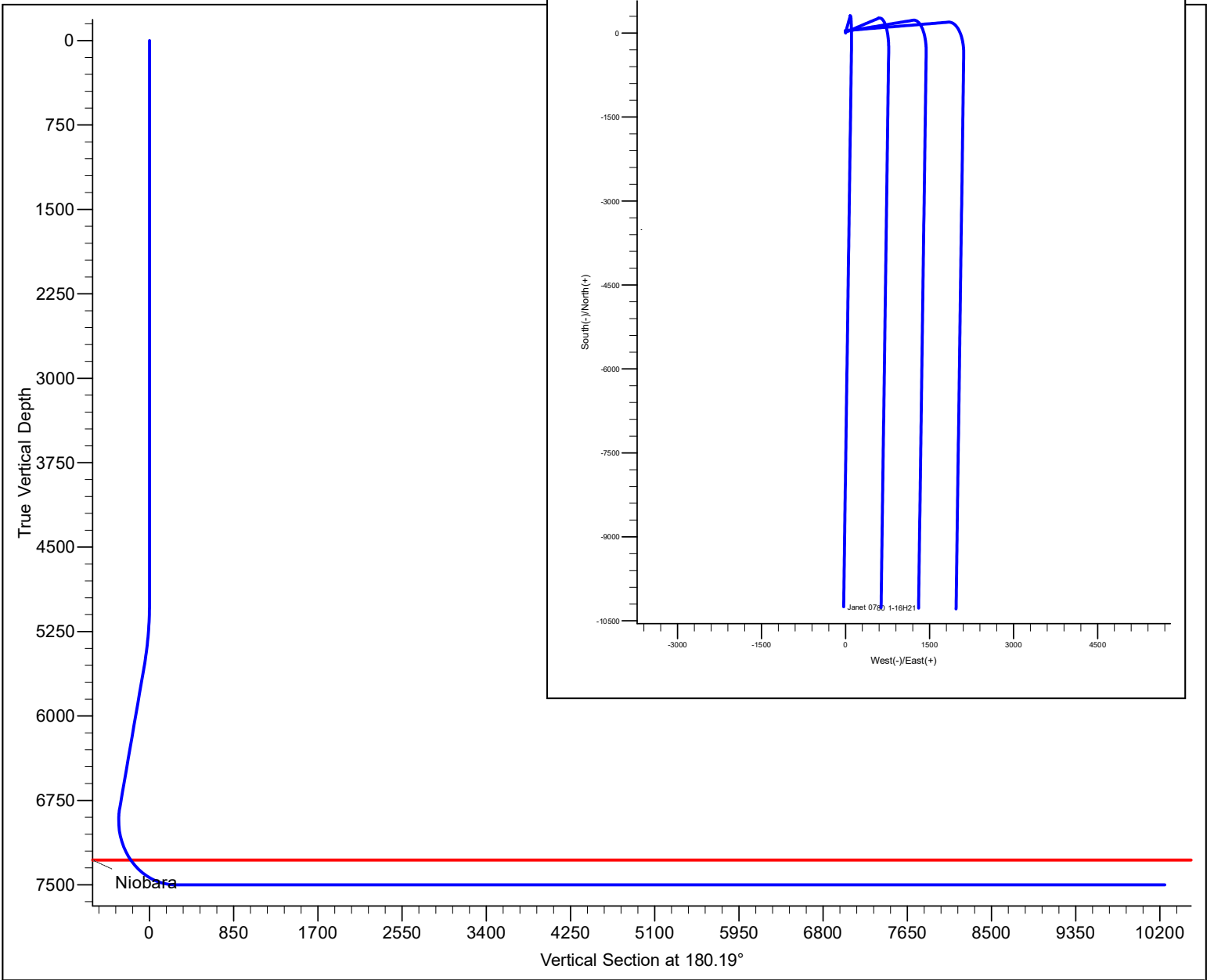


PROJECT DETAILS: North Park Basin					<div><div><div><div><div></div><div>G</div></div><div><div></div><div>T</div></div><div><div></div><div>M</div></div></div><div><div></div><div></div></div></div><div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div></div><div></div></div></div></div> <div><div>Azimuths to Grid North True North: 0.57° Magnetic North: 10.46°  Magnetic Field Strength: 53191.0snT Dip Angle: 66.98° Date: 12/31/2009 Model: IGRF200510</div></div>			
Geodetic System: US State Plane 1983 Datum: North American Datum 1983 Ellipsoid: GRS 1980 Zone: Colorado Northern Zone  System Datum: Mean Sea Level								
FORMATION TOP DETAILS					CASING DETAILS			
TVDPATH 7280.0MDPATH 7337.8FORMATION NiobaraDIPANGLE 0.00DIPDIR					No casing data is available			
DESIGN DETAILS: Design #1					Project: North Park Basin Site: T7N-R80W-S9 Well: Janet 0780 1-16H21 Wellbore: Wellbore #1 Design: Design #1			
0' Vertical Section coordinates								
TYPE	TARGET	AZIMUTH	ORIGIN	TYPE	N/S	E/W	FROM	TVD
TD		180.19	SLOT		0.0	0.0		0.0



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	5000.0	0.00	0.00	5000.0	0.0	0.0	0.00	0.00	0.0		
3	5573.8	11.48	14.93	5569.9	55.3	14.8	2.00	14.93	-55.4		
4	6846.6	11.48	14.93	6817.3	300.0	80.0	0.00	0.00	-300.3		
5	7857.8	90.00	180.80	7500.0	-262.6	105.9	10.00	165.60	262.3	Janet 1 BHL	
6	17846.0	90.00	180.80	7500.0	-10249.8	-34.3	0.00	0.00	10249.9	Janet 1 BHL	

# **SandRidge Energy**

**North Park Basin**

**T7N-R80W-S9**

**Janet 0780 1-16H21**

**Wellbore #1**

**Plan: Design #1**

## **Standard Survey Report**

**08 August, 2017**

# SandRidge Energy

## Survey Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Janet 0780 1-16H21
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	WELL @ 8151.0usft (Original Well Elev)
<b>Site:</b>	T7N-R80W-S9	<b>MD Reference:</b>	WELL @ 8151.0usft (Original Well Elev)
<b>Well:</b>	Janet 0780 1-16H21	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Design #1	<b>Database:</b>	EDMProd

<b>Project</b>	North Park Basin		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	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	Janet 0780 1-16H21					
Well Position	+N/-S	0.0 usft	Northing:	1,456,881.08 usft	Latitude:	40° 35' 2.948 N
	+E/-W	0.0 usft	Easting:	2,753,544.63 usft	Longitude:	106° 23' 14.391 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	8,126.0 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	12/31/2009	9.88	66.98	53,191

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	180.19	

<b>Survey Tool Program</b>	<b>Date</b>	8/8/2017			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
0.0	17,845.9	Design #1 (Wellbore #1)	Sperry MWD	Fixed:v2:standard declination	

<b>Planned Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
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

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Janet 0780 1-16H21
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	WELL @ 8151.0usft (Original Well Elev)
<b>Site:</b>	T7N-R80W-S9	<b>MD Reference:</b>	WELL @ 8151.0usft (Original Well Elev)
<b>Well:</b>	Janet 0780 1-16H21	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Design #1	<b>Database:</b>	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
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>Start Build 2.00</b>									
5,100.0	2.00	14.93	5,100.0	1.7	0.4	-1.7	2.00	2.00	0.00
5,200.0	4.00	14.93	5,199.8	6.7	1.8	-6.7	2.00	2.00	0.00

# SandRidge Energy

## Survey Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Janet 0780 1-16H21
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	WELL @ 8151.0usft (Original Well Elev)
<b>Site:</b>	T7N-R80W-S9	<b>MD Reference:</b>	WELL @ 8151.0usft (Original Well Elev)
<b>Well:</b>	Janet 0780 1-16H21	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Design #1	<b>Database:</b>	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)
5,300.0	6.00	14.93	5,299.5	15.2	4.0	-15.2	2.00	2.00	0.00
5,400.0	8.00	14.93	5,398.7	26.9	7.2	-27.0	2.00	2.00	0.00
5,500.0	10.00	14.93	5,497.5	42.1	11.2	-42.1	2.00	2.00	0.00
5,573.8	11.48	14.93	5,569.9	55.3	14.8	-55.4	2.00	2.00	0.00
<b>Start 1272.8 hold at 5573.8 MD</b>									
5,600.0	11.48	14.93	5,595.6	60.4	16.1	-60.4	0.00	0.00	0.00
5,700.0	11.48	14.93	5,693.6	79.6	21.2	-79.7	0.00	0.00	0.00
5,800.0	11.48	14.93	5,791.6	98.8	26.4	-98.9	0.00	0.00	0.00
5,900.0	11.48	14.93	5,889.7	118.0	31.5	-118.1	0.00	0.00	0.00
6,000.0	11.48	14.93	5,987.7	137.3	36.6	-137.4	0.00	0.00	0.00
6,100.0	11.48	14.93	6,085.7	156.5	41.7	-156.6	0.00	0.00	0.00
6,200.0	11.48	14.93	6,183.7	175.7	46.9	-175.9	0.00	0.00	0.00
6,300.0	11.48	14.93	6,281.7	194.9	52.0	-195.1	0.00	0.00	0.00
6,400.0	11.48	14.93	6,379.7	214.2	57.1	-214.3	0.00	0.00	0.00
6,500.0	11.48	14.93	6,477.7	233.4	62.2	-233.6	0.00	0.00	0.00
6,600.0	11.48	14.93	6,575.7	252.6	67.4	-252.8	0.00	0.00	0.00
6,700.0	11.48	14.93	6,673.7	271.8	72.5	-272.1	0.00	0.00	0.00
6,800.0	11.48	14.93	6,771.7	291.0	77.6	-291.3	0.00	0.00	0.00
6,846.6	11.48	14.93	6,817.3	300.0	80.0	-300.3	0.00	0.00	0.00
<b>Start DLS 10.00 TFO 165.60</b>									
6,900.0	6.44	26.85	6,870.1	307.8	82.7	-308.1	10.00	-9.43	22.32
7,000.0	5.08	146.95	6,969.8	309.1	87.7	-309.4	10.00	-1.35	120.10
7,100.0	14.49	169.75	7,068.3	293.0	92.3	-293.3	10.00	9.41	22.80
7,200.0	24.37	174.53	7,162.5	260.1	96.5	-260.4	10.00	9.88	4.77
7,300.0	34.32	176.64	7,249.5	211.3	100.2	-211.6	10.00	9.95	2.12
7,337.8	38.09	177.18	7,280.0	189.0	101.4	-189.3	10.00	9.96	1.42
<b>Niobara</b>									
7,400.0	44.29	177.89	7,326.8	148.1	103.1	-148.4	10.00	9.97	1.15
7,500.0	54.27	178.76	7,392.0	72.4	105.3	-72.8	10.00	9.98	0.87
7,600.0	64.25	179.44	7,443.0	-13.4	106.6	13.0	10.00	9.98	0.67
7,700.0	74.24	180.00	7,478.4	-106.8	107.0	106.4	10.00	9.99	0.57
7,800.0	84.23	180.52	7,497.0	-204.9	106.6	204.5	10.00	9.99	0.51
7,857.8	90.00	180.80	7,500.0	-262.6	105.9	262.3	10.00	9.99	0.50
<b>Start 9988.2 hold at 7857.8 MD</b>									
7,900.0	90.00	180.80	7,500.0	-304.8	105.3	304.4	0.00	0.00	0.00
8,000.0	90.00	180.80	7,500.0	-404.8	103.9	404.4	0.00	0.00	0.00
8,100.0	90.00	180.80	7,500.0	-504.8	102.5	504.4	0.00	0.00	0.00
8,200.0	90.00	180.80	7,500.0	-604.8	101.1	604.4	0.00	0.00	0.00
8,300.0	90.00	180.80	7,500.0	-704.8	99.7	704.4	0.00	0.00	0.00
8,400.0	90.00	180.80	7,500.0	-804.8	98.3	804.4	0.00	0.00	0.00
8,500.0	90.00	180.80	7,500.0	-904.7	96.9	904.4	0.00	0.00	0.00
8,600.0	90.00	180.80	7,500.0	-1,004.7	95.5	1,004.4	0.00	0.00	0.00
8,700.0	90.00	180.80	7,500.0	-1,104.7	94.1	1,104.4	0.00	0.00	0.00
8,800.0	90.00	180.80	7,500.0	-1,204.7	92.7	1,204.4	0.00	0.00	0.00

# SandRidge Energy

## Survey Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Janet 0780 1-16H21
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	WELL @ 8151.0usft (Original Well Elev)
<b>Site:</b>	T7N-R80W-S9	<b>MD Reference:</b>	WELL @ 8151.0usft (Original Well Elev)
<b>Well:</b>	Janet 0780 1-16H21	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Design #1	<b>Database:</b>	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)
8,900.0	90.00	180.80	7,500.0	-1,304.7	91.3	1,304.4	0.00	0.00	0.00
9,000.0	90.00	180.80	7,500.0	-1,404.7	89.9	1,404.4	0.00	0.00	0.00
9,100.0	90.00	180.80	7,500.0	-1,504.7	88.5	1,504.4	0.00	0.00	0.00
9,200.0	90.00	180.80	7,500.0	-1,604.7	87.1	1,604.4	0.00	0.00	0.00
9,300.0	90.00	180.80	7,500.0	-1,704.7	85.7	1,704.4	0.00	0.00	0.00
9,400.0	90.00	180.80	7,500.0	-1,804.7	84.3	1,804.4	0.00	0.00	0.00
9,500.0	90.00	180.80	7,500.0	-1,904.6	82.9	1,904.4	0.00	0.00	0.00
9,600.0	90.00	180.80	7,500.0	-2,004.6	81.5	2,004.3	0.00	0.00	0.00
9,700.0	90.00	180.80	7,500.0	-2,104.6	80.1	2,104.3	0.00	0.00	0.00
9,800.0	90.00	180.80	7,500.0	-2,204.6	78.7	2,204.3	0.00	0.00	0.00
9,900.0	90.00	180.80	7,500.0	-2,304.6	77.3	2,304.3	0.00	0.00	0.00
10,000.0	90.00	180.80	7,500.0	-2,404.6	75.9	2,404.3	0.00	0.00	0.00
10,100.0	90.00	180.80	7,500.0	-2,504.6	74.5	2,504.3	0.00	0.00	0.00
10,200.0	90.00	180.80	7,500.0	-2,604.6	73.0	2,604.3	0.00	0.00	0.00
10,300.0	90.00	180.80	7,500.0	-2,704.6	71.6	2,704.3	0.00	0.00	0.00
10,400.0	90.00	180.80	7,500.0	-2,804.6	70.2	2,804.3	0.00	0.00	0.00
10,500.0	90.00	180.80	7,500.0	-2,904.5	68.8	2,904.3	0.00	0.00	0.00
10,600.0	90.00	180.80	7,500.0	-3,004.5	67.4	3,004.3	0.00	0.00	0.00
10,700.0	90.00	180.80	7,500.0	-3,104.5	66.0	3,104.3	0.00	0.00	0.00
10,800.0	90.00	180.80	7,500.0	-3,204.5	64.6	3,204.3	0.00	0.00	0.00
10,900.0	90.00	180.80	7,500.0	-3,304.5	63.2	3,304.3	0.00	0.00	0.00
11,000.0	90.00	180.80	7,500.0	-3,404.5	61.8	3,404.3	0.00	0.00	0.00
11,100.0	90.00	180.80	7,500.0	-3,504.5	60.4	3,504.3	0.00	0.00	0.00
11,200.0	90.00	180.80	7,500.0	-3,604.5	59.0	3,604.3	0.00	0.00	0.00
11,300.0	90.00	180.80	7,500.0	-3,704.5	57.6	3,704.3	0.00	0.00	0.00
11,400.0	90.00	180.80	7,500.0	-3,804.5	56.2	3,804.2	0.00	0.00	0.00
11,500.0	90.00	180.80	7,500.0	-3,904.4	54.8	3,904.2	0.00	0.00	0.00
11,600.0	90.00	180.80	7,500.0	-4,004.4	53.4	4,004.2	0.00	0.00	0.00
11,700.0	90.00	180.80	7,500.0	-4,104.4	52.0	4,104.2	0.00	0.00	0.00
11,800.0	90.00	180.80	7,500.0	-4,204.4	50.6	4,204.2	0.00	0.00	0.00
11,900.0	90.00	180.80	7,500.0	-4,304.4	49.2	4,304.2	0.00	0.00	0.00
12,000.0	90.00	180.80	7,500.0	-4,404.4	47.8	4,404.2	0.00	0.00	0.00
12,100.0	90.00	180.80	7,500.0	-4,504.4	46.4	4,504.2	0.00	0.00	0.00
12,200.0	90.00	180.80	7,500.0	-4,604.4	45.0	4,604.2	0.00	0.00	0.00
12,300.0	90.00	180.80	7,500.0	-4,704.4	43.6	4,704.2	0.00	0.00	0.00
12,400.0	90.00	180.80	7,500.0	-4,804.4	42.2	4,804.2	0.00	0.00	0.00
12,500.0	90.00	180.80	7,500.0	-4,904.3	40.8	4,904.2	0.00	0.00	0.00
12,600.0	90.00	180.80	7,500.0	-5,004.3	39.4	5,004.2	0.00	0.00	0.00
12,700.0	90.00	180.80	7,500.0	-5,104.3	38.0	5,104.2	0.00	0.00	0.00
12,800.0	90.00	180.80	7,500.0	-5,204.3	36.5	5,204.2	0.00	0.00	0.00
12,900.0	90.00	180.80	7,500.0	-5,304.3	35.1	5,304.2	0.00	0.00	0.00
13,000.0	90.00	180.80	7,500.0	-5,404.3	33.7	5,404.2	0.00	0.00	0.00
13,100.0	90.00	180.80	7,500.0	-5,504.3	32.3	5,504.1	0.00	0.00	0.00

# SandRidge Energy

## Survey Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Janet 0780 1-16H21
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	WELL @ 8151.0usft (Original Well Elev)
<b>Site:</b>	T7N-R80W-S9	<b>MD Reference:</b>	WELL @ 8151.0usft (Original Well Elev)
<b>Well:</b>	Janet 0780 1-16H21	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Design #1	<b>Database:</b>	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)
13,200.0	90.00	180.80	7,500.0	-5,604.3	30.9	5,604.1	0.00	0.00	0.00
13,300.0	90.00	180.80	7,500.0	-5,704.3	29.5	5,704.1	0.00	0.00	0.00
13,400.0	90.00	180.80	7,500.0	-5,804.3	28.1	5,804.1	0.00	0.00	0.00
13,500.0	90.00	180.80	7,500.0	-5,904.2	26.7	5,904.1	0.00	0.00	0.00
13,600.0	90.00	180.80	7,500.0	-6,004.2	25.3	6,004.1	0.00	0.00	0.00
13,700.0	90.00	180.80	7,500.0	-6,104.2	23.9	6,104.1	0.00	0.00	0.00
13,800.0	90.00	180.80	7,500.0	-6,204.2	22.5	6,204.1	0.00	0.00	0.00
13,900.0	90.00	180.80	7,500.0	-6,304.2	21.1	6,304.1	0.00	0.00	0.00
14,000.0	90.00	180.80	7,500.0	-6,404.2	19.7	6,404.1	0.00	0.00	0.00
14,100.0	90.00	180.80	7,500.0	-6,504.2	18.3	6,504.1	0.00	0.00	0.00
14,200.0	90.00	180.80	7,500.0	-6,604.2	16.9	6,604.1	0.00	0.00	0.00
14,300.0	90.00	180.80	7,500.0	-6,704.2	15.5	6,704.1	0.00	0.00	0.00
14,400.0	90.00	180.80	7,500.0	-6,804.2	14.1	6,804.1	0.00	0.00	0.00
14,500.0	90.00	180.80	7,500.0	-6,904.2	12.7	6,904.1	0.00	0.00	0.00
14,600.0	90.00	180.80	7,500.0	-7,004.1	11.3	7,004.1	0.00	0.00	0.00
14,700.0	90.00	180.80	7,500.0	-7,104.1	9.9	7,104.1	0.00	0.00	0.00
14,800.0	90.00	180.80	7,500.0	-7,204.1	8.5	7,204.1	0.00	0.00	0.00
14,900.0	90.00	180.80	7,500.0	-7,304.1	7.1	7,304.0	0.00	0.00	0.00
15,000.0	90.00	180.80	7,500.0	-7,404.1	5.7	7,404.0	0.00	0.00	0.00
15,100.0	90.00	180.80	7,500.0	-7,504.1	4.3	7,504.0	0.00	0.00	0.00
15,200.0	90.00	180.80	7,500.0	-7,604.1	2.9	7,604.0	0.00	0.00	0.00
15,300.0	90.00	180.80	7,500.0	-7,704.1	1.5	7,704.0	0.00	0.00	0.00
15,400.0	90.00	180.80	7,500.0	-7,804.1	0.0	7,804.0	0.00	0.00	0.00
15,500.0	90.00	180.80	7,500.0	-7,904.1	-1.4	7,904.0	0.00	0.00	0.00
15,600.0	90.00	180.80	7,500.0	-8,004.0	-2.8	8,004.0	0.00	0.00	0.00
15,700.0	90.00	180.80	7,500.0	-8,104.0	-4.2	8,104.0	0.00	0.00	0.00
15,800.0	90.00	180.80	7,500.0	-8,204.0	-5.6	8,204.0	0.00	0.00	0.00
15,900.0	90.00	180.80	7,500.0	-8,304.0	-7.0	8,304.0	0.00	0.00	0.00
16,000.0	90.00	180.80	7,500.0	-8,404.0	-8.4	8,404.0	0.00	0.00	0.00
16,100.0	90.00	180.80	7,500.0	-8,504.0	-9.8	8,504.0	0.00	0.00	0.00
16,200.0	90.00	180.80	7,500.0	-8,604.0	-11.2	8,604.0	0.00	0.00	0.00
16,300.0	90.00	180.80	7,500.0	-8,704.0	-12.6	8,704.0	0.00	0.00	0.00
16,400.0	90.00	180.80	7,500.0	-8,804.0	-14.0	8,804.0	0.00	0.00	0.00
16,500.0	90.00	180.80	7,500.0	-8,904.0	-15.4	8,904.0	0.00	0.00	0.00
16,600.0	90.00	180.80	7,500.0	-9,003.9	-16.8	9,003.9	0.00	0.00	0.00
16,700.0	90.00	180.80	7,500.0	-9,103.9	-18.2	9,103.9	0.00	0.00	0.00
16,800.0	90.00	180.80	7,500.0	-9,203.9	-19.6	9,203.9	0.00	0.00	0.00
16,900.0	90.00	180.80	7,500.0	-9,303.9	-21.0	9,303.9	0.00	0.00	0.00
17,000.0	90.00	180.80	7,500.0	-9,403.9	-22.4	9,403.9	0.00	0.00	0.00
17,100.0	90.00	180.80	7,500.0	-9,503.9	-23.8	9,503.9	0.00	0.00	0.00
17,200.0	90.00	180.80	7,500.0	-9,603.9	-25.2	9,603.9	0.00	0.00	0.00
17,300.0	90.00	180.80	7,500.0	-9,703.9	-26.6	9,703.9	0.00	0.00	0.00
17,400.0	90.00	180.80	7,500.0	-9,803.9	-28.0	9,803.9	0.00	0.00	0.00
17,500.0	90.00	180.80	7,500.0	-9,903.9	-29.4	9,903.9	0.00	0.00	0.00

# SandRidge Energy

## Survey Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Janet 0780 1-16H21
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	WELL @ 8151.0usft (Original Well Elev)
<b>Site:</b>	T7N-R80W-S9	<b>MD Reference:</b>	WELL @ 8151.0usft (Original Well Elev)
<b>Well:</b>	Janet 0780 1-16H21	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Design #1	<b>Database:</b>	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)
17,600.0	90.00	180.80	7,500.0	-10,003.8	-30.8	10,003.9	0.00	0.00	0.00
17,700.0	90.00	180.80	7,500.0	-10,103.8	-32.2	10,103.9	0.00	0.00	0.00
17,800.0	90.00	180.80	7,500.0	-10,203.8	-33.6	10,203.9	0.00	0.00	0.00
17,846.0	90.00	180.80	7,500.0	-10,249.8	-34.3	10,249.9	0.00	0.00	0.00
TD at 17846.0									

### 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
Janet 1 BHL - plan hits target center - Point	0.00	360.00	7,500.0	-10,249.8	-34.3	1,446,631.26	2,753,510.34	40° 33' 21.665 N	106° 23' 13.506 W

### Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,337.8	7,280.0	Niobara		0.00	

### Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5000	5000	0	0	Start Build 2.00
5574	5570	55	15	Start 1272.8 hold at 5573.8 MD
6847	6817	300	80	Start DLS 10.00 TFO 165.60
7858	7500	-263	106	Start 9988.2 hold at 7857.8 MD
17,846	7500	-10,250	-34	TD at 17846.0

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



# **SandRidge Energy**

**North Park Basin**

**T7N-R80W-S9**

**Janet 0780 1-16H21**

**Wellbore #1**

**Design #1**

## **Anticollision Summary Report**

**08 August, 2017**

# SandRidge Energy

## Anticollision Summary Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Janet 0780 1-16H21
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	WELL @ 8151.0usft (Original Well Elev)
<b>Reference Site:</b>	T7N-R80W-S9	<b>MD Reference:</b>	WELL @ 8151.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Janet 0780 1-16H21	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMProd
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

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

<b>Survey Tool Program</b>	<b>Date</b>	8/8/2017		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	17,845.9	Design #1 (Wellbore #1)	Sperry MWD	Fixed:v2:standard declination

<b>Summary</b>						
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-S9						
Janet 0780 2-16H21 - Wellbore #1 - Design #1	4,500.0	4,500.0	15.0	-4.9	0.752	Level 1, CC, ES, SF
Janet 0780 3-16H21 - Wellbore #1 - Design #1	3,500.0	3,500.0	30.0	14.5	1.941	Level 4, CC
Janet 0780 3-16H21 - Wellbore #1 - Design #1	3,600.0	3,599.9	30.2	14.3	1.900	Level 4, ES, SF
Janet 0780 4-16H21 - Wellbore #1 - Design #1	2,800.0	2,800.0	45.0	32.7	3.657	CC
Janet 0780 4-16H21 - Wellbore #1 - Design #1	2,900.0	2,900.0	45.0	32.3	3.534	ES
Janet 0780 4-16H21 - Wellbore #1 - Design #1	3,000.0	2,999.7	45.5	32.4	3.457	SF

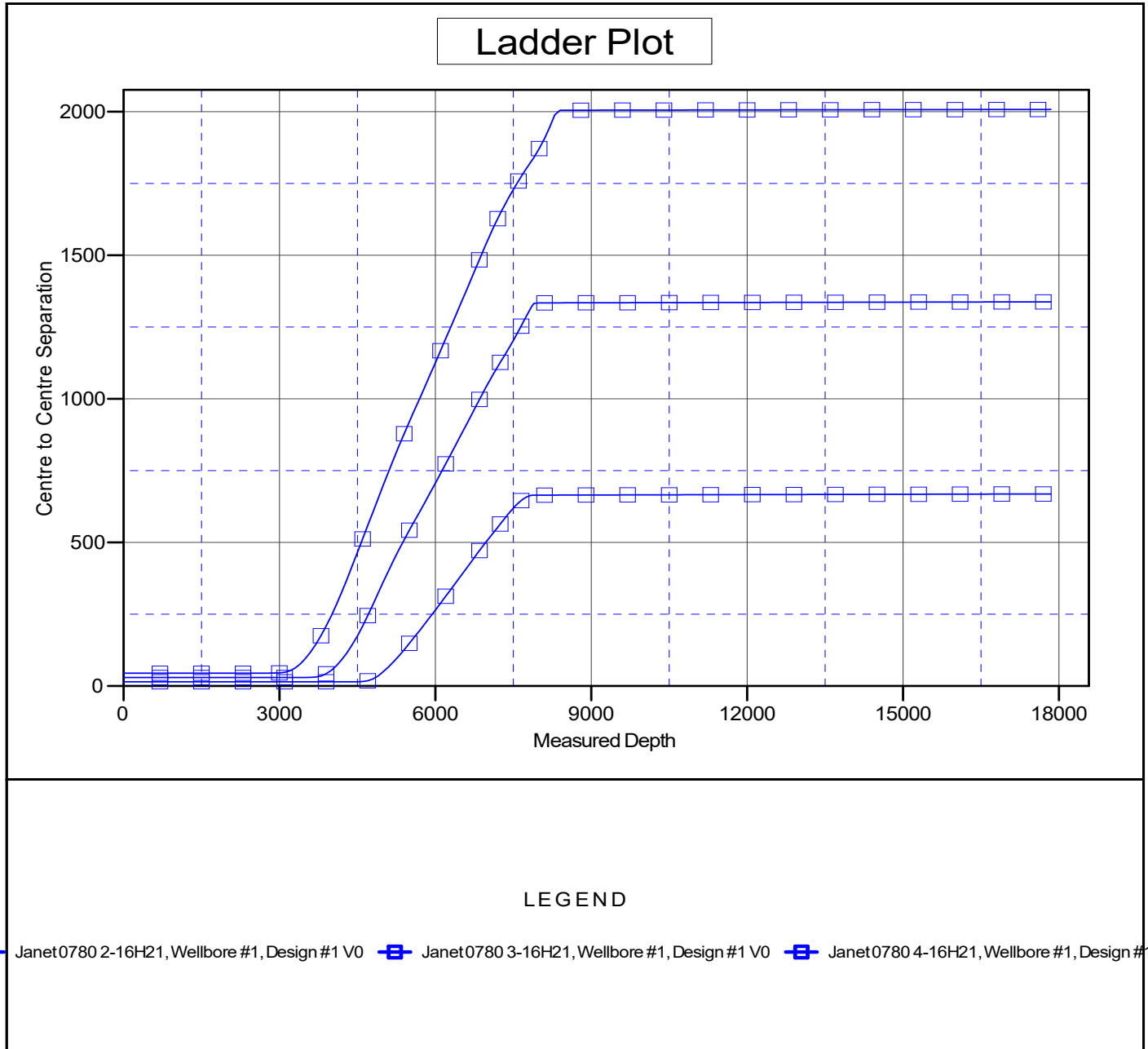
# SandRidge Energy

## Anticollision Summary Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Janet 0780 1-16H21
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	WELL @ 8151.0usft (Original Well Elev)
<b>Reference Site:</b>	T7N-R80W-S9	<b>MD Reference:</b>	WELL @ 8151.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Janet 0780 1-16H21	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMProd
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 8151.0usft (Original Well Ele)  
 Offset Depths are relative to Offset Datum  
 Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Janet 0780 1-16H21  
 Coordinate System is US State Plane 1983, Colorado Northern Zone  
 Grid Convergence at Surface is: -0.57°



# SandRidge Energy

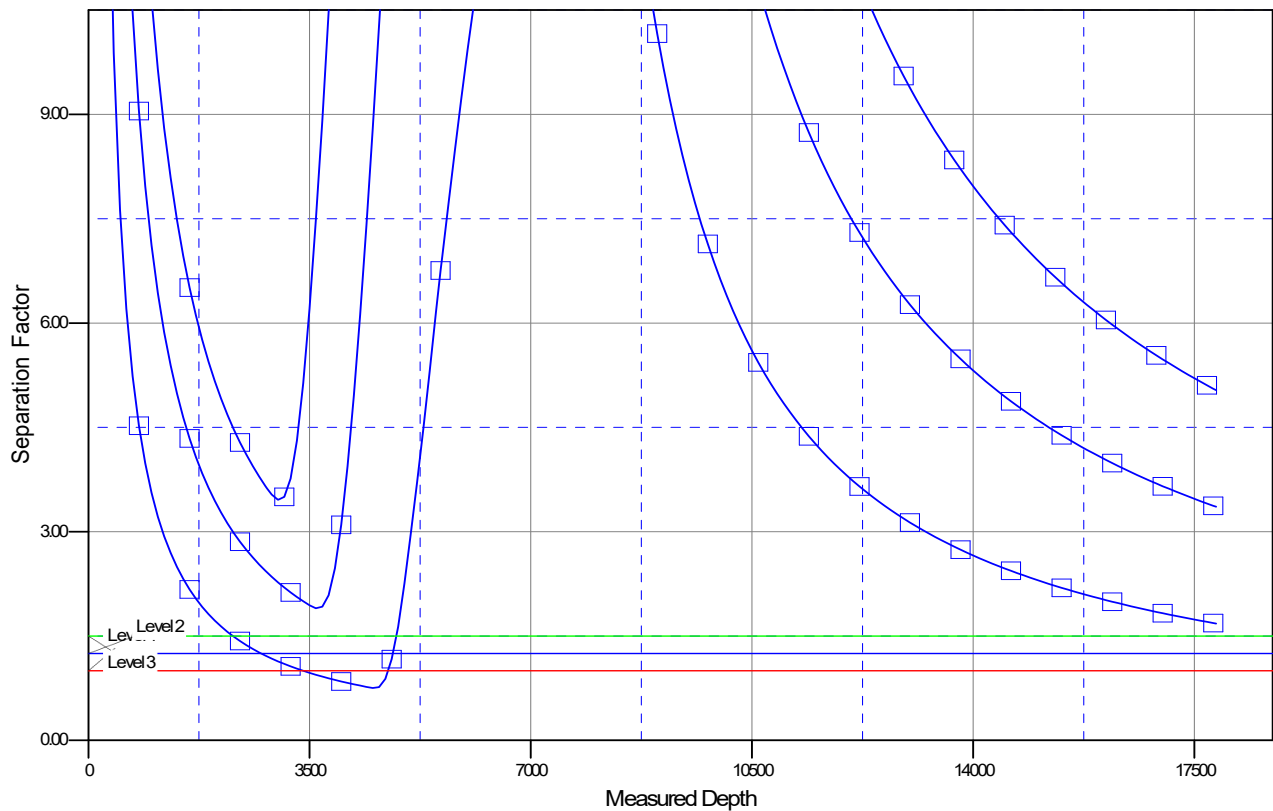
## Anticollision Summary Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Janet 0780 1-16H21
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	WELL @ 8151.0usft (Original Well Elev)
<b>Reference Site:</b>	T7N-R80W-S9	<b>MD Reference:</b>	WELL @ 8151.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Janet 0780 1-16H21	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMProd
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 8151.0usft (Original Well Ele  
Offset Depths are relative to Offset Datum  
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Janet 0780 1-16H21  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: -0.57°

### Separation Factor Plot



### LEGEND

Janet0780 2-16H21, Wellbore #1, Design #1 V0 Janet0780 3-16H21, Wellbore #1, Design #1 V0 Janet0780 4-16H21, Wellbore #1, Design #1 V0