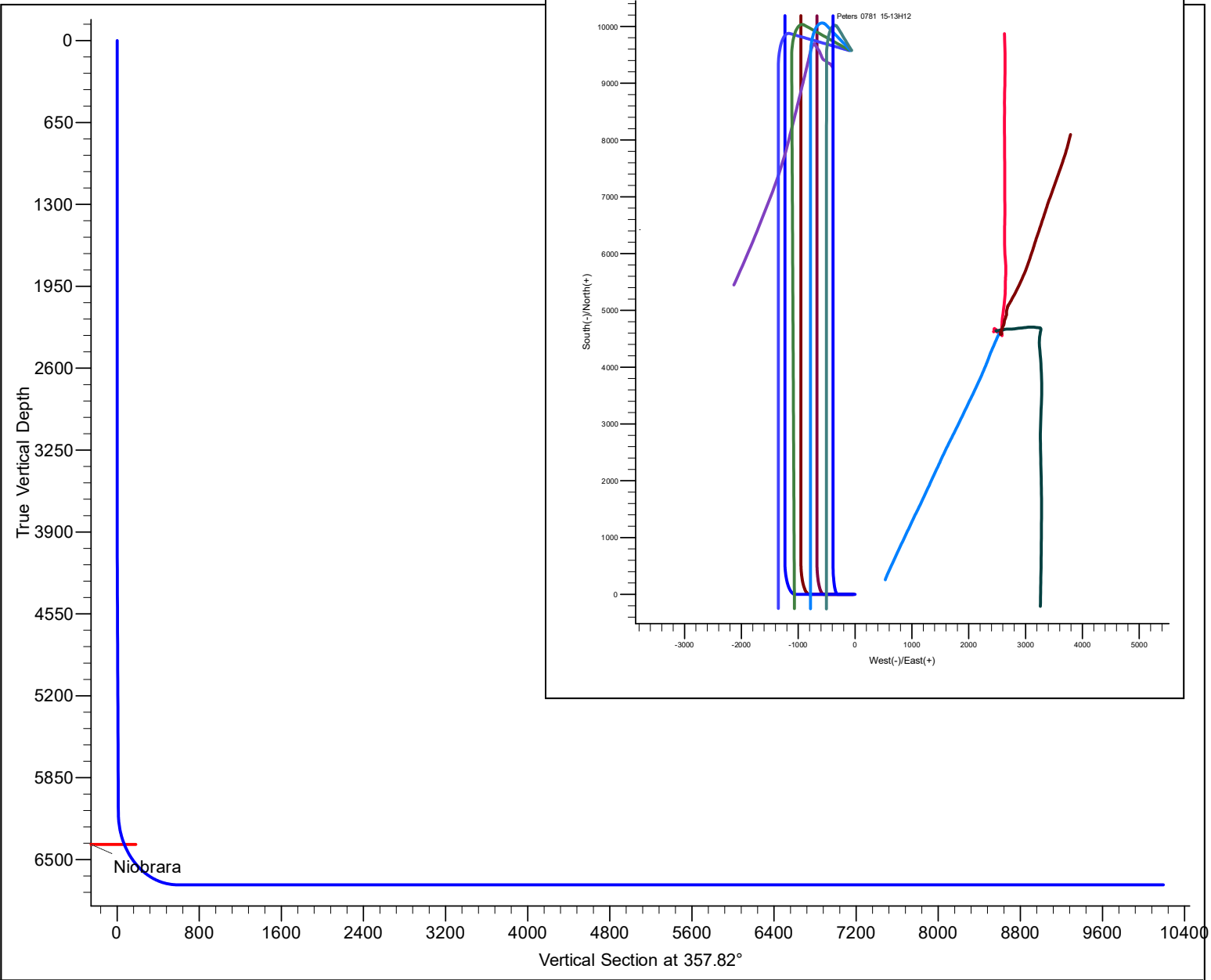


PROJECT DETAILS: North Park Basin					<div><div><div><div><div></div><div>G</div></div><div><div></div><div>T</div></div><div><div></div><div>M</div></div></div><div><div></div></div></div></div> <div><div>Azimuths to Grid North True North: 0.60° Magnetic North: 10.50°  Magnetic Field Strength: 53179.3snT Dip Angle: 66.96° 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 6380.0    MDPath 6412.3    Formation Niobrara    DipAngle 0.00    DipDir					No casing data is available		
DESIGN DETAILS: Design #1					Project: North Park Basin Site: T7N-R80W-S18 Well: Peters 0781 15-13H12 Wellbore: Wellbore #1 Design: Design #1		
0' Vertical Section coordinates							
Type TD	Target	Azimuth 357.82	Origin Slot	Type	N/S 0.0	E/W 0.0	From TVD 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	3800.0	0.00	0.00	3800.0	0.0	0.0	0.00	0.00	0.0		
3	4066.6	8.00	270.00	4065.8	0.0	-18.6	3.00	270.00	0.7		
4	6153.8	8.00	270.00	6132.6	0.0	-309.0	0.00	0.00	11.8		
5	7053.8	90.00	0.00	6700.0	573.0	-388.7	10.00	90.00	587.4	Peters 15 BHL	
6	16667.0	90.00	0.00	6700.0	10186.1	-388.4	0.00	0.00	10193.5	Peters 15 BHL	

# **SandRidge Energy**

**North Park Basin**

**T7N-R80W-S18**

**Peters 0781 15-13H12**

**Wellbore #1**

**Plan: Design #1**

## **Standard Survey Report**

**17 October, 2017**

# SandRidge Energy

## Survey Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Peters 0781 15-13H12
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	WELL @ 8233.0usft (Original Well Elev)
<b>Site:</b>	T7N-R80W-S18	<b>MD Reference:</b>	WELL @ 8233.0usft (Original Well Elev)
<b>Well:</b>	Peters 0781 15-13H12	<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-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	Peters 0781 15-13H12					
Well Position	+N/-S	0.0 usft	Northing:	1,452,362.28 usft	Latitude:	40° 34' 17.248 N
	+E/-W	0.0 usft	Easting:	2,743,144.86 usft	Longitude:	106° 25' 28.565 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	8,207.0 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	9.90	66.96	53,179

<b>Design</b>	Design #1				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0	
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	357.82	

<b>Survey Tool Program</b>	<b>Date</b>	10/17/2017			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
0.0	16,667.0	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 Peters 0781 15-13H12
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	WELL @ 8233.0usft (Original Well Elev)
<b>Site:</b>	T7N-R80W-S18	<b>MD Reference:</b>	WELL @ 8233.0usft (Original Well Elev)
<b>Well:</b>	Peters 0781 15-13H12	<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
<b>Start Build 3.00</b>									
3,900.0	3.00	270.00	3,900.0	0.0	-2.6	0.1	3.00	3.00	0.00
4,000.0	6.00	270.00	3,999.6	0.0	-10.5	0.4	3.00	3.00	0.00
4,066.6	8.00	270.00	4,065.8	0.0	-18.6	0.7	3.00	3.00	0.00
<b>Start 2087.2 hold at 4066.6 MD</b>									
4,100.0	8.00	270.00	4,098.8	0.0	-23.2	0.9	0.00	0.00	0.00
4,200.0	8.00	270.00	4,197.8	0.0	-37.1	1.4	0.00	0.00	0.00
4,300.0	8.00	270.00	4,296.9	0.0	-51.1	1.9	0.00	0.00	0.00
4,400.0	8.00	270.00	4,395.9	0.0	-65.0	2.5	0.00	0.00	0.00
4,500.0	8.00	270.00	4,494.9	0.0	-78.9	3.0	0.00	0.00	0.00
4,600.0	8.00	270.00	4,593.9	0.0	-92.8	3.5	0.00	0.00	0.00
4,700.0	8.00	270.00	4,693.0	0.0	-106.7	4.1	0.00	0.00	0.00
4,800.0	8.00	270.00	4,792.0	0.0	-120.6	4.6	0.00	0.00	0.00
4,900.0	8.00	270.00	4,891.0	0.0	-134.5	5.1	0.00	0.00	0.00
5,000.0	8.00	270.00	4,990.1	0.0	-148.5	5.7	0.00	0.00	0.00

# SandRidge Energy

## Survey Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Peters 0781 15-13H12
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	WELL @ 8233.0usft (Original Well Elev)
<b>Site:</b>	T7N-R80W-S18	<b>MD Reference:</b>	WELL @ 8233.0usft (Original Well Elev)
<b>Well:</b>	Peters 0781 15-13H12	<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)
5,100.0	8.00	270.00	5,089.1	0.0	-162.4	6.2	0.00	0.00	0.00
5,200.0	8.00	270.00	5,188.1	0.0	-176.3	6.7	0.00	0.00	0.00
5,300.0	8.00	270.00	5,287.1	0.0	-190.2	7.2	0.00	0.00	0.00
5,400.0	8.00	270.00	5,386.2	0.0	-204.1	7.8	0.00	0.00	0.00
5,500.0	8.00	270.00	5,485.2	0.0	-218.0	8.3	0.00	0.00	0.00
5,600.0	8.00	270.00	5,584.2	0.0	-231.9	8.8	0.00	0.00	0.00
5,700.0	8.00	270.00	5,683.2	0.0	-245.9	9.4	0.00	0.00	0.00
5,800.0	8.00	270.00	5,782.3	0.0	-259.8	9.9	0.00	0.00	0.00
5,900.0	8.00	270.00	5,881.3	0.0	-273.7	10.4	0.00	0.00	0.00
6,000.0	8.00	270.00	5,980.3	0.0	-287.6	11.0	0.00	0.00	0.00
6,100.0	8.00	270.00	6,079.4	0.0	-301.5	11.5	0.00	0.00	0.00
6,153.8	8.00	270.00	6,132.6	0.0	-309.0	11.8	0.00	0.00	0.00
<b>Start DLS 10.00 TFO 90.00</b>									
6,200.0	9.23	300.16	6,178.3	1.9	-315.4	13.9	10.00	2.67	65.24
6,300.0	16.63	331.93	6,275.8	18.6	-329.1	31.1	10.00	7.39	31.77
6,400.0	25.81	343.11	6,369.0	52.1	-342.2	65.1	10.00	9.19	11.18
6,412.3	26.98	343.98	6,380.0	57.3	-343.8	70.4	10.00	9.50	7.04
<b>Niobrara</b>									
6,500.0	35.42	348.61	6,455.0	101.5	-354.3	114.9	10.00	9.63	5.28
6,600.0	45.18	351.98	6,531.2	165.2	-365.0	178.9	10.00	9.76	3.37
6,700.0	55.02	354.36	6,595.2	241.2	-374.0	255.3	10.00	9.83	2.38
6,800.0	64.89	356.23	6,645.2	327.4	-381.0	341.7	10.00	9.87	1.87
6,900.0	74.78	357.81	6,679.7	421.0	-385.9	435.4	10.00	9.89	1.58
7,000.0	84.68	359.25	6,697.5	519.3	-388.4	533.7	10.00	9.90	1.44
7,053.8	90.00	0.00	6,700.0	573.0	-388.7	587.4	10.00	9.90	1.40
<b>Start 9613.2 hold at 7053.8 MD</b>									
7,100.0	90.00	0.00	6,700.0	619.2	-388.7	633.5	0.00	0.00	0.00
7,200.0	90.00	0.00	6,700.0	719.2	-388.7	733.5	0.00	0.00	0.00
7,300.0	90.00	0.00	6,700.0	819.2	-388.7	833.4	0.00	0.00	0.00
7,400.0	90.00	0.00	6,700.0	919.2	-388.7	933.3	0.00	0.00	0.00
7,500.0	90.00	0.00	6,700.0	1,019.2	-388.7	1,033.3	0.00	0.00	0.00
7,600.0	90.00	0.00	6,700.0	1,119.2	-388.7	1,133.2	0.00	0.00	0.00
7,700.0	90.00	0.00	6,700.0	1,219.2	-388.7	1,233.1	0.00	0.00	0.00
7,800.0	90.00	0.00	6,700.0	1,319.2	-388.7	1,333.0	0.00	0.00	0.00
7,900.0	90.00	0.00	6,700.0	1,419.2	-388.7	1,433.0	0.00	0.00	0.00
8,000.0	90.00	0.00	6,700.0	1,519.2	-388.7	1,532.9	0.00	0.00	0.00
8,100.0	90.00	0.00	6,700.0	1,619.2	-388.7	1,632.8	0.00	0.00	0.00
8,200.0	90.00	0.00	6,700.0	1,719.2	-388.7	1,732.7	0.00	0.00	0.00
8,300.0	90.00	0.00	6,700.0	1,819.2	-388.7	1,832.7	0.00	0.00	0.00
8,400.0	90.00	0.00	6,700.0	1,919.2	-388.7	1,932.6	0.00	0.00	0.00
8,500.0	90.00	0.00	6,700.0	2,019.2	-388.7	2,032.5	0.00	0.00	0.00
8,600.0	90.00	0.00	6,700.0	2,119.2	-388.7	2,132.5	0.00	0.00	0.00
8,700.0	90.00	0.00	6,700.0	2,219.2	-388.7	2,232.4	0.00	0.00	0.00
8,800.0	90.00	0.00	6,700.0	2,319.2	-388.7	2,332.3	0.00	0.00	0.00

# SandRidge Energy

## Survey Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Peters 0781 15-13H12
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	WELL @ 8233.0usft (Original Well Elev)
<b>Site:</b>	T7N-R80W-S18	<b>MD Reference:</b>	WELL @ 8233.0usft (Original Well Elev)
<b>Well:</b>	Peters 0781 15-13H12	<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	0.00	6,700.0	2,419.2	-388.7	2,432.2	0.00	0.00	0.00
9,000.0	90.00	0.00	6,700.0	2,519.2	-388.6	2,532.2	0.00	0.00	0.00
9,100.0	90.00	0.00	6,700.0	2,619.2	-388.6	2,632.1	0.00	0.00	0.00
9,200.0	90.00	0.00	6,700.0	2,719.2	-388.6	2,732.0	0.00	0.00	0.00
9,300.0	90.00	0.00	6,700.0	2,819.2	-388.6	2,831.9	0.00	0.00	0.00
9,400.0	90.00	0.00	6,700.0	2,919.2	-388.6	2,931.9	0.00	0.00	0.00
9,500.0	90.00	0.00	6,700.0	3,019.2	-388.6	3,031.8	0.00	0.00	0.00
9,600.0	90.00	0.00	6,700.0	3,119.2	-388.6	3,131.7	0.00	0.00	0.00
9,700.0	90.00	0.00	6,700.0	3,219.2	-388.6	3,231.7	0.00	0.00	0.00
9,800.0	90.00	0.00	6,700.0	3,319.2	-388.6	3,331.6	0.00	0.00	0.00
9,900.0	90.00	0.00	6,700.0	3,419.2	-388.6	3,431.5	0.00	0.00	0.00
10,000.0	90.00	0.00	6,700.0	3,519.2	-388.6	3,531.4	0.00	0.00	0.00
10,100.0	90.00	0.00	6,700.0	3,619.2	-388.6	3,631.4	0.00	0.00	0.00
10,200.0	90.00	0.00	6,700.0	3,719.2	-388.6	3,731.3	0.00	0.00	0.00
10,300.0	90.00	0.00	6,700.0	3,819.2	-388.6	3,831.2	0.00	0.00	0.00
10,400.0	90.00	0.00	6,700.0	3,919.2	-388.6	3,931.1	0.00	0.00	0.00
10,500.0	90.00	0.00	6,700.0	4,019.2	-388.6	4,031.1	0.00	0.00	0.00
10,600.0	90.00	0.00	6,700.0	4,119.2	-388.6	4,131.0	0.00	0.00	0.00
10,700.0	90.00	0.00	6,700.0	4,219.2	-388.6	4,230.9	0.00	0.00	0.00
10,800.0	90.00	0.00	6,700.0	4,319.2	-388.6	4,330.9	0.00	0.00	0.00
10,900.0	90.00	0.00	6,700.0	4,419.2	-388.6	4,430.8	0.00	0.00	0.00
11,000.0	90.00	0.00	6,700.0	4,519.2	-388.6	4,530.7	0.00	0.00	0.00
11,100.0	90.00	0.00	6,700.0	4,619.2	-388.6	4,630.6	0.00	0.00	0.00
11,200.0	90.00	0.00	6,700.0	4,719.2	-388.6	4,730.6	0.00	0.00	0.00
11,300.0	90.00	0.00	6,700.0	4,819.2	-388.6	4,830.5	0.00	0.00	0.00
11,400.0	90.00	0.00	6,700.0	4,919.2	-388.6	4,930.4	0.00	0.00	0.00
11,500.0	90.00	0.00	6,700.0	5,019.2	-388.6	5,030.3	0.00	0.00	0.00
11,600.0	90.00	0.00	6,700.0	5,119.2	-388.6	5,130.3	0.00	0.00	0.00
11,700.0	90.00	0.00	6,700.0	5,219.2	-388.6	5,230.2	0.00	0.00	0.00
11,800.0	90.00	0.00	6,700.0	5,319.2	-388.6	5,330.1	0.00	0.00	0.00
11,900.0	90.00	0.00	6,700.0	5,419.2	-388.6	5,430.1	0.00	0.00	0.00
12,000.0	90.00	0.00	6,700.0	5,519.2	-388.6	5,530.0	0.00	0.00	0.00
12,100.0	90.00	0.00	6,700.0	5,619.2	-388.6	5,629.9	0.00	0.00	0.00
12,200.0	90.00	0.00	6,700.0	5,719.2	-388.6	5,729.8	0.00	0.00	0.00
12,300.0	90.00	0.00	6,700.0	5,819.2	-388.6	5,829.8	0.00	0.00	0.00
12,400.0	90.00	0.00	6,700.0	5,919.2	-388.5	5,929.7	0.00	0.00	0.00
12,500.0	90.00	0.00	6,700.0	6,019.2	-388.5	6,029.6	0.00	0.00	0.00
12,600.0	90.00	0.00	6,700.0	6,119.2	-388.5	6,129.5	0.00	0.00	0.00
12,700.0	90.00	0.00	6,700.0	6,219.2	-388.5	6,229.5	0.00	0.00	0.00
12,800.0	90.00	0.00	6,700.0	6,319.2	-388.5	6,329.4	0.00	0.00	0.00
12,900.0	90.00	0.00	6,700.0	6,419.2	-388.5	6,429.3	0.00	0.00	0.00
13,000.0	90.00	0.00	6,700.0	6,519.2	-388.5	6,529.3	0.00	0.00	0.00
13,100.0	90.00	0.00	6,700.0	6,619.2	-388.5	6,629.2	0.00	0.00	0.00

# SandRidge Energy

## Survey Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Peters 0781 15-13H12
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	WELL @ 8233.0usft (Original Well Elev)
<b>Site:</b>	T7N-R80W-S18	<b>MD Reference:</b>	WELL @ 8233.0usft (Original Well Elev)
<b>Well:</b>	Peters 0781 15-13H12	<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	0.00	6,700.0	6,719.2	-388.5	6,729.1	0.00	0.00	0.00
13,300.0	90.00	0.00	6,700.0	6,819.2	-388.5	6,829.0	0.00	0.00	0.00
13,400.0	90.00	0.00	6,700.0	6,919.2	-388.5	6,929.0	0.00	0.00	0.00
13,500.0	90.00	0.00	6,700.0	7,019.2	-388.5	7,028.9	0.00	0.00	0.00
13,600.0	90.00	0.00	6,700.0	7,119.2	-388.5	7,128.8	0.00	0.00	0.00
13,700.0	90.00	0.00	6,700.0	7,219.2	-388.5	7,228.7	0.00	0.00	0.00
13,800.0	90.00	0.00	6,700.0	7,319.2	-388.5	7,328.7	0.00	0.00	0.00
13,900.0	90.00	0.00	6,700.0	7,419.2	-388.5	7,428.6	0.00	0.00	0.00
14,000.0	90.00	0.00	6,700.0	7,519.2	-388.5	7,528.5	0.00	0.00	0.00
14,100.0	90.00	0.00	6,700.0	7,619.2	-388.5	7,628.5	0.00	0.00	0.00
14,200.0	90.00	0.00	6,700.0	7,719.2	-388.5	7,728.4	0.00	0.00	0.00
14,300.0	90.00	0.00	6,700.0	7,819.2	-388.5	7,828.3	0.00	0.00	0.00
14,400.0	90.00	0.00	6,700.0	7,919.2	-388.5	7,928.2	0.00	0.00	0.00
14,500.0	90.00	0.00	6,700.0	8,019.2	-388.5	8,028.2	0.00	0.00	0.00
14,600.0	90.00	0.00	6,700.0	8,119.2	-388.5	8,128.1	0.00	0.00	0.00
14,700.0	90.00	0.00	6,700.0	8,219.2	-388.5	8,228.0	0.00	0.00	0.00
14,800.0	90.00	0.00	6,700.0	8,319.2	-388.5	8,327.9	0.00	0.00	0.00
14,900.0	90.00	0.00	6,700.0	8,419.2	-388.5	8,427.9	0.00	0.00	0.00
15,000.0	90.00	0.00	6,700.0	8,519.2	-388.5	8,527.8	0.00	0.00	0.00
15,100.0	90.00	0.00	6,700.0	8,619.2	-388.5	8,627.7	0.00	0.00	0.00
15,200.0	90.00	0.00	6,700.0	8,719.2	-388.5	8,727.7	0.00	0.00	0.00
15,300.0	90.00	0.00	6,700.0	8,819.2	-388.5	8,827.6	0.00	0.00	0.00
15,400.0	90.00	0.00	6,700.0	8,919.2	-388.5	8,927.5	0.00	0.00	0.00
15,500.0	90.00	0.00	6,700.0	9,019.2	-388.5	9,027.4	0.00	0.00	0.00
15,600.0	90.00	0.00	6,700.0	9,119.2	-388.5	9,127.4	0.00	0.00	0.00
15,700.0	90.00	0.00	6,700.0	9,219.2	-388.4	9,227.3	0.00	0.00	0.00
15,800.0	90.00	0.00	6,700.0	9,319.2	-388.4	9,327.2	0.00	0.00	0.00
15,900.0	90.00	0.00	6,700.0	9,419.2	-388.4	9,427.1	0.00	0.00	0.00
16,000.0	90.00	0.00	6,700.0	9,519.2	-388.4	9,527.1	0.00	0.00	0.00
16,100.0	90.00	0.00	6,700.0	9,619.2	-388.4	9,627.0	0.00	0.00	0.00
16,200.0	90.00	0.00	6,700.0	9,719.2	-388.4	9,726.9	0.00	0.00	0.00
16,300.0	90.00	0.00	6,700.0	9,819.2	-388.4	9,826.9	0.00	0.00	0.00
16,400.0	90.00	0.00	6,700.0	9,919.2	-388.4	9,926.8	0.00	0.00	0.00
16,500.0	90.00	0.00	6,700.0	10,019.2	-388.4	10,026.7	0.00	0.00	0.00
16,600.0	90.00	0.00	6,700.0	10,119.2	-388.4	10,126.6	0.00	0.00	0.00
16,667.0	90.00	0.00	6,700.0	10,186.1	-388.4	10,193.5	0.00	0.00	0.00
TD at 16667.0									

# SandRidge Energy

## Survey Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Peters 0781 15-13H12
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	WELL @ 8233.0usft (Original Well Elev)
<b>Site:</b>	T7N-R80W-S18	<b>MD Reference:</b>	WELL @ 8233.0usft (Original Well Elev)
<b>Well:</b>	Peters 0781 15-13H12	<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

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
Peters 15 BHL - plan hits target center - Point	0.00	360.00	6,700.0	10,186.1	-388.4	1,462,548.42	2,742,756.44	40° 35' 57.858 N	106° 25' 34.977 W

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,412.3	6,380.0	Niobrara		0.00	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
3800	3800	0	0	Start Build 3.00	
4067	4066	0	-19	Start 2087.2 hold at 4066.6 MD	
6154	6133	0	-309	Start DLS 10.00 TFO 90.00	
7054	6700	573	-389	Start 9613.2 hold at 7053.8 MD	
16,667	6700	10,186	-388	TD at 16667.0	

Checked By: _____	Approved By: _____	Date: _____
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# **SandRidge Energy**

**North Park Basin**

**T7N-R80W-S18**

**Peters 0781 15-13H12**

**Wellbore #1**

**Design #1**

## **Anticollision Summary Report**

**17 October, 2017**

# SandRidge Energy

## Anticollision Summary Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Peters 0781 15-13H12
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	WELL @ 8233.0usft (Original Well Elev)
<b>Reference Site:</b>	T7N-R80W-S18	<b>MD Reference:</b>	WELL @ 8233.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Peters 0781 15-13H12	<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	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	10/17/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	16,667.0	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
T7N-R80W-S18						
Hebron 01-18H - Wellbore #1 - Wellbore #1	11,556.9	6,481.5	3,082.0	2,983.4	31.249	CC
Hebron 01-18H - Wellbore #1 - Wellbore #1	11,600.0	6,482.9	3,082.3	2,982.9	30.992	ES
Hebron 01-18H - Wellbore #1 - Wellbore #1	16,667.0	9,944.0	4,677.7	4,480.9	23.770	SF
Hebron 0780 2-18H - Wellbore #1 - Wellbore #1	10,945.6	6,855.0	3,633.0	3,530.5	35.446	CC
Hebron 0780 2-18H - Wellbore #1 - Wellbore #1	11,000.0	6,824.0	3,633.4	3,530.0	35.135	ES
Hebron 0780 2-18H - Wellbore #1 - Wellbore #1	13,600.0	5,940.1	4,391.7	4,243.3	29.585	SF
Hebron 1-18HR - Wellbore #1 - Wellbore #1	11,254.5	6,572.0	2,975.6	2,868.7	27.841	CC
Hebron 1-18HR - Wellbore #1 - Wellbore #1	16,400.0	11,809.0	3,017.7	2,730.1	10.493	ES
Hebron 1-18HR - Wellbore #1 - Wellbore #1	16,667.3	11,809.0	3,033.6	2,740.9	10.363	SF
Hebron 5-18H - Wellbore #1 - Wellbore #1	6,750.0	11,360.0	962.0	865.3	9.955	SF
Hebron 5-18H - Wellbore #1 - Wellbore #1	6,800.0	11,360.0	960.0	863.6	9.959	ES
Hebron 5-18H - Wellbore #1 - Wellbore #1	6,803.5	11,360.0	960.0	863.6	9.961	CC
Peters 0781 11-13H12 - Wellbore #1 - Design #1	3,000.0	3,000.0	29.9	16.7	2.266	CC, ES
Peters 0781 11-13H12 - Wellbore #1 - Design #1	16,667.3	16,758.9	563.8	169.5	1.430	Level 3, SF
Peters 0781 13-13H12 - Wellbore #1 - Design #1	3,400.0	3,400.0	15.1	0.0	1.003	Level 2, CC
Peters 0781 13-13H12 - Wellbore #1 - Design #1	16,667.3	16,707.6	281.9	-112.2	0.715	Level 1, ES, SF
Peters 0781 9-13H12 - Wellbore #1 - Design #1	2,800.0	2,800.0	45.0	32.7	3.659	CC, ES
Peters 0781 9-13H12 - Wellbore #1 - Design #1	16,667.3	16,826.6	845.7	451.3	2.144	SF
T7N-R81W-S12						
Hebron 3-12H - Wellbore #1 - Wellbore #1	15,200.0	6,998.2	668.5	501.2	3.998	SF
Hebron 3-12H - Wellbore #1 - Wellbore #1	15,900.0	6,327.8	622.6	475.2	4.223	ES
Hebron 3-12H - Wellbore #1 - Wellbore #1	15,906.4	6,323.0	622.6	475.3	4.228	CC
Peters 0781 10-12H13 - Wellbore #1 - Design #1	16,356.0	6,540.4	839.4	639.9	4.207	CC, ES
Peters 0781 10-12H13 - Wellbore #1 - Design #1	16,400.0	6,536.6	840.5	640.4	4.201	SF
Peters 0781 12-12H13 - Wellbore #1 - Design #1	16,500.0	6,604.3	618.2	415.8	3.054	ES, SF
Peters 0781 12-12H13 - Wellbore #1 - Design #1	16,500.7	6,604.1	618.2	415.8	3.054	CC
Peters 0781 14-12H13 - Wellbore #1 - Design #1	16,497.3	6,697.2	288.6	88.8	1.444	Level 3, CC, ES, SF
Peters 0781 16-12H13 - Wellbore #1 - Design #1	16,399.0	6,748.1	53.0	-149.6	0.262	Level 1, CC, ES, SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

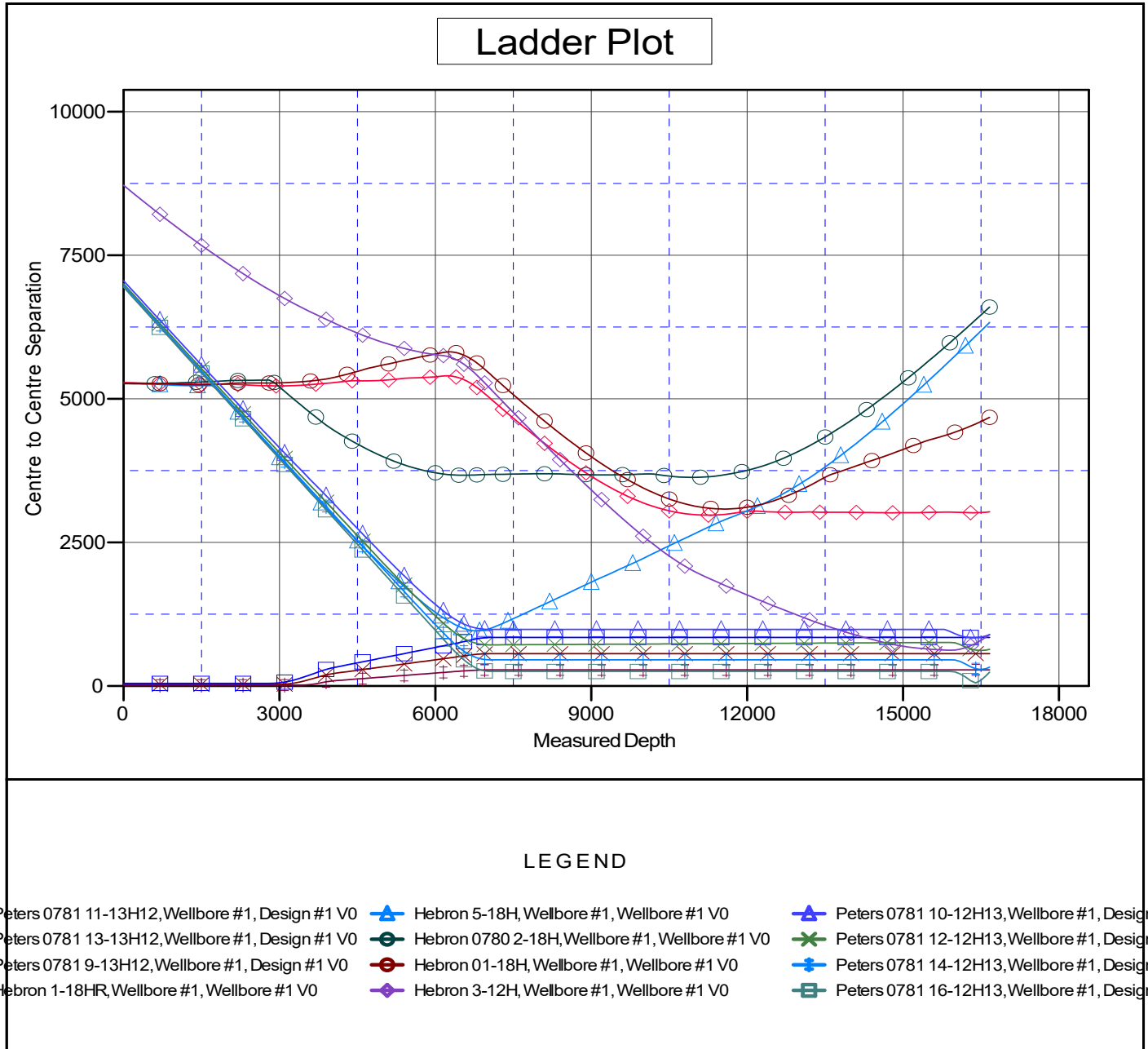
# SandRidge Energy

## Anticollision Summary Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Peters 0781 15-13H12
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	WELL @ 8233.0usft (Original Well Elev)
<b>Reference Site:</b>	T7N-R80W-S18	<b>MD Reference:</b>	WELL @ 8233.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Peters 0781 15-13H12	<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 @ 8233.0usft (Original Well Ele)  
Offset Depths are relative to Offset Datum  
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Peters 0781 15-13H12  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: -0.60°



CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# SandRidge Energy

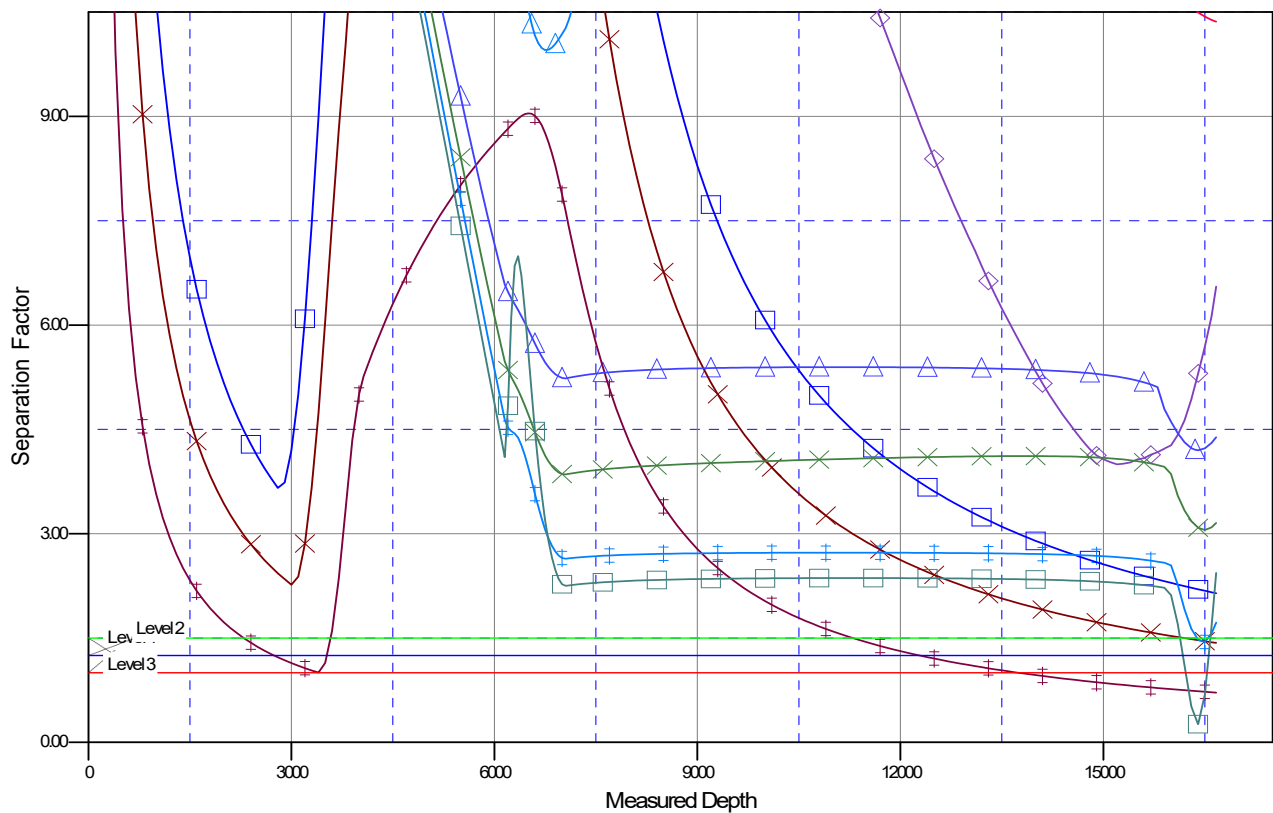
## Anticollision Summary Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Peters 0781 15-13H12
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	WELL @ 8233.0usft (Original Well Elev)
<b>Reference Site:</b>	T7N-R80W-S18	<b>MD Reference:</b>	WELL @ 8233.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Peters 0781 15-13H12	<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 @ 8233.0usft (Original Well Ele  
Offset Depths are relative to Offset Datum  
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Peters 0781 15-13H12  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: -0.60°

### Separation Factor Plot



### LEGEND

Peters 0781 11-13H12, Wellbore #1, Design #1 V0	Hebron 5-18H, Wellbore #1, Wellbore #1 V0	Peters 0781 10-12H13, Wellbore #1, Design :
Peters 0781 13-13H12, Wellbore #1, Design #1 V0	Hebron 0780 2-18H, Wellbore #1, Wellbore #1 V0	Peters 0781 12-12H13, Wellbore #1, Design :
Peters 0781 9-13H12, Wellbore #1, Design #1 V0	Hebron 01-18H, Wellbore #1, Wellbore #1 V0	Peters 0781 14-12H13, Wellbore #1, Design :
Hebron 1-18HR, Wellbore #1, Wellbore #1 V0	Hebron 3-12H, Wellbore #1, Wellbore #1 V0	Peters 0781 16-12H13, Wellbore #1, Design :