

PROJECT DETAILS: North Park Basin


Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone

System Datum: Mean Sea Level

G

T

M



Azimuths to Grid North
True North: 0.59°
Magnetic North: 10.49°

Magnetic Field
Strength: 53195.2snT
Dip Angle: 66.98°
Date: 12/31/2009
Model: IGRF200510

FORMATION TOP DETAILS

TVDPath
6275.0

MDPath
6366.8

Formation
Niobrara

DipAngle
0.00

DipDir

CASING DETAILS

TVD
6643.2

MD
6913.9

Name
LP

Size
5-1/2

DESIGN DETAILS: Design #1

0' Vertical Section coordinates

Type
User

Target
360.00

Azimuth
360.00

Origin
Slot

Type

N/S
0.0

E/W
0.0

From
TVD
0.0

Project: North Park Basin
Site: T7N-R80W-S7
Well: Marr 0780 3-6H31
Wellbore: Wellbore #1
Design: Design #1

True Vertical Depth

0

650

1300

1950

2600

3250

3900

4550

5200

5850

6500

0

900

1800

2700

3600

4500

5400

6300

7200

8100

9000

9900

10800

Vertical Section at 360.00°

10500

9000

7500

6000

4500

3000

1500

0

-1500

-3000

-4500

-6000

-4500

-3000

-1500

0

1500

3000

4500

6000

South(-)/North(+)

West(-)/East(+)

Marr 0780 3-6H31

SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		
2	3800.0	0.00	0.00	3800.0	0.0	0.0	0.00	0.00	0.0		
3	4665.7	17.31	270.00	4652.6	0.0	-129.8	2.00	270.00	0.0		
4	6245.6	17.31	270.00	6160.9	0.0	-600.0	0.00	0.00	0.0		
5	7110.1	90.00	348.00	6675.0	526.8	-872.2	10.00	78.53	526.8		
6	7350.1	90.00	360.00	6675.0	765.0	-897.3	5.00	90.00	765.0	Marr 3-6H31 BHL	
7	17847.1	90.00	360.00	6675.0	11262.0	-897.5	0.00	0.00	11262.0	Marr 3-6H31 BHL	

SandRidge Energy

North Park Basin

T7N-R80W-S7

Marr 0780 3-6H31

Wellbore #1

Plan: Design #1

Standard Survey Report

10 July, 2017

SandRidge Energy, Inc.

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Marr 0780 3-6H31
Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Well:	Marr 0780 3-6H31	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 3-6H31		
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' 54.240 N
		Longitude:	106° 24' 56.190 W
		Ground Level:	8,129.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF200510	12/31/2009	9.90
			Dip Angle
			(°)
			66.98
			Field Strength
			(nT)
			53,195

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
			(°)
			360.00

Survey Tool Program	Date	7/7/2017		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
0.0	17,847.0	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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Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Well:	Marr 0780 3-6H31	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
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
3,900.0	2.00	270.00	3,900.0	0.0	-1.7	0.0	2.00	2.00	0.00
4,000.0	4.00	270.00	3,999.8	0.0	-7.0	0.0	2.00	2.00	0.00
4,100.0	6.00	270.00	4,099.5	0.0	-15.7	0.0	2.00	2.00	0.00
4,200.0	8.00	270.00	4,198.7	0.0	-27.9	0.0	2.00	2.00	0.00
4,300.0	10.00	270.00	4,297.5	0.0	-43.5	0.0	2.00	2.00	0.00
4,400.0	12.00	270.00	4,395.6	0.0	-62.6	0.0	2.00	2.00	0.00
4,500.0	14.00	270.00	4,493.1	0.0	-85.1	0.0	2.00	2.00	0.00
4,600.0	16.00	270.00	4,589.6	0.0	-111.0	0.0	2.00	2.00	0.00
4,665.7	17.31	270.00	4,652.6	0.0	-129.8	0.0	2.00	2.00	0.00
Start 1579.9 hold at 4665.7 MD									
4,700.0	17.31	270.00	4,685.3	0.0	-140.0	0.0	0.00	0.00	0.00
4,800.0	17.31	270.00	4,780.8	0.0	-169.8	0.0	0.00	0.00	0.00
4,900.0	17.31	270.00	4,876.3	0.0	-199.5	0.0	0.00	0.00	0.00
5,000.0	17.31	270.00	4,971.7	0.0	-229.3	0.0	0.00	0.00	0.00

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Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Well:	Marr 0780 3-6H31	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
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	17.31	270.00	5,067.2	0.0	-259.1	0.0	0.00	0.00	0.00
5,200.0	17.31	270.00	5,162.7	0.0	-288.8	0.0	0.00	0.00	0.00
5,300.0	17.31	270.00	5,258.1	0.0	-318.6	0.0	0.00	0.00	0.00
5,400.0	17.31	270.00	5,353.6	0.0	-348.3	0.0	0.00	0.00	0.00
5,500.0	17.31	270.00	5,449.1	0.0	-378.1	0.0	0.00	0.00	0.00
5,600.0	17.31	270.00	5,544.5	0.0	-407.9	0.0	0.00	0.00	0.00
5,700.0	17.31	270.00	5,640.0	0.0	-437.6	0.0	0.00	0.00	0.00
5,800.0	17.31	270.00	5,735.5	0.0	-467.4	0.0	0.00	0.00	0.00
5,900.0	17.31	270.00	5,831.0	0.0	-497.1	0.0	0.00	0.00	0.00
6,000.0	17.31	270.00	5,926.4	0.0	-526.9	0.0	0.00	0.00	0.00
6,100.0	17.31	270.00	6,021.9	0.0	-556.7	0.0	0.00	0.00	0.00
6,200.0	17.31	270.00	6,117.4	0.0	-586.4	0.0	0.00	0.00	0.00
6,245.6	17.31	270.00	6,160.9	0.0	-600.0	0.0	0.00	0.00	0.00
Start DLS 10.00 TFO 78.53									
6,250.0	17.41	271.44	6,165.1	0.0	-601.3	0.0	10.00	2.11	32.76
6,300.0	19.13	286.47	6,212.6	2.5	-616.7	2.5	10.00	3.45	30.06
6,350.0	21.85	298.50	6,259.5	9.3	-632.7	9.3	10.00	5.44	24.06
6,366.8	22.93	301.88	6,275.0	12.5	-638.2	12.5	10.00	6.43	20.12
Niobrara									
6,400.0	25.25	307.71	6,305.3	20.3	-649.3	20.3	10.00	6.98	17.57
6,450.0	29.08	314.76	6,349.8	35.4	-666.4	35.4	10.00	7.67	14.09
6,500.0	33.21	320.24	6,392.6	54.4	-683.8	54.4	10.00	8.25	10.96
6,550.0	37.52	324.61	6,433.4	77.4	-701.4	77.4	10.00	8.63	8.74
6,600.0	41.97	328.18	6,471.8	104.0	-719.0	104.0	10.00	8.90	7.16
6,650.0	46.51	331.19	6,507.6	134.2	-736.6	134.2	10.00	9.08	6.01
6,700.0	51.12	333.77	6,540.5	167.5	-753.9	167.5	10.00	9.22	5.16
6,750.0	55.78	336.03	6,570.3	203.9	-771.0	203.9	10.00	9.32	4.53
6,800.0	60.47	338.05	6,596.7	243.0	-787.5	243.0	10.00	9.39	4.05
6,850.0	65.20	339.90	6,619.5	284.5	-803.4	284.5	10.00	9.45	3.69
6,900.0	69.94	341.61	6,638.6	328.1	-818.7	328.1	10.00	9.49	3.42
6,950.0	74.70	343.22	6,653.8	373.5	-833.0	373.5	10.00	9.52	3.22
7,000.0	79.47	344.75	6,664.9	420.3	-846.5	420.3	10.00	9.54	3.07
7,050.0	84.25	346.24	6,672.0	468.3	-858.9	468.3	10.00	9.56	2.98
7,100.0	89.03	347.70	6,674.9	516.9	-870.1	516.9	10.00	9.56	2.93
7,110.1	90.00	348.00	6,675.0	526.8	-872.2	526.8	10.00	9.57	2.92
Start Turn 5.00									
7,200.0	90.00	352.49	6,675.0	615.3	-887.5	615.3	5.00	0.00	5.00
7,300.0	90.00	357.49	6,675.0	714.9	-896.2	714.9	5.00	0.00	5.00
7,350.1	90.00	360.00	6,675.0	765.0	-897.3	765.0	5.00	0.00	5.00
Start 10497.0 hold at 7350.1 MD									
7,400.0	90.00	360.00	6,675.0	814.9	-897.3	814.9	0.00	0.00	0.00
7,500.0	90.00	360.00	6,675.0	914.9	-897.3	914.9	0.00	0.00	0.00
7,600.0	90.00	360.00	6,675.0	1,014.9	-897.3	1,014.9	0.00	0.00	0.00
7,700.0	90.00	360.00	6,675.0	1,114.9	-897.3	1,114.9	0.00	0.00	0.00

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Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Marr 0780 3-6H31
Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Well:	Marr 0780 3-6H31	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
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)
7,800.0	90.00	360.00	6,675.0	1,214.9	-897.3	1,214.9	0.00	0.00	0.00
7,900.0	90.00	360.00	6,675.0	1,314.9	-897.3	1,314.9	0.00	0.00	0.00
8,000.0	90.00	360.00	6,675.0	1,414.9	-897.3	1,414.9	0.00	0.00	0.00
8,100.0	90.00	360.00	6,675.0	1,514.9	-897.3	1,514.9	0.00	0.00	0.00
8,200.0	90.00	360.00	6,675.0	1,614.9	-897.3	1,614.9	0.00	0.00	0.00
8,300.0	90.00	360.00	6,675.0	1,714.9	-897.3	1,714.9	0.00	0.00	0.00
8,400.0	90.00	360.00	6,675.0	1,814.9	-897.3	1,814.9	0.00	0.00	0.00
8,500.0	90.00	360.00	6,675.0	1,914.9	-897.3	1,914.9	0.00	0.00	0.00
8,600.0	90.00	360.00	6,675.0	2,014.9	-897.3	2,014.9	0.00	0.00	0.00
8,700.0	90.00	360.00	6,675.0	2,114.9	-897.3	2,114.9	0.00	0.00	0.00
8,800.0	90.00	360.00	6,675.0	2,214.9	-897.3	2,214.9	0.00	0.00	0.00
8,900.0	90.00	360.00	6,675.0	2,314.9	-897.3	2,314.9	0.00	0.00	0.00
9,000.0	90.00	360.00	6,675.0	2,414.9	-897.3	2,414.9	0.00	0.00	0.00
9,100.0	90.00	360.00	6,675.0	2,514.9	-897.3	2,514.9	0.00	0.00	0.00
9,200.0	90.00	360.00	6,675.0	2,614.9	-897.3	2,614.9	0.00	0.00	0.00
9,300.0	90.00	360.00	6,675.0	2,714.9	-897.3	2,714.9	0.00	0.00	0.00
9,400.0	90.00	360.00	6,675.0	2,814.9	-897.3	2,814.9	0.00	0.00	0.00
9,500.0	90.00	360.00	6,675.0	2,914.9	-897.3	2,914.9	0.00	0.00	0.00
9,600.0	90.00	360.00	6,675.0	3,014.9	-897.3	3,014.9	0.00	0.00	0.00
9,700.0	90.00	360.00	6,675.0	3,114.9	-897.3	3,114.9	0.00	0.00	0.00
9,800.0	90.00	360.00	6,675.0	3,214.9	-897.3	3,214.9	0.00	0.00	0.00
9,900.0	90.00	360.00	6,675.0	3,314.9	-897.3	3,314.9	0.00	0.00	0.00
10,000.0	90.00	360.00	6,675.0	3,414.9	-897.3	3,414.9	0.00	0.00	0.00
10,100.0	90.00	360.00	6,675.0	3,514.9	-897.3	3,514.9	0.00	0.00	0.00
10,200.0	90.00	360.00	6,675.0	3,614.9	-897.3	3,614.9	0.00	0.00	0.00
10,300.0	90.00	360.00	6,675.0	3,714.9	-897.3	3,714.9	0.00	0.00	0.00
10,400.0	90.00	360.00	6,675.0	3,814.9	-897.3	3,814.9	0.00	0.00	0.00
10,500.0	90.00	360.00	6,675.0	3,914.9	-897.3	3,914.9	0.00	0.00	0.00
10,600.0	90.00	360.00	6,675.0	4,014.9	-897.3	4,014.9	0.00	0.00	0.00
10,700.0	90.00	360.00	6,675.0	4,114.9	-897.3	4,114.9	0.00	0.00	0.00
10,800.0	90.00	360.00	6,675.0	4,214.9	-897.3	4,214.9	0.00	0.00	0.00
10,900.0	90.00	360.00	6,675.0	4,314.9	-897.3	4,314.9	0.00	0.00	0.00
11,000.0	90.00	360.00	6,675.0	4,414.9	-897.3	4,414.9	0.00	0.00	0.00
11,100.0	90.00	360.00	6,675.0	4,514.9	-897.3	4,514.9	0.00	0.00	0.00
11,200.0	90.00	360.00	6,675.0	4,614.9	-897.3	4,614.9	0.00	0.00	0.00
11,300.0	90.00	360.00	6,675.0	4,714.9	-897.3	4,714.9	0.00	0.00	0.00
11,400.0	90.00	360.00	6,675.0	4,814.9	-897.3	4,814.9	0.00	0.00	0.00
11,500.0	90.00	360.00	6,675.0	4,914.9	-897.3	4,914.9	0.00	0.00	0.00
11,600.0	90.00	360.00	6,675.0	5,014.9	-897.3	5,014.9	0.00	0.00	0.00
11,700.0	90.00	360.00	6,675.0	5,114.9	-897.4	5,114.9	0.00	0.00	0.00
11,800.0	90.00	360.00	6,675.0	5,214.9	-897.4	5,214.9	0.00	0.00	0.00
11,900.0	90.00	360.00	6,675.0	5,314.9	-897.4	5,314.9	0.00	0.00	0.00
12,000.0	90.00	360.00	6,675.0	5,414.9	-897.4	5,414.9	0.00	0.00	0.00

SandRidge Energy, Inc.

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Marr 0780 3-6H31
Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Well:	Marr 0780 3-6H31	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
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)
12,100.0	90.00	360.00	6,675.0	5,514.9	-897.4	5,514.9	0.00	0.00	0.00
12,200.0	90.00	360.00	6,675.0	5,614.9	-897.4	5,614.9	0.00	0.00	0.00
12,300.0	90.00	360.00	6,675.0	5,714.9	-897.4	5,714.9	0.00	0.00	0.00
12,400.0	90.00	360.00	6,675.0	5,814.9	-897.4	5,814.9	0.00	0.00	0.00
12,500.0	90.00	360.00	6,675.0	5,914.9	-897.4	5,914.9	0.00	0.00	0.00
12,600.0	90.00	360.00	6,675.0	6,014.9	-897.4	6,014.9	0.00	0.00	0.00
12,700.0	90.00	360.00	6,675.0	6,114.9	-897.4	6,114.9	0.00	0.00	0.00
12,800.0	90.00	360.00	6,675.0	6,214.9	-897.4	6,214.9	0.00	0.00	0.00
12,900.0	90.00	360.00	6,675.0	6,314.9	-897.4	6,314.9	0.00	0.00	0.00
13,000.0	90.00	360.00	6,675.0	6,414.9	-897.4	6,414.9	0.00	0.00	0.00
13,100.0	90.00	360.00	6,675.0	6,514.9	-897.4	6,514.9	0.00	0.00	0.00
13,200.0	90.00	360.00	6,675.0	6,614.9	-897.4	6,614.9	0.00	0.00	0.00
13,300.0	90.00	360.00	6,675.0	6,714.9	-897.4	6,714.9	0.00	0.00	0.00
13,400.0	90.00	360.00	6,675.0	6,814.9	-897.4	6,814.9	0.00	0.00	0.00
13,500.0	90.00	360.00	6,675.0	6,914.9	-897.4	6,914.9	0.00	0.00	0.00
13,600.0	90.00	360.00	6,675.0	7,014.9	-897.4	7,014.9	0.00	0.00	0.00
13,700.0	90.00	360.00	6,675.0	7,114.9	-897.4	7,114.9	0.00	0.00	0.00
13,800.0	90.00	360.00	6,675.0	7,214.9	-897.4	7,214.9	0.00	0.00	0.00
13,900.0	90.00	360.00	6,675.0	7,314.9	-897.4	7,314.9	0.00	0.00	0.00
14,000.0	90.00	360.00	6,675.0	7,414.9	-897.4	7,414.9	0.00	0.00	0.00
14,100.0	90.00	360.00	6,675.0	7,514.9	-897.4	7,514.9	0.00	0.00	0.00
14,200.0	90.00	360.00	6,675.0	7,614.9	-897.4	7,614.9	0.00	0.00	0.00
14,300.0	90.00	360.00	6,675.0	7,714.9	-897.4	7,714.9	0.00	0.00	0.00
14,400.0	90.00	360.00	6,675.0	7,814.9	-897.4	7,814.9	0.00	0.00	0.00
14,500.0	90.00	360.00	6,675.0	7,914.9	-897.4	7,914.9	0.00	0.00	0.00
14,600.0	90.00	360.00	6,675.0	8,014.9	-897.4	8,014.9	0.00	0.00	0.00
14,700.0	90.00	360.00	6,675.0	8,114.9	-897.4	8,114.9	0.00	0.00	0.00
14,800.0	90.00	360.00	6,675.0	8,214.9	-897.4	8,214.9	0.00	0.00	0.00
14,900.0	90.00	360.00	6,675.0	8,314.9	-897.4	8,314.9	0.00	0.00	0.00
15,000.0	90.00	360.00	6,675.0	8,414.9	-897.4	8,414.9	0.00	0.00	0.00
15,100.0	90.00	360.00	6,675.0	8,514.9	-897.4	8,514.9	0.00	0.00	0.00
15,200.0	90.00	360.00	6,675.0	8,614.9	-897.4	8,614.9	0.00	0.00	0.00
15,300.0	90.00	360.00	6,675.0	8,714.9	-897.4	8,714.9	0.00	0.00	0.00
15,400.0	90.00	360.00	6,675.0	8,814.9	-897.4	8,814.9	0.00	0.00	0.00
15,500.0	90.00	360.00	6,675.0	8,914.9	-897.4	8,914.9	0.00	0.00	0.00
15,600.0	90.00	360.00	6,675.0	9,014.9	-897.4	9,014.9	0.00	0.00	0.00
15,700.0	90.00	360.00	6,675.0	9,114.9	-897.4	9,114.9	0.00	0.00	0.00
15,800.0	90.00	360.00	6,675.0	9,214.9	-897.4	9,214.9	0.00	0.00	0.00
15,900.0	90.00	360.00	6,675.0	9,314.9	-897.4	9,314.9	0.00	0.00	0.00
16,000.0	90.00	360.00	6,675.0	9,414.9	-897.4	9,414.9	0.00	0.00	0.00
16,100.0	90.00	360.00	6,675.0	9,514.9	-897.4	9,514.9	0.00	0.00	0.00
16,200.0	90.00	360.00	6,675.0	9,614.9	-897.4	9,614.9	0.00	0.00	0.00
16,300.0	90.00	360.00	6,675.0	9,714.9	-897.4	9,714.9	0.00	0.00	0.00
16,400.0	90.00	360.00	6,675.0	9,814.9	-897.4	9,814.9	0.00	0.00	0.00

SandRidge Energy, Inc.

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Marr 0780 3-6H31
Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Well:	Marr 0780 3-6H31	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
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)
16,500.0	90.00	360.00	6,675.0	9,914.9	-897.4	9,914.9	0.00	0.00	0.00
16,600.0	90.00	360.00	6,675.0	10,014.9	-897.4	10,014.9	0.00	0.00	0.00
16,700.0	90.00	360.00	6,675.0	10,114.9	-897.4	10,114.9	0.00	0.00	0.00
16,800.0	90.00	360.00	6,675.0	10,214.9	-897.4	10,214.9	0.00	0.00	0.00
16,900.0	90.00	360.00	6,675.0	10,314.9	-897.4	10,314.9	0.00	0.00	0.00
17,000.0	90.00	360.00	6,675.0	10,414.9	-897.4	10,414.9	0.00	0.00	0.00
17,100.0	90.00	360.00	6,675.0	10,514.9	-897.4	10,514.9	0.00	0.00	0.00
17,200.0	90.00	360.00	6,675.0	10,614.9	-897.4	10,614.9	0.00	0.00	0.00
17,300.0	90.00	360.00	6,675.0	10,714.9	-897.4	10,714.9	0.00	0.00	0.00
17,400.0	90.00	360.00	6,675.0	10,814.9	-897.4	10,814.9	0.00	0.00	0.00
17,500.0	90.00	360.00	6,675.0	10,914.9	-897.4	10,914.9	0.00	0.00	0.00
17,600.0	90.00	360.00	6,675.0	11,014.9	-897.4	11,014.9	0.00	0.00	0.00
17,700.0	90.00	360.00	6,675.0	11,114.9	-897.4	11,114.9	0.00	0.00	0.00
17,800.0	90.00	360.00	6,675.0	11,214.9	-897.4	11,214.9	0.00	0.00	0.00
17,847.1	90.00	360.00	6,675.0	11,262.0	-897.4	11,262.0	0.00	0.00	0.00
TD at 17847.1									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Marr 3-6H31 BHL	0.00	360.00	6,675.0	11,262.0	-897.4	1,473,413.26	2,744,846.95	40° 37' 45.428 N	106° 25' 9.338 W
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,366.8	6,275.0	Niobrara		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
3800	3800	0	0	Start Build 2.00
4666	4653	0	-130	Start 1579.9 hold at 4665.7 MD
6246	6161	0	-600	Start DLS 10.00 TFO 78.53
7110	6675	527	-872	Start Turn 5.00
7350	6675	765	-897	Start 10497.0 hold at 7350.1 MD
17,847	6675	11,262	-897	TD at 17847.1

Checked By: _____ Approved By: _____ Date: _____

SandRidge Energy

North Park Basin

T7N-R80W-S7

Marr 0780 3-6H31

Wellbore #1

Design #1

Anticollision Summary Report

10 July, 2017

SandRidge Energy, Inc.

Anticollision Summary Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Marr 0780 3-6H31
Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Reference Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Marr 0780 3-6H31	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMProd
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference	Design #1			
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		WARNING: There is hidden tight data in this project	
Interpolation Method:	Stations	Error Model:		ISCWSA
Depth Range:	Unlimited	Scan Method:		Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0 usft	Error Surface:		Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:		Not applied

Survey Tool Program		Date	7/7/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	17,847.0	Design #1 (Wellbore #1)	Sperry MWD	Fixed:v2:standard declination	

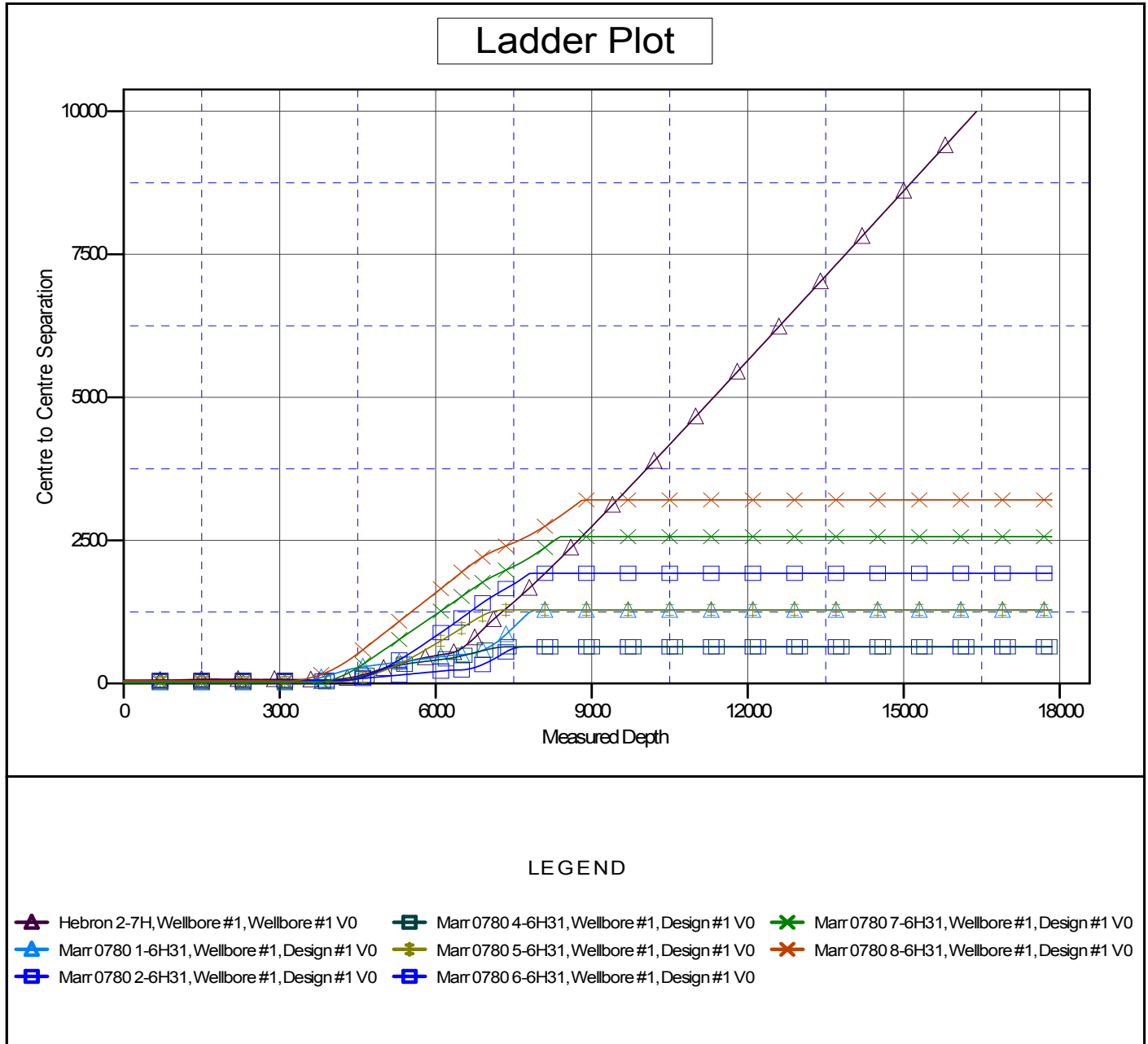
Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
T7N-R80W-S7						
Hebron 2-7H - Wellbore #1 - Wellbore #1	0.0	1.0	51.7			
Hebron 2-7H - Wellbore #1 - Wellbore #1	3,808.9	3,811.5	59.6	43.4	3.683	ES
Hebron 2-7H - Wellbore #1 - Wellbore #1	3,900.0	3,902.7	60.8	44.3	3.673	SF
Marr 0780 1-6H31 - Wellbore #1 - Design #1	3,188.9	3,190.2	13.5	-0.5	0.965	Level 1, CC
Marr 0780 1-6H31 - Wellbore #1 - Design #1	3,200.0	3,201.2	13.6	-0.5	0.963	Level 1, ES, SF
Marr 0780 2-6H31 - Wellbore #1 - Design #1	3,828.8	3,829.6	40.8	23.9	2.417	CC, ES
Marr 0780 2-6H31 - Wellbore #1 - Design #1	17,847.7	18,084.4	640.7	205.8	1.473	Level 3, SF
Marr 0780 4-6H31 - Wellbore #1 - Design #1	3,800.0	3,800.0	29.9	13.1	1.779	Level 4, CC, ES
Marr 0780 4-6H31 - Wellbore #1 - Design #1	17,847.7	17,687.2	640.8	205.7	1.473	Level 3, SF
Marr 0780 5-6H31 - Wellbore #1 - Design #1	4,065.6	4,066.4	26.8	8.8	1.490	Level 3, CC, ES
Marr 0780 5-6H31 - Wellbore #1 - Design #1	4,100.0	4,100.7	27.0	8.9	1.490	Level 3, SF
Marr 0780 6-6H31 - Wellbore #1 - Design #1	4,178.2	4,177.1	54.5	36.0	2.952	CC
Marr 0780 6-6H31 - Wellbore #1 - Design #1	4,200.0	4,198.7	54.6	36.0	2.942	ES, SF
Marr 0780 7-6H31 - Wellbore #1 - Design #1	3,588.4	3,589.6	13.7	-2.1	0.866	Level 1, CC
Marr 0780 7-6H31 - Wellbore #1 - Design #1	3,600.0	3,601.1	13.7	-2.2	0.865	Level 1, ES, SF
Marr 0780 8-6H31 - Wellbore #1 - Design #1	3,126.1	3,127.8	41.0	27.3	2.989	CC, ES, SF

SandRidge Energy, Inc.
Anticollision Summary Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Marr 0780 3-6H31
Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Reference Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Marr 0780 3-6H31	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMProd
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB @ 8145.0usft
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Marr 0780 3-6H31
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: -0.59°



SandRidge Energy, Inc.
Anticollision Summary Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Marr 0780 3-6H31
Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Reference Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Marr 0780 3-6H31	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMProd
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB @ 8145.0usft
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Marr 0780 3-6H31
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: -0.59°

