.74	

Survey Tool Program	Date	7/7/2016			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,338.5	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
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
Start Build 2.00									
3,100.0	2.00	153.34	3,100.0	-1.6	0.8	-1.5	2.00	2.00	0.00
3,200.0	4.00	153.34	3,199.8	-6.2	3.1	-6.1	2.00	2.00	0.00
3,298.5	5.97	153.34	3,297.9	-13.9	7.0	-13.7	2.00	2.00	0.00
Start 2540.3 hold at 3298.5 MD									
3,300.0	5.97	153.34	3,299.5	-14.0	7.0	-13.8	0.00	0.00	0.00
3,400.0	5.97	153.34	3,398.9	-23.3	11.7	-23.0	0.00	0.00	0.00
3,500.0	5.97	153.34	3,498.4	-32.6	16.4	-32.1	0.00	0.00	0.00
3,600.0	5.97	153.34	3,597.8	-41.9	21.0	-41.3	0.00	0.00	0.00
3,700.0	5.97	153.34	3,697.3	-51.2	25.7	-50.4	0.00	0.00	0.00
3,800.0	5.97	153.34	3,796.7	-60.5	30.4	-59.5	0.00	0.00	0.00
3,900.0	5.97	153.34	3,896.2	-69.8	35.0	-68.7	0.00	0.00	0.00
4,000.0	5.97	153.34	3,995.7	-79.1	39.7	-77.8	0.00	0.00	0.00
4,100.0	5.97	153.34	4,095.1	-88.4	44.4	-87.0	0.00	0.00	0.00
4,200.0	5.97	153.34	4,194.6	-97.7	49.0	-96.1	0.00	0.00	0.00
4,300.0	5.97	153.34	4,294.0	-107.0	53.7	-105.3	0.00	0.00	0.00
4,400.0	5.97	153.34	4,393.5	-116.3	58.4	-114.4	0.00	0.00	0.00
4,500.0	5.97	153.34	4,492.9	-125.6	63.0	-123.6	0.00	0.00	0.00
4,600.0	5.97	153.34	4,592.4	-134.9	67.7	-132.7	0.00	0.00	0.00
4,700.0	5.97	153.34	4,691.9	-144.2	72.4	-141.9	0.00	0.00	0.00
4,800.0	5.97	153.34	4,791.3	-153.4	77.0	-151.0	0.00	0.00	0.00
4,900.0	5.97	153.34	4,890.8	-162.7	81.7	-160.2	0.00	0.00	0.00
5,000.0	5.97	153.34	4,990.2	-172.0	86.4	-169.3	0.00	0.00	0.00

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5,100.0	5.97	153.34	5,089.7	-181.3	91.0	-178.5	0.00	0.00	0.00
5,200.0	5.97	153.34	5,189.1	-190.6	95.7	-187.6	0.00	0.00	0.00
5,300.0	5.97	153.34	5,288.6	-199.9	100.4	-196.8	0.00	0.00	0.00
5,400.0	5.97	153.34	5,388.1	-209.2	105.0	-205.9	0.00	0.00	0.00
5,500.0	5.97	153.34	5,487.5	-218.5	109.7	-215.1	0.00	0.00	0.00
5,600.0	5.97	153.34	5,587.0	-227.8	114.4	-224.2	0.00	0.00	0.00
5,700.0	5.97	153.34	5,686.4	-237.1	119.0	-233.4	0.00	0.00	0.00
5,800.0	5.97	153.34	5,785.9	-246.4	123.7	-242.5	0.00	0.00	0.00
5,838.8	5.97	153.34	5,824.5	-250.0	125.5	-246.1	0.00	0.00	0.00
Start DLS 8.00 TFO -154.72									
5,850.0	5.17	149.10	5,835.6	-251.0	126.0	-247.0	8.00	-7.11	-37.91
5,900.0	2.60	99.77	5,885.5	-253.1	128.3	-249.1	8.00	-5.16	-98.67
5,950.0	4.32	34.54	5,935.4	-251.7	130.5	-247.6	8.00	3.45	-130.46
6,000.0	7.91	17.16	5,985.2	-246.9	132.6	-242.7	8.00	7.18	-34.76
6,050.0	11.77	10.82	6,034.4	-238.6	134.5	-234.4	8.00	7.71	-12.67
6,100.0	15.70	7.60	6,083.0	-226.9	136.4	-222.6	8.00	7.86	-6.44
6,150.0	19.65	5.65	6,130.6	-211.8	138.1	-207.5	8.00	7.91	-3.90
6,200.0	23.62	4.33	6,177.1	-193.4	139.7	-189.1	8.00	7.94	-2.63
6,250.0	27.60	3.38	6,222.2	-171.9	141.1	-167.5	8.00	7.96	-1.91
6,300.0	31.59	2.65	6,265.6	-147.2	142.4	-142.8	8.00	7.97	-1.46
6,350.0	35.57	2.06	6,307.3	-119.6	143.6	-115.2	8.00	7.97	-1.17
6,400.0	39.56	1.58	6,346.9	-89.1	144.5	-84.7	8.00	7.98	-0.96
6,401.4	39.68	1.57	6,348.0	-88.2	144.5	-83.8	8.00	7.98	-0.87
Niobrara									
6,450.0	43.55	1.18	6,384.3	-56.0	145.3	-51.5	8.00	7.98	-0.81
6,500.0	47.54	0.83	6,419.3	-20.3	145.9	-15.8	8.00	7.98	-0.70
6,550.0	51.54	0.52	6,451.7	17.7	146.4	22.2	8.00	7.99	-0.61
6,600.0	55.53	0.25	6,481.5	57.9	146.7	62.4	8.00	7.99	-0.55
6,650.0	59.53	360.00	6,508.3	100.1	146.7	104.5	8.00	7.99	-0.50
6,655.9	60.00	359.97	6,511.3	105.2	146.7	109.6	8.00	7.99	-0.48
Start 150.0 hold at 6655.9 MD									
6,700.0	60.00	359.97	6,533.3	143.4	146.7	147.8	0.00	0.00	0.00
6,805.9	60.00	359.97	6,586.3	235.1	146.7	239.5	0.00	0.00	0.00
Start DLS 10.00 TFO 0.00									
6,850.0	64.41	359.97	6,606.8	274.1	146.7	278.4	10.00	10.00	0.00
6,900.0	69.41	359.97	6,626.4	320.1	146.6	324.4	10.00	10.00	0.00
6,950.0	74.41	359.97	6,642.0	367.6	146.6	371.9	10.00	10.00	0.00
7,000.0	79.41	359.97	6,653.3	416.3	146.6	420.6	10.00	10.00	0.00
7,050.0	84.41	359.97	6,660.3	465.8	146.6	470.0	10.00	10.00	0.00
7,100.0	89.41	359.97	6,663.0	515.7	146.5	519.9	10.00	10.00	0.00
7,105.9	90.00	359.97	6,663.0	521.6	146.5	525.8	10.00	10.00	0.00
Start 4232.6 hold at 7105.9 MD									
7,200.0	90.00	359.97	6,663.0	615.7	146.5	619.9	0.00	0.00	0.00
7,300.0	90.00	359.97	6,663.0	715.7	146.4	719.8	0.00	0.00	0.00

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Well:	Hebron 0780 6-18H	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	90.00	359.97	6,663.0	815.7	146.4	819.8	0.00	0.00	0.00
7,500.0	90.00	359.97	6,663.0	915.7	146.3	919.7	0.00	0.00	0.00
7,600.0	90.00	359.97	6,663.0	1,015.7	146.3	1,019.7	0.00	0.00	0.00
7,700.0	90.00	359.97	6,663.0	1,115.7	146.2	1,119.6	0.00	0.00	0.00
7,800.0	90.00	359.97	6,663.0	1,215.7	146.2	1,219.6	0.00	0.00	0.00
7,900.0	90.00	359.97	6,663.0	1,315.7	146.1	1,319.5	0.00	0.00	0.00
8,000.0	90.00	359.97	6,663.0	1,415.7	146.1	1,419.5	0.00	0.00	0.00
8,100.0	90.00	359.97	6,663.0	1,515.7	146.0	1,519.4	0.00	0.00	0.00
8,200.0	90.00	359.97	6,663.0	1,615.7	146.0	1,619.4	0.00	0.00	0.00
8,300.0	90.00	359.97	6,663.0	1,715.7	145.9	1,719.3	0.00	0.00	0.00
8,400.0	90.00	359.97	6,663.0	1,815.7	145.9	1,819.3	0.00	0.00	0.00
8,500.0	90.00	359.97	6,663.0	1,915.7	145.8	1,919.2	0.00	0.00	0.00
8,600.0	90.00	359.97	6,663.0	2,015.7	145.8	2,019.2	0.00	0.00	0.00
8,700.0	90.00	359.97	6,663.0	2,115.7	145.7	2,119.1	0.00	0.00	0.00
8,800.0	90.00	359.97	6,663.0	2,215.7	145.7	2,219.1	0.00	0.00	0.00
8,900.0	90.00	359.97	6,663.0	2,315.7	145.6	2,319.1	0.00	0.00	0.00
9,000.0	90.00	359.97	6,663.0	2,415.7	145.6	2,419.0	0.00	0.00	0.00
9,100.0	90.00	359.97	6,663.0	2,515.7	145.5	2,519.0	0.00	0.00	0.00
9,200.0	90.00	359.97	6,663.0	2,615.7	145.5	2,618.9	0.00	0.00	0.00
9,300.0	90.00	359.97	6,663.0	2,715.7	145.4	2,718.9	0.00	0.00	0.00
9,400.0	90.00	359.97	6,663.0	2,815.7	145.4	2,818.8	0.00	0.00	0.00
9,500.0	90.00	359.97	6,663.0	2,915.7	145.3	2,918.8	0.00	0.00	0.00
9,600.0	90.00	359.97	6,663.0	3,015.7	145.3	3,018.7	0.00	0.00	0.00
9,700.0	90.00	359.97	6,663.0	3,115.7	145.2	3,118.7	0.00	0.00	0.00
9,800.0	90.00	359.97	6,663.0	3,215.7	145.2	3,218.6	0.00	0.00	0.00
9,900.0	90.00	359.97	6,663.0	3,315.7	145.1	3,318.6	0.00	0.00	0.00
10,000.0	90.00	359.97	6,663.0	3,415.7	145.1	3,418.5	0.00	0.00	0.00
10,100.0	90.00	359.97	6,663.0	3,515.7	145.0	3,518.5	0.00	0.00	0.00
10,200.0	90.00	359.97	6,663.0	3,615.7	145.0	3,618.4	0.00	0.00	0.00
10,300.0	90.00	359.97	6,663.0	3,715.7	144.9	3,718.4	0.00	0.00	0.00
10,400.0	90.00	359.97	6,663.0	3,815.7	144.9	3,818.3	0.00	0.00	0.00
10,500.0	90.00	359.97	6,663.0	3,915.7	144.8	3,918.3	0.00	0.00	0.00
10,600.0	90.00	359.97	6,663.0	4,015.7	144.8	4,018.2	0.00	0.00	0.00
10,700.0	90.00	359.97	6,663.0	4,115.7	144.7	4,118.2	0.00	0.00	0.00
10,800.0	90.00	359.97	6,663.0	4,215.7	144.7	4,218.1	0.00	0.00	0.00
10,900.0	90.00	359.97	6,663.0	4,315.7	144.6	4,318.1	0.00	0.00	0.00
11,000.0	90.00	359.97	6,663.0	4,415.7	144.6	4,418.1	0.00	0.00	0.00
11,100.0	90.00	359.97	6,663.0	4,515.7	144.5	4,518.0	0.00	0.00	0.00
11,200.0	90.00	359.97	6,663.0	4,615.7	144.5	4,618.0	0.00	0.00	0.00
11,300.0	90.00	359.97	6,663.0	4,715.7	144.4	4,717.9	0.00	0.00	0.00
11,338.5	90.00	359.97	6,663.0	4,754.2	144.4	4,756.4	0.00	0.00	0.00
TD at 11338.5									

SandRidge Energy

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Hebron 0780 6-18H
Project:	North Park Basin	TVD Reference:	WELL @ 8223.8usft (Original Well Elev)
Site:	T7N-R80W-S18	MD Reference:	WELL @ 8223.8usft (Original Well Elev)
Well:	Hebron 0780 6-18H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDMProd

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									
Hebron 0780 6-18H PBH	0.00	360.00	6,663.0	4,754.2	144.4	1,457,015.62	2,743,363.35	40° 35' 3.250 N	106° 25' 26.362 W
- plan hits target center									
- Point									

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,401.4	6,348.0	Niobrara		0.00	

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3000	3000	0	0	Start Build 2.00
3298	3298	-14	7	Start 2540.3 hold at 3298.5 MD
5839	5825	-250	125	Start DLS 8.00 TFO -154.72
6656	6511	105	147	Start 150.0 hold at 6655.9 MD
6806	6586	235	147	Start DLS 10.00 TFO 0.00
7106	6663	522	147	Start 4232.6 hold at 7105.9 MD
11,339	6663	4754	144	TD at 11338.5

Checked By: _____ Approved By: _____ Date: _____