

SandRidge Energy

North Park Basin

T7N-R80W-S18

Hebron 0780 10-18H

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 10-18H
Project:	North Park Basin	TVD Reference:	WELL @ 8223.6usft (Original Well Elev)
Site:	T7N-R80W-S18	MD Reference:	WELL @ 8223.6usft (Original Well Elev)
Well:	Hebron 0780 10-18H	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
From:	Lat/Long	Easting:	2,745,723.26 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	40° 35' 2.980 N
		Longitude:	106° 24' 55.770 W
		Grid Convergence:	-0.59 °

Well	Hebron 0780 10-18H		
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° 34' 16.259 N
		Longitude:	106° 25' 26.817 W
		Ground Level:	8,207.6 usft

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

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
			Direction
			(°)
			0.00

Survey Tool Program	Date	7/7/2016		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
0.0	11,950.9	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

SandRidge Energy

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Hebron 0780 10-18H
Project:	North Park Basin	TVD Reference:	WELL @ 8223.6usft (Original Well Elev)
Site:	T7N-R80W-S18	MD Reference:	WELL @ 8223.6usft (Original Well Elev)
Well:	Hebron 0780 10-18H	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)
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	90.00	2,600.0	0.0	1.7	0.0	2.00	2.00	0.00
2,700.0	4.00	90.00	2,699.8	0.0	7.0	0.0	2.00	2.00	0.00
2,800.0	6.00	90.00	2,799.5	0.0	15.7	0.0	2.00	2.00	0.00
2,900.0	8.00	90.00	2,898.7	0.0	27.9	0.0	2.00	2.00	0.00
3,000.0	10.00	90.00	2,997.5	0.0	43.5	0.0	2.00	2.00	0.00
3,100.0	12.00	90.00	3,095.6	0.0	62.6	0.0	2.00	2.00	0.00
3,200.0	14.00	90.00	3,193.1	0.0	85.1	0.0	2.00	2.00	0.00
3,300.0	16.00	90.00	3,289.6	0.0	111.0	0.0	2.00	2.00	0.00
3,400.0	18.00	90.00	3,385.3	0.0	140.2	0.0	2.00	2.00	0.00
3,500.0	20.00	90.00	3,479.8	0.0	172.8	0.0	2.00	2.00	0.00
3,600.0	22.00	90.00	3,573.2	0.0	208.6	0.0	2.00	2.00	0.00
3,700.0	24.00	90.00	3,665.2	0.0	247.7	0.0	2.00	2.00	0.00
3,800.0	26.00	90.00	3,755.8	0.0	289.9	0.0	2.00	2.00	0.00
3,900.0	28.00	90.00	3,844.9	0.0	335.3	0.0	2.00	2.00	0.00
3,972.6	29.45	90.00	3,908.6	0.0	370.2	0.0	2.00	2.00	0.00
Start 2440.2 hold at 3972.6 MD									
4,000.0	29.45	90.00	3,932.5	0.0	383.7	0.0	0.00	0.00	0.00
4,100.0	29.45	90.00	4,019.5	0.0	432.9	0.0	0.00	0.00	0.00
4,200.0	29.45	90.00	4,106.6	0.0	482.0	0.0	0.00	0.00	0.00
4,300.0	29.45	90.00	4,193.7	0.0	531.2	0.0	0.00	0.00	0.00
4,400.0	29.45	90.00	4,280.8	0.0	580.4	0.0	0.00	0.00	0.00
4,500.0	29.45	90.00	4,367.8	0.0	629.5	0.0	0.00	0.00	0.00
4,600.0	29.45	90.00	4,454.9	0.0	678.7	0.0	0.00	0.00	0.00
4,700.0	29.45	90.00	4,542.0	0.0	727.9	0.0	0.00	0.00	0.00
4,800.0	29.45	90.00	4,629.1	0.0	777.0	0.0	0.00	0.00	0.00
4,900.0	29.45	90.00	4,716.2	0.0	826.2	0.0	0.00	0.00	0.00
5,000.0	29.45	90.00	4,803.2	0.0	875.4	0.0	0.00	0.00	0.00

SandRidge Energy

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Hebron 0780 10-18H
Project:	North Park Basin	TVD Reference:	WELL @ 8223.6usft (Original Well Elev)
Site:	T7N-R80W-S18	MD Reference:	WELL @ 8223.6usft (Original Well Elev)
Well:	Hebron 0780 10-18H	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)
5,100.0	29.45	90.00	4,890.3	0.0	924.5	0.0	0.00	0.00	0.00
5,200.0	29.45	90.00	4,977.4	0.0	973.7	0.0	0.00	0.00	0.00
5,300.0	29.45	90.00	5,064.5	0.0	1,022.9	0.0	0.00	0.00	0.00
5,400.0	29.45	90.00	5,151.5	0.0	1,072.1	0.0	0.00	0.00	0.00
5,500.0	29.45	90.00	5,238.6	0.0	1,121.2	0.0	0.00	0.00	0.00
5,600.0	29.45	90.00	5,325.7	0.0	1,170.4	0.0	0.00	0.00	0.00
5,700.0	29.45	90.00	5,412.8	0.0	1,219.6	0.0	0.00	0.00	0.00
5,800.0	29.45	90.00	5,499.9	0.0	1,268.7	0.0	0.00	0.00	0.00
5,900.0	29.45	90.00	5,586.9	0.0	1,317.9	0.0	0.00	0.00	0.00
6,000.0	29.45	90.00	5,674.0	0.0	1,367.1	0.0	0.00	0.00	0.00
6,100.0	29.45	90.00	5,761.1	0.0	1,416.2	0.0	0.00	0.00	0.00
6,200.0	29.45	90.00	5,848.2	0.0	1,465.4	0.0	0.00	0.00	0.00
6,300.0	29.45	90.00	5,935.2	0.0	1,514.6	0.0	0.00	0.00	0.00
6,400.0	29.45	90.00	6,022.3	0.0	1,563.7	0.0	0.00	0.00	0.00
6,412.7	29.45	90.00	6,033.4	0.0	1,570.0	0.0	0.00	0.00	0.00
Start DLS 8.00 TFO 0.00									
6,450.0	32.43	90.00	6,065.4	0.0	1,589.2	0.0	8.00	8.00	0.00
6,500.0	36.43	90.00	6,106.6	0.0	1,617.4	0.0	8.00	8.00	0.00
6,550.0	40.43	90.00	6,145.8	0.0	1,648.5	0.0	8.00	8.00	0.00
6,600.0	44.43	90.00	6,182.6	0.0	1,682.2	0.0	8.00	8.00	0.00
6,650.0	48.43	90.00	6,217.1	0.0	1,718.5	0.0	8.00	8.00	0.00
6,700.0	52.43	90.00	6,248.9	0.0	1,757.0	0.0	8.00	8.00	0.00
6,750.0	56.43	90.00	6,278.0	0.0	1,797.7	0.0	8.00	8.00	0.00
6,794.6	60.00	90.00	6,301.5	0.0	1,835.5	0.0	8.00	8.00	0.00
Start 150.0 hold at 6794.6 MD									
6,800.0	60.00	90.00	6,304.2	0.0	1,840.2	0.0	0.00	0.00	0.00
6,887.6	60.00	90.00	6,348.0	0.0	1,916.1	0.0	0.00	0.00	0.00
Niobrara									
6,900.0	60.00	90.00	6,354.2	0.0	1,926.8	0.0	0.00	0.00	0.00
6,944.6	60.00	90.00	6,376.5	0.0	1,965.5	0.0	0.00	0.00	0.00
Start DLS 10.00 TFO -90.01									
6,950.0	60.00	89.38	6,379.2	0.0	1,970.1	0.0	10.00	0.03	-11.55
7,000.0	60.15	83.61	6,404.2	2.7	2,013.4	2.7	10.00	0.30	-11.53
7,050.0	60.56	77.87	6,428.9	9.7	2,056.2	9.7	10.00	0.80	-11.47
7,100.0	61.20	72.20	6,453.3	20.9	2,098.4	20.9	10.00	1.29	-11.35
7,150.0	62.08	66.60	6,477.0	36.4	2,139.6	36.4	10.00	1.76	-11.19
7,200.0	63.18	61.11	6,500.0	56.0	2,179.4	56.0	10.00	2.20	-10.99
7,250.0	64.49	55.73	6,522.1	79.5	2,217.6	79.5	10.00	2.62	-10.75
7,300.0	65.99	50.48	6,543.0	106.7	2,253.9	106.7	10.00	3.00	-10.51
7,350.0	67.66	45.35	6,562.7	137.5	2,288.0	137.5	10.00	3.35	-10.25
7,400.0	69.49	40.36	6,581.0	171.7	2,319.6	171.7	10.00	3.66	-10.00
7,450.0	71.47	35.48	6,597.7	208.8	2,348.5	208.8	10.00	3.94	-9.75
7,500.0	73.56	30.72	6,612.7	248.8	2,374.6	248.8	10.00	4.19	-9.52
7,550.0	75.76	26.06	6,626.0	291.2	2,397.5	291.2	10.00	4.40	-9.31

SandRidge Energy

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Hebron 0780 10-18H
Project:	North Park Basin	TVD Reference:	WELL @ 8223.6usft (Original Well Elev)
Site:	T7N-R80W-S18	MD Reference:	WELL @ 8223.6usft (Original Well Elev)
Well:	Hebron 0780 10-18H	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)
7,600.0	78.04	21.50	6,637.3	335.7	2,417.1	335.7	10.00	4.57	-9.13
7,650.0	80.40	17.01	6,646.7	382.1	2,433.3	382.1	10.00	4.72	-8.98
7,700.0	82.82	12.58	6,654.0	429.9	2,445.9	429.9	10.00	4.83	-8.85
7,750.0	85.28	8.21	6,659.2	478.8	2,454.9	478.8	10.00	4.92	-8.76
7,800.0	87.76	3.86	6,662.2	528.4	2,460.1	528.4	10.00	4.97	-8.69
7,844.7	90.00	359.98	6,663.1	573.1	2,461.6	573.1	10.01	5.00	-8.67
Start 4106.2 hold at 7844.7 MD									
7,900.0	90.00	359.98	6,663.0	628.4	2,461.6	628.4	0.00	0.00	0.00
8,000.0	90.00	359.98	6,663.0	728.4	2,461.5	728.4	0.00	0.00	0.00
8,100.0	90.00	359.98	6,663.0	828.4	2,461.5	828.4	0.00	0.00	0.00
8,200.0	90.00	359.98	6,663.0	928.4	2,461.5	928.4	0.00	0.00	0.00
8,300.0	90.00	359.98	6,663.0	1,028.4	2,461.4	1,028.4	0.00	0.00	0.00
8,400.0	90.00	359.98	6,663.0	1,128.4	2,461.4	1,128.4	0.00	0.00	0.00
8,500.0	90.00	359.98	6,663.0	1,228.4	2,461.4	1,228.4	0.00	0.00	0.00
8,600.0	90.00	359.98	6,663.0	1,328.4	2,461.3	1,328.4	0.00	0.00	0.00
8,700.0	90.00	359.98	6,663.0	1,428.4	2,461.3	1,428.4	0.00	0.00	0.00
8,800.0	90.00	359.98	6,663.0	1,528.4	2,461.3	1,528.4	0.00	0.00	0.00
8,900.0	90.00	359.98	6,663.0	1,628.4	2,461.2	1,628.4	0.00	0.00	0.00
9,000.0	90.00	359.98	6,663.0	1,728.4	2,461.2	1,728.4	0.00	0.00	0.00
9,100.0	90.00	359.98	6,663.0	1,828.4	2,461.2	1,828.4	0.00	0.00	0.00
9,200.0	90.00	359.98	6,663.0	1,928.4	2,461.1	1,928.4	0.00	0.00	0.00
9,300.0	90.00	359.98	6,663.0	2,028.4	2,461.1	2,028.4	0.00	0.00	0.00
9,400.0	90.00	359.98	6,663.0	2,128.4	2,461.1	2,128.4	0.00	0.00	0.00
9,500.0	90.00	359.98	6,663.0	2,228.4	2,461.0	2,228.4	0.00	0.00	0.00
9,600.0	90.00	359.98	6,663.0	2,328.4	2,461.0	2,328.4	0.00	0.00	0.00
9,700.0	90.00	359.98	6,663.0	2,428.4	2,461.0	2,428.4	0.00	0.00	0.00
9,800.0	90.00	359.98	6,663.0	2,528.4	2,460.9	2,528.4	0.00	0.00	0.00
9,900.0	90.00	359.98	6,663.0	2,628.4	2,460.9	2,628.4	0.00	0.00	0.00
10,000.0	90.00	359.98	6,663.0	2,728.4	2,460.9	2,728.4	0.00	0.00	0.00
10,100.0	90.00	359.98	6,663.0	2,828.4	2,460.8	2,828.4	0.00	0.00	0.00
10,200.0	90.00	359.98	6,663.0	2,928.4	2,460.8	2,928.4	0.00	0.00	0.00
10,300.0	90.00	359.98	6,663.0	3,028.4	2,460.8	3,028.4	0.00	0.00	0.00
10,400.0	90.00	359.98	6,663.0	3,128.4	2,460.7	3,128.4	0.00	0.00	0.00
10,500.0	90.00	359.98	6,663.0	3,228.4	2,460.7	3,228.4	0.00	0.00	0.00
10,600.0	90.00	359.98	6,663.0	3,328.4	2,460.7	3,328.4	0.00	0.00	0.00
10,700.0	90.00	359.98	6,663.0	3,428.4	2,460.7	3,428.4	0.00	0.00	0.00
10,800.0	90.00	359.98	6,663.0	3,528.4	2,460.6	3,528.4	0.00	0.00	0.00
10,900.0	90.00	359.98	6,663.0	3,628.4	2,460.6	3,628.4	0.00	0.00	0.00
11,000.0	90.00	359.98	6,663.0	3,728.4	2,460.6	3,728.4	0.00	0.00	0.00
11,100.0	90.00	359.98	6,663.0	3,828.4	2,460.5	3,828.4	0.00	0.00	0.00
11,200.0	90.00	359.98	6,663.0	3,928.4	2,460.5	3,928.4	0.00	0.00	0.00
11,300.0	90.00	359.98	6,663.0	4,028.4	2,460.5	4,028.4	0.00	0.00	0.00
11,400.0	90.00	359.98	6,663.0	4,128.4	2,460.4	4,128.4	0.00	0.00	0.00
11,500.0	90.00	359.98	6,663.0	4,228.4	2,460.4	4,228.4	0.00	0.00	0.00

SandRidge Energy

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Hebron 0780 10-18H
Project:	North Park Basin	TVD Reference:	WELL @ 8223.6usft (Original Well Elev)
Site:	T7N-R80W-S18	MD Reference:	WELL @ 8223.6usft (Original Well Elev)
Well:	Hebron 0780 10-18H	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)
11,600.0	90.00	359.98	6,663.0	4,328.4	2,460.4	4,328.4	0.00	0.00	0.00
11,700.0	90.00	359.98	6,663.0	4,428.4	2,460.3	4,428.4	0.00	0.00	0.00
11,800.0	90.00	359.98	6,663.0	4,528.4	2,460.3	4,528.4	0.00	0.00	0.00
11,900.0	90.00	359.98	6,663.0	4,628.4	2,460.3	4,628.4	0.00	0.00	0.00
11,950.9	90.00	359.98	6,663.0	4,679.3	2,460.2	4,679.3	0.00	0.00	0.00
TD at 11950.9									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Hebron 0780 10-18H PE - plan hits target center - Point	0.00	360.00	6,663.0	4,679.3	2,460.2	1,456,940.12	2,745,738.95	40° 35' 2.748 N	106° 24' 55.564 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,887.6	6,348.2	Niobrara		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2500	2500	0	0	Start Build 2.00
3973	3909	0	370	Start 2440.2 hold at 3972.6 MD
6413	6033	0	1570	Start DLS 8.00 TFO 0.00
6795	6302	0	1836	Start 150.0 hold at 6794.6 MD
6945	6377	0	1965	Start DLS 10.00 TFO -90.01
7845	6663	573	2462	Start 4106.2 hold at 7844.7 MD
11,951	6663	4679	2460	TD at 11950.9

Checked By: _____ Approved By: _____ Date: _____