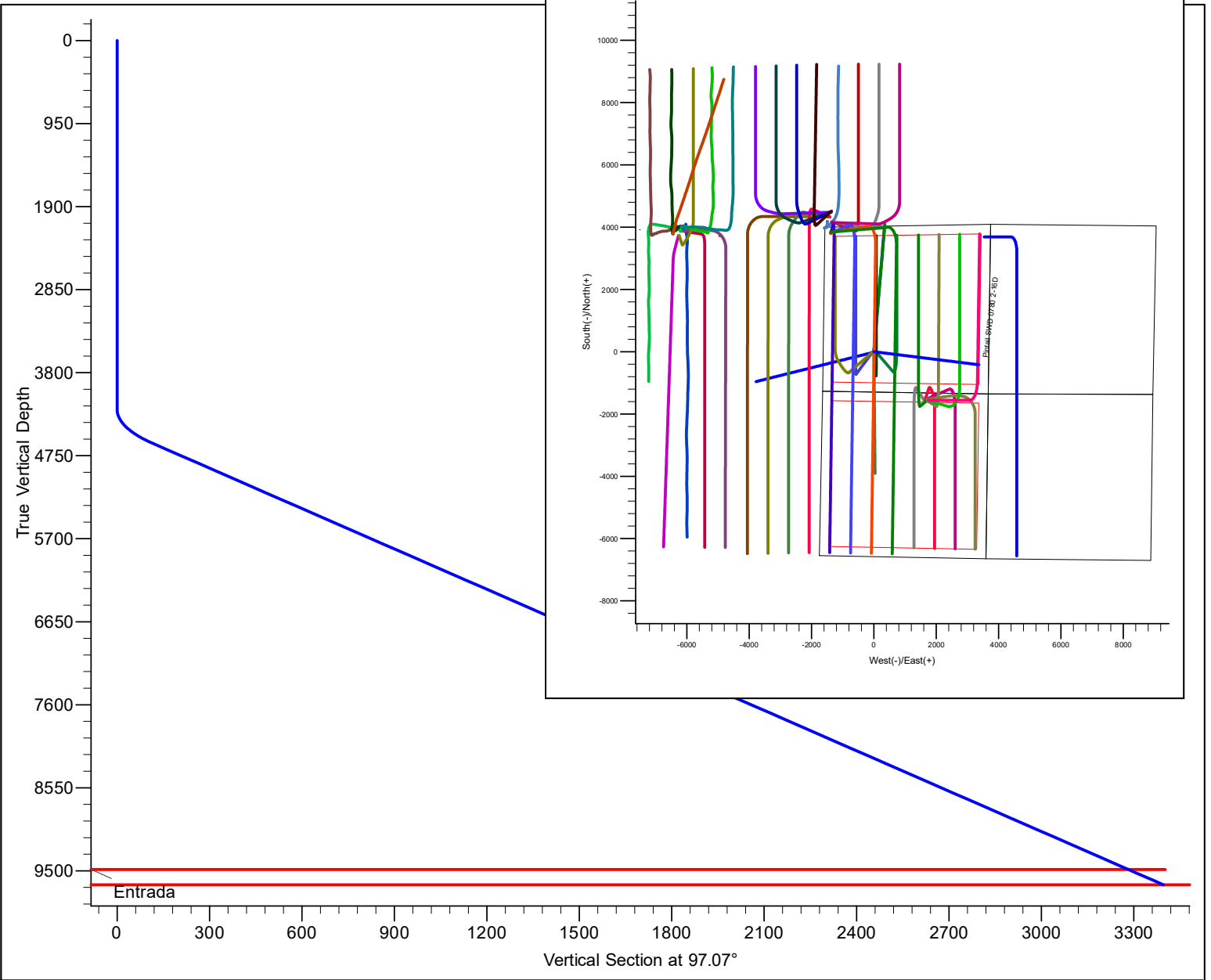


PROJECT DETAILS: North Park Basin										<div><div><div><div><div></div><div>G</div></div><div><div></div><div>T</div></div><div><div></div><div>M</div></div></div><div><div></div></div></div></div> <div>Azimuths to Grid North True North: 0.57° Magnetic North: 10.45° Magnetic Field Strength: 53185.5snT Dip Angle: 66.97° Date: 12/31/2009 Model: IGRF200510</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	
TVDPPath		MDPath		Formation		DipAngle		DipDir		No casing data is available	
9485.0		10445.6		Entrada		0.00					
9660.0		10654.3		Chugwater		0.00					
DESIGN DETAILS: Design #1										Project: North Park Basin Site: T7N-R80W-S16 Well: Pintail SWD 0780 2-16D Wellbore: Wellbore #1 Design: Design #1	
0' Vertical Section coordinates											
Type	Target	Azimuth	Origin	Type	N/S	E/W	From	TVD			
TD		97.07	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	4219.0	0.00	0.00	4219.0	0.0	0.0	0.00	0.00	0.0		
3	4631.5	33.00	97.07	4609.1	-14.2	114.7	8.00	97.07	115.6		
4	10445.6	33.00	97.07	9485.0	-404.1	3257.5	0.00	0.00	3282.4	Pintail 2 Entrada Entry	
5	10654.3	33.00	97.07	9660.0	-418.1	3370.3	0.00	0.00	3396.1		

SandRidge Energy

North Park Basin

T7N-R80W-S16

Pintail SWD 0780 2-16D

Wellbore #1

Plan: Design #1

Standard Survey Report

29 September, 2017

SandRidge Energy

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Pintail SWD 0780 2-16D
Project:	North Park Basin	TVD Reference:	KB @ 8234.0usft
Site:	T7N-R80W-S16	MD Reference:	KB @ 8234.0usft
Well:	Pintail SWD 0780 2-16D	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-S16			
Site Position:		Northing:	1,453,179.12 usft	Latitude:	40° 34' 26.505 N
From:	Map	Easting:	2,754,928.85 usft	Longitude:	106° 22' 55.973 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.57 °

Well		Pintail SWD 0780 2-16D				
Well Position	+N/-S	0.0 usft	Northing:	1,453,082.86 usft	Latitude:	40° 34' 25.554 N
	+E/-W	0.0 usft	Easting:	2,754,928.85 usft	Longitude:	106° 22' 55.961 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	8,223.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	9.88	66.97	53,185

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	97.07	

Survey Tool Program	Date	9/29/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	10,654.3	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	

SandRidge Energy

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Pintail SWD 0780 2-16D
Project:	North Park Basin	TVD Reference:	KB @ 8234.0usft
Site:	T7N-R80W-S16	MD Reference:	KB @ 8234.0usft
Well:	Pintail SWD 0780 2-16D	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
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
4,219.0	0.00	0.00	4,219.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 8.00									
4,300.0	6.48	97.07	4,299.8	-0.6	4.5	4.6	8.00	8.00	0.00
4,400.0	14.48	97.07	4,398.1	-2.8	22.6	22.8	8.00	8.00	0.00
4,500.0	22.48	97.07	4,492.8	-6.7	54.0	54.4	8.00	8.00	0.00
4,600.0	30.48	97.07	4,582.3	-12.2	98.2	99.0	8.00	8.00	0.00
4,631.5	33.00	97.07	4,609.1	-14.2	114.7	115.6	8.00	8.00	0.00
Start 5814.1 hold at 4631.5 MD									
4,700.0	33.00	97.07	4,666.5	-18.8	151.7	152.9	0.00	0.00	0.00
4,800.0	33.00	97.07	4,750.4	-25.5	205.7	207.3	0.00	0.00	0.00
4,900.0	33.00	97.07	4,834.2	-32.2	259.8	261.8	0.00	0.00	0.00

SandRidge Energy

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Pintail SWD 0780 2-16D
Project:	North Park Basin	TVD Reference:	KB @ 8234.0usft
Site:	T7N-R80W-S16	MD Reference:	KB @ 8234.0usft
Well:	Pintail SWD 0780 2-16D	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)
5,000.0	33.00	97.07	4,918.1	-38.9	313.9	316.3	0.00	0.00	0.00
5,100.0	33.00	97.07	5,002.0	-45.6	367.9	370.7	0.00	0.00	0.00
5,200.0	33.00	97.07	5,085.8	-52.3	422.0	425.2	0.00	0.00	0.00
5,300.0	33.00	97.07	5,169.7	-59.1	476.0	479.7	0.00	0.00	0.00
5,400.0	33.00	97.07	5,253.6	-65.8	530.1	534.1	0.00	0.00	0.00
5,500.0	33.00	97.07	5,337.4	-72.5	584.1	588.6	0.00	0.00	0.00
5,600.0	33.00	97.07	5,421.3	-79.2	638.2	643.1	0.00	0.00	0.00
5,700.0	33.00	97.07	5,505.2	-85.9	692.2	697.5	0.00	0.00	0.00
5,800.0	33.00	97.07	5,589.0	-92.6	746.3	752.0	0.00	0.00	0.00
5,900.0	33.00	97.07	5,672.9	-99.3	800.3	806.5	0.00	0.00	0.00
6,000.0	33.00	97.07	5,756.7	-106.0	854.4	861.0	0.00	0.00	0.00
6,100.0	33.00	97.07	5,840.6	-112.7	908.5	915.4	0.00	0.00	0.00
6,200.0	33.00	97.07	5,924.5	-119.4	962.5	969.9	0.00	0.00	0.00
6,300.0	33.00	97.07	6,008.3	-126.1	1,016.6	1,024.4	0.00	0.00	0.00
6,400.0	33.00	97.07	6,092.2	-132.8	1,070.6	1,078.8	0.00	0.00	0.00
6,500.0	33.00	97.07	6,176.1	-139.5	1,124.7	1,133.3	0.00	0.00	0.00
6,600.0	33.00	97.07	6,259.9	-146.2	1,178.7	1,187.8	0.00	0.00	0.00
6,700.0	33.00	97.07	6,343.8	-152.9	1,232.8	1,242.2	0.00	0.00	0.00
6,800.0	33.00	97.07	6,427.7	-159.6	1,286.8	1,296.7	0.00	0.00	0.00
6,900.0	33.00	97.07	6,511.5	-166.3	1,340.9	1,351.2	0.00	0.00	0.00
7,000.0	33.00	97.07	6,595.4	-173.1	1,395.0	1,405.6	0.00	0.00	0.00
7,100.0	33.00	97.07	6,679.2	-179.8	1,449.0	1,460.1	0.00	0.00	0.00
7,200.0	33.00	97.07	6,763.1	-186.5	1,503.1	1,514.6	0.00	0.00	0.00
7,300.0	33.00	97.07	6,847.0	-193.2	1,557.1	1,569.1	0.00	0.00	0.00
7,400.0	33.00	97.07	6,930.8	-199.9	1,611.2	1,623.5	0.00	0.00	0.00
7,500.0	33.00	97.07	7,014.7	-206.6	1,665.2	1,678.0	0.00	0.00	0.00
7,600.0	33.00	97.07	7,098.6	-213.3	1,719.3	1,732.5	0.00	0.00	0.00
7,700.0	33.00	97.07	7,182.4	-220.0	1,773.3	1,786.9	0.00	0.00	0.00
7,800.0	33.00	97.07	7,266.3	-226.7	1,827.4	1,841.4	0.00	0.00	0.00
7,900.0	33.00	97.07	7,350.2	-233.4	1,881.4	1,895.9	0.00	0.00	0.00
8,000.0	33.00	97.07	7,434.0	-240.1	1,935.5	1,950.3	0.00	0.00	0.00
8,100.0	33.00	97.07	7,517.9	-246.8	1,989.6	2,004.8	0.00	0.00	0.00
8,200.0	33.00	97.07	7,601.7	-253.5	2,043.6	2,059.3	0.00	0.00	0.00
8,300.0	33.00	97.07	7,685.6	-260.2	2,097.7	2,113.7	0.00	0.00	0.00
8,400.0	33.00	97.07	7,769.5	-266.9	2,151.7	2,168.2	0.00	0.00	0.00
8,500.0	33.00	97.07	7,853.3	-273.6	2,205.8	2,222.7	0.00	0.00	0.00
8,600.0	33.00	97.07	7,937.2	-280.3	2,259.8	2,277.2	0.00	0.00	0.00
8,700.0	33.00	97.07	8,021.1	-287.1	2,313.9	2,331.6	0.00	0.00	0.00
8,800.0	33.00	97.07	8,104.9	-293.8	2,367.9	2,386.1	0.00	0.00	0.00
8,900.0	33.00	97.07	8,188.8	-300.5	2,422.0	2,440.6	0.00	0.00	0.00
9,000.0	33.00	97.07	8,272.7	-307.2	2,476.0	2,495.0	0.00	0.00	0.00
9,100.0	33.00	97.07	8,356.5	-313.9	2,530.1	2,549.5	0.00	0.00	0.00
9,200.0	33.00	97.07	8,440.4	-320.6	2,584.2	2,604.0	0.00	0.00	0.00

SandRidge Energy

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Pintail SWD 0780 2-16D
Project:	North Park Basin	TVD Reference:	KB @ 8234.0usft
Site:	T7N-R80W-S16	MD Reference:	KB @ 8234.0usft
Well:	Pintail SWD 0780 2-16D	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)
9,300.0	33.00	97.07	8,524.2	-327.3	2,638.2	2,658.4	0.00	0.00	0.00
9,400.0	33.00	97.07	8,608.1	-334.0	2,692.3	2,712.9	0.00	0.00	0.00
9,500.0	33.00	97.07	8,692.0	-340.7	2,746.3	2,767.4	0.00	0.00	0.00
9,600.0	33.00	97.07	8,775.8	-347.4	2,800.4	2,821.8	0.00	0.00	0.00
9,700.0	33.00	97.07	8,859.7	-354.1	2,854.4	2,876.3	0.00	0.00	0.00
9,800.0	33.00	97.07	8,943.6	-360.8	2,908.5	2,930.8	0.00	0.00	0.00
9,900.0	33.00	97.07	9,027.4	-367.5	2,962.5	2,985.2	0.00	0.00	0.00
10,000.0	33.00	97.07	9,111.3	-374.2	3,016.6	3,039.7	0.00	0.00	0.00
10,100.0	33.00	97.07	9,195.2	-380.9	3,070.6	3,094.2	0.00	0.00	0.00
10,200.0	33.00	97.07	9,279.0	-387.6	3,124.7	3,148.7	0.00	0.00	0.00
10,300.0	33.00	97.07	9,362.9	-394.3	3,178.8	3,203.1	0.00	0.00	0.00
10,400.0	33.00	97.07	9,446.7	-401.1	3,232.8	3,257.6	0.00	0.00	0.00
10,445.6	33.00	97.07	9,485.0	-404.1	3,257.5	3,282.4	0.00	0.00	0.00
Start 208.7 hold at 10445.6 MD - Entrada									
10,500.0	33.00	97.07	9,530.6	-407.8	3,286.9	3,312.1	0.00	0.00	0.00
10,600.0	33.00	97.07	9,614.5	-414.5	3,340.9	3,366.5	0.00	0.00	0.00
10,654.3	33.00	97.07	9,660.0	-418.1	3,370.3	3,396.1	0.00	0.00	0.00
TD at 10654.3 - Chugwater									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Pintail 2 Entrada Entry	0.00	360.00	9,485.0	-404.1	3,257.5	1,452,678.75	2,758,186.32	40° 34' 21.879 N	106° 22' 13.697 W
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
10,445.6	9,485.0	Entrada		0.00	
10,654.3	9,660.0	Chugwater		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
4219	4219	0	0	Start Build 8.00
4632	4609	-14	115	Start 5814.1 hold at 4631.5 MD
10,446	9485	-404	3257	Start 208.7 hold at 10445.6 MD
10,654	9660	-418	3370	TD at 10654.3

SandRidge Energy

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Pintail SWD 0780 2-16D
Project:	North Park Basin	TVD Reference:	KB @ 8234.0usft
Site:	T7N-R80W-S16	MD Reference:	KB @ 8234.0usft
Well:	Pintail SWD 0780 2-16D	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDMProd

Checked By: _____ Approved By: _____ Date: _____

SandRidge Energy

North Park Basin

T7N-R80W-S16

Pintail SWD 0780 2-16D

Wellbore #1

Design #1

Anticollision Summary Report

29 September, 2017

SandRidge Energy

Anticollision Summary Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Pintail SWD 0780 2-16D
Project:	North Park Basin	TVD Reference:	KB @ 8234.0usft
Reference Site:	T7N-R80W-S16	MD Reference:	KB @ 8234.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Pintail SWD 0780 2-16D	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	9/29/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	10,654.3	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-S16						
Mallard 0780 1-15H22 - Wellbore #1 - Design #1	9,695.3	11,665.6	2,063.2	1,963.5	20.686	CC
Mallard 0780 1-15H22 - Wellbore #1 - Design #1	9,700.0	11,665.9	2,063.2	1,963.4	20.682	ES
Mallard 0780 1-15H22 - Wellbore #1 - Design #1	9,900.0	11,679.3	2,073.3	1,972.6	20.600	SF
Pintail SWD 0780 1-16D - Wellbore #1 - 33 deg	3,420.6	3,420.6	15.0	-0.1	0.992	Level 1, CC, ES, SF
Pintail SWD 0780 1-16D - Wellbore #1 - 60 Deg	4,219.0	4,219.0	15.0	-3.7	0.801	Level 1, CC
Pintail SWD 0780 1-16D - Wellbore #1 - 60 Deg	4,250.0	4,250.0	15.1	-3.8	0.801	Level 1, ES, SF
Pintail SWD 0780 3-16D - Wellbore #1 - Design #1	3,438.3	3,438.3	15.0	-0.2	0.986	Level 1, CC, ES, SF
Pintail SWD 0780 4-16D - Wellbore #1 - Design #1	3,457.3	3,457.3	30.0	14.7	1.962	Level 4, CC, ES
Pintail SWD 0780 4-16D - Wellbore #1 - Design #1	3,500.0	3,499.1	30.3	14.8	1.959	Level 4, SF
Ray Ranch 0780 5-16H - Wellbore #1 - Design #1	4,473.6	4,397.0	51.3	32.0	2.657	CC, ES, SF
Ray Ranch 0780 6-16H - Wellbore #1 - Design #1	4,219.0	4,137.0	60.0	41.5	3.239	CC
Ray Ranch 0780 6-16H - Wellbore #1 - Design #1	4,250.0	4,168.0	60.1	41.4	3.220	ES
Ray Ranch 0780 6-16H - Wellbore #1 - Design #1	4,300.0	4,218.2	60.7	41.8	3.216	SF
Ray Ranch 0780 7-16H - Wellbore #1 - Design #1	4,225.9	4,146.0	27.0	8.6	1.468	Level 3, CC, ES, SF
Ray Ranch 0780 8-16H - Wellbore #1 - Design #1	2,917.9	2,836.6	22.6	10.0	1.798	Level 4, CC, ES, SF

SandRidge Energy

Anticollision Summary Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Pintail SWD 0780 2-16D
Project:	North Park Basin	TVD Reference:	KB @ 8234.0usft
Reference Site:	T7N-R80W-S16	MD Reference:	KB @ 8234.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Pintail SWD 0780 2-16D	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

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-S17						
Big Horn 0780 1-17 - Gas Injection Well - Coring Design	4,219.0	4,142.0	6,189.4	6,180.1	661.396	CC, ES
Big Horn 0780 1-17 - Gas Injection Well - Coring Design	10,654.3	9,000.0	9,307.1	9,264.2	217.110	SF
Castle 0780 1-17H20 - Wellbore #1 - Wellbore #1	4,250.0	11,384.3	6,623.1	6,534.3	74.639	SF
Castle 0780 1-17H20 - Wellbore #1 - Wellbore #1	4,500.0	11,383.2	6,570.7	6,486.4	77.999	ES
Castle 0780 1-17H20 - Wellbore #1 - Wellbore #1	4,514.4	11,383.4	6,570.5	6,486.8	78.456	CC
Castle 0780 3-17H20 - Wellbore #1 - Design #1	4,300.0	10,672.3	6,141.8	6,056.5	71.934	SF
Castle 0780 3-17H20 - Wellbore #1 - Design #1	4,500.0	10,678.4	6,098.7	6,017.1	74.737	ES
Castle 0780 3-17H20 - Wellbore #1 - Design #1	4,540.8	10,680.5	6,097.5	6,017.2	75.979	CC
Castle 0780 4-17H20 - Wellbore #1 - Design #1	4,300.0	11,226.6	5,557.0	5,470.8	64.502	SF
Castle 0780 4-17H20 - Wellbore #1 - Design #1	4,550.0	11,235.2	5,499.4	5,418.1	67.617	ES
Castle 0780 4-17H20 - Wellbore #1 - Design #1	4,574.3	11,236.6	5,499.0	5,418.5	68.297	CC
Castle 0780 9-17H20 - Wellbore #1 - Design #1	4,250.0	10,402.6	7,207.1	7,129.3	92.671	SF
Castle 0780 9-17H20 - Wellbore #1 - Design #1	4,500.0	10,407.4	7,157.4	7,083.8	97.324	ES
Castle 0780 9-17H20 - Wellbore #1 - Design #1	4,506.6	10,407.6	7,157.4	7,084.0	97.601	CC
Hebron 0780 4-18H - Wellbore #2 - Wellbore #2	331.6	274.5	7,294.1	7,292.9	6,126.461	CC
Hebron 0780 4-18H - Wellbore #2 - Wellbore #2	400.0	316.0	7,294.3	7,292.9	5,111.844	ES
Hebron 0780 4-18H - Wellbore #2 - Wellbore #2	5,000.0	11,394.6	7,828.8	7,751.4	101.233	SF
Hebron 0780 4-7H - Wellbore #1 - Wellbore #1	1,103.9	1,045.1	7,501.0	7,496.6	1,707.475	CC
Hebron 0780 4-7H - Wellbore #1 - Wellbore #1	2,000.0	1,923.0	7,504.1	7,495.8	910.181	ES
Hebron 0780 4-7H - Wellbore #1 - Wellbore #1	8,000.0	5,589.0	9,968.3	9,928.1	248.199	SF
Mutual 0780 1-8H - Wellbore #1 - Design #1	4,279.9	4,782.8	7,191.5	7,171.9	366.531	CC, ES
Mutual 0780 1-8H - Wellbore #1 - Design #1	9,900.0	7,450.0	9,962.7	9,907.0	178.885	SF
Mutual 0780 2-8H - Wellbore #1 - Wellbore #1	100.0	16.0	7,374.5	7,374.4	10,000.000	CC
Mutual 0780 2-8H - Wellbore #1 - Wellbore #1	2,865.4	2,805.0	7,375.5	7,364.1	646.693	ES
Mutual 0780 2-8H - Wellbore #1 - Wellbore #1	8,900.0	6,594.7	9,944.0	9,901.0	231.095	SF
Mutual 0780 3-8H - Wellbore #1 - Wellbore #1	4,365.8	5,595.0	6,920.2	6,901.0	360.473	CC, ES
Mutual 0780 3-8H - Wellbore #1 - Wellbore #1	10,600.0	7,340.0	9,974.5	9,912.9	161.830	SF
Mutual 0780 4-8H - Wellbore #1 - Wellbore #1	4,471.1	6,587.9	6,561.3	6,531.5	220.384	CC, ES
Mutual 0780 4-8H - Wellbore #1 - Wellbore #1	10,654.3	7,437.0	9,483.2	9,409.3	128.286	SF
Mutual 7-17H - Wellbore #1 - Wellbore #1	1,380.3	1,320.1	7,475.5	7,470.7	1,567.614	CC
Mutual 7-17H - Wellbore #1 - Wellbore #1	4,219.0	4,160.7	7,479.7	7,462.6	439.190	ES
Mutual 7-17H - Wellbore #1 - Wellbore #1	9,100.0	7,001.0	9,974.5	9,928.6	216.942	SF
T7N-R80W-S21						
Evans 0780 1-21H - Wellbore #1 - Design #1	7,620.3	7,309.4	1,059.5	999.0	17.508	CC, ES
Evans 0780 1-21H - Wellbore #1 - Design #1	8,000.0	7,595.3	1,088.6	1,023.9	16.839	SF
Evans 0780 2-21H - Wellbore #1 - Design #1	8,200.3	7,750.0	944.5	878.6	14.314	CC, ES
Evans 0780 2-21H - Wellbore #1 - Design #1	8,400.0	7,833.6	957.4	889.3	14.046	SF
Evans 0780 3-21H - Wellbore #1 - Design #1	8,776.6	8,100.0	926.3	848.1	11.852	CC
Evans 0780 3-21H - Wellbore #1 - Design #1	8,800.0	8,116.1	926.3	847.8	11.792	ES
Evans 0780 3-21H - Wellbore #1 - Design #1	9,000.0	8,200.0	942.8	861.2	11.556	SF
Evans 0780 4-21H - Wellbore #1 - Design #1	9,069.9	8,315.9	1,117.7	1,033.8	13.325	CC
Evans 0780 4-21H - Wellbore #1 - Design #1	9,100.0	8,332.8	1,117.9	1,033.5	13.246	ES
Evans 0780 4-21H - Wellbore #1 - Design #1	9,500.0	8,526.5	1,157.3	1,066.5	12.745	SF
Ray Ranch 0780 1-16H - Wellbore #1 - Design #1	8,384.0	9,513.4	846.4	796.0	16.781	CC, ES
Ray Ranch 0780 1-16H - Wellbore #1 - Design #1	8,400.0	9,512.1	846.6	796.0	16.760	SF
Ray Ranch 0780 2-16H - Wellbore #1 - Design #1	9,319.8	10,153.7	683.1	627.8	12.361	CC, ES, SF
Ray Ranch 0780 3-16H - Wellbore #1 - Design #1	9,280.9	9,822.6	147.9	92.2	2.655	CC, ES, SF
Ray Ranch 0780 4-16H - Wellbore #1 - Design #1	9,682.8	9,757.4	579.3	520.8	9.901	CC, ES
Ray Ranch 0780 4-16H - Wellbore #1 - Design #1	9,700.0	9,756.2	579.6	521.0	9.895	SF

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

SandRidge Energy

Anticollision Summary Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Pintail SWD 0780 2-16D
Project:	North Park Basin	TVD Reference:	KB @ 8234.0usft
Reference Site:	T7N-R80W-S16	MD Reference:	KB @ 8234.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Pintail SWD 0780 2-16D	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

Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning
T7N-R80W-S9						
Castle 0780 5-17H20 - Wellbore #1 - Design #1	2,600.0	2,500.0	4,578.8	4,567.6	408.535	CC, ES
Castle 0780 5-17H20 - Wellbore #1 - Design #1	6,400.0	12,594.0	5,355.9	5,268.4	61.258	SF
Castle 0780 6-17H20 - Wellbore #1 - Design #1	2,730.6	2,632.6	4,569.4	4,557.6	387.331	CC
Castle 0780 6-17H20 - Wellbore #1 - Design #1	4,450.0	12,130.7	4,687.6	4,598.4	52.524	SF
Castle 0780 6-17H20 - Wellbore #1 - Design #1	5,300.0	12,185.0	4,592.1	4,509.2	55.404	ES
Castle 0780 7-17H20 - Wellbore #1 - Design #1	4,300.0	11,902.6	4,318.9	4,225.4	46.199	SF
Castle 0780 7-17H20 - Wellbore #1 - Design #1	5,635.1	11,983.2	4,036.9	3,951.7	47.380	CC, ES
Castle 0780 8-17H20 - Wellbore #1 - Design #1	5,995.2	11,947.8	3,483.3	3,394.7	39.326	CC
Castle 0780 8-17H20 - Wellbore #1 - Design #1	6,000.0	11,948.1	3,483.3	3,394.7	39.316	ES
Castle 0780 8-17H20 - Wellbore #1 - Design #1	6,700.0	11,994.8	3,553.5	3,461.5	38.625	SF
Gregory 0780 1-9H - Wellbore #1 - Wellbore #1	4,263.5	4,295.0	4,284.2	4,265.7	231.627	CC, ES
Gregory 0780 1-9H - Wellbore #1 - Wellbore #1	10,654.3	7,578.0	6,909.2	6,828.1	85.210	SF
Gregory 0780 2-9H - Wellbore #1 - Design #1	4,515.9	5,175.6	4,327.7	4,306.1	200.291	CC, ES
Gregory 0780 2-9H - Wellbore #1 - Design #1	10,654.3	7,700.0	6,200.7	6,111.9	69.863	SF
Gregory 0780 3-9H - Wellbore #1 - Design #1	4,459.7	4,917.9	4,223.8	4,200.3	179.772	CC, ES
Gregory 0780 3-9H - Wellbore #1 - Design #1	10,654.3	7,850.0	5,950.1	5,849.9	59.339	SF
Gregory 0780 4-9H - Wellbore #1 - Design #1	4,395.2	4,710.5	4,225.3	4,200.6	170.981	CC
Gregory 0780 4-9H - Wellbore #1 - Design #1	4,400.0	4,715.3	4,225.3	4,200.5	170.718	ES
Gregory 0780 4-9H - Wellbore #1 - Design #1	10,654.3	8,323.0	5,759.8	5,642.6	49.116	SF
Janet 0780 1-16H21 - Wellbore #1 - Design #1	6,350.5	11,490.0	2,825.0	2,742.6	34.263	CC, ES
Janet 0780 1-16H21 - Wellbore #1 - Design #1	6,900.0	11,522.6	2,877.8	2,792.6	33.766	SF
Janet 0780 2-16H21 - Wellbore #1 - Design #1	6,712.6	11,572.4	2,265.3	2,180.0	26.568	CC, ES
Janet 0780 2-16H21 - Wellbore #1 - Design #1	7,000.0	11,589.5	2,283.4	2,196.5	26.296	SF
Janet 0780 3-16H21 - Wellbore #1 - Design #1	7,076.3	11,724.8	1,702.9	1,614.2	19.189	CC, ES
Janet 0780 3-16H21 - Wellbore #1 - Design #1	7,300.0	11,738.2	1,717.5	1,627.4	19.059	SF
Janet 0780 4-16H21 - Wellbore #1 - Design #1	7,440.6	11,937.3	1,139.6	1,046.9	12.296	CC, ES
Janet 0780 4-16H21 - Wellbore #1 - Design #1	7,500.0	11,940.8	1,141.1	1,048.0	12.256	SF
Mutual 0780 5-8H - Wellbore #1 - Design #1	2,600.0	2,500.0	4,685.1	4,673.9	418.015	CC
Mutual 0780 5-8H - Wellbore #1 - Design #1	2,700.0	2,569.8	4,685.4	4,673.8	404.632	ES
Mutual 0780 5-8H - Wellbore #1 - Design #1	10,654.3	7,520.3	8,303.2	8,216.3	95.577	SF
Mutual 0780 6-8H - Wellbore #1 - Design #1	3,989.6	3,909.9	4,692.1	4,674.8	271.699	CC
Mutual 0780 6-8H - Wellbore #1 - Design #1	4,250.0	4,161.6	4,692.8	4,673.2	239.169	ES
Mutual 0780 6-8H - Wellbore #1 - Design #1	10,654.3	7,450.0	7,689.8	7,606.5	92.311	SF
Mutual 0780 7-8H - Wellbore #1 - Design #1	4,282.7	4,375.9	4,691.0	4,671.8	243.696	CC, ES
Mutual 0780 7-8H - Wellbore #1 - Design #1	10,654.3	7,450.0	7,520.7	7,438.4	91.406	SF
Mutual 0780 8-8H - Wellbore #1 - Design #1	4,370.2	4,710.0	4,688.5	4,668.5	234.640	CC, ES
Mutual 0780 8-8H - Wellbore #1 - Design #1	10,654.3	7,500.0	7,254.1	7,173.5	90.031	SF

SandRidge Energy

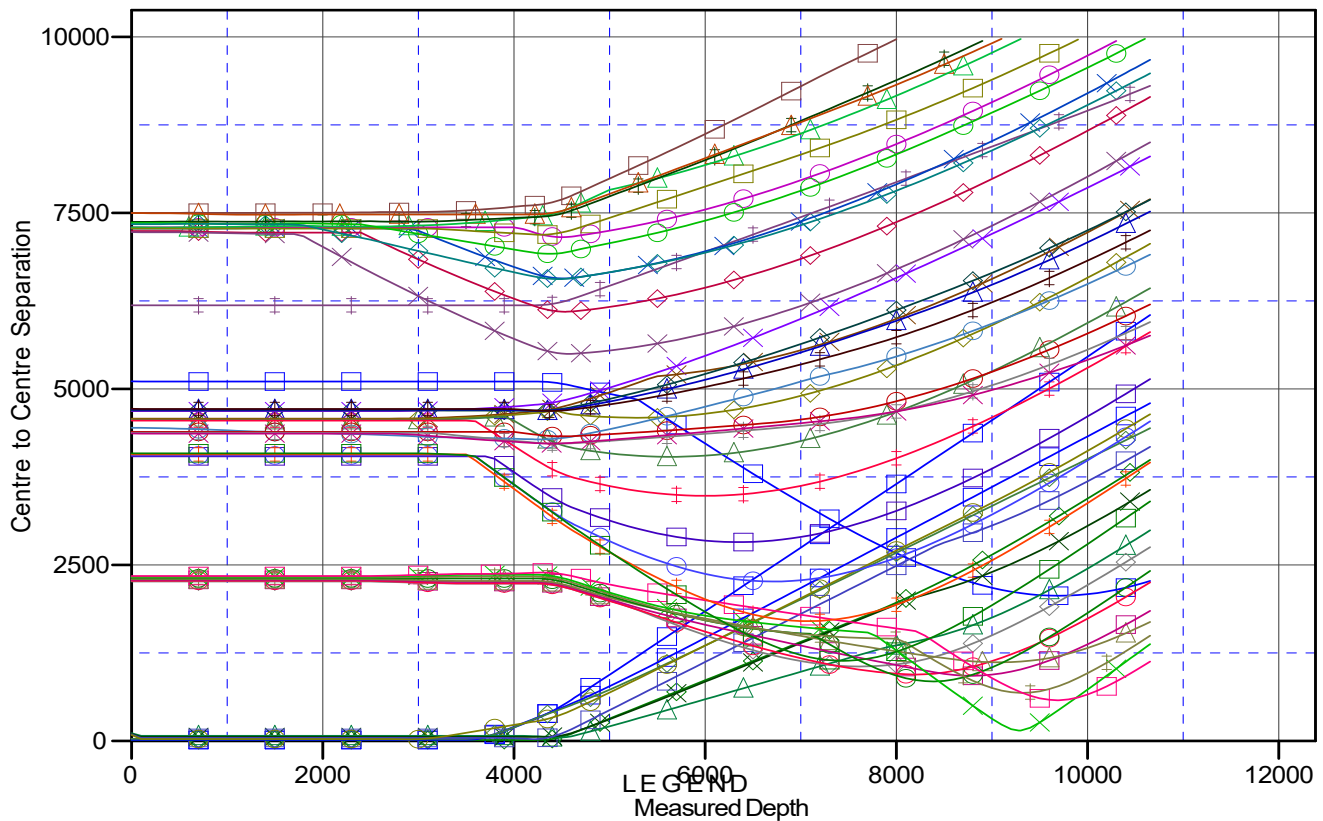
Anticollision Summary Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Pintail SWD 0780 2-16D
Project:	North Park Basin	TVD Reference:	KB @ 8234.0usft
Reference Site:	T7N-R80W-S16	MD Reference:	KB @ 8234.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Pintail SWD 0780 2-16D	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 @ 8234.0usft
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Pintail SWD 0780 2-16D
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: -0.57°

Ladder Plot



780 1-15H22, Wellbore #1, Design #1 V0	Hebron 0780 4-7H, Wellbore #1, Wellbore #1 V0	Castle 0780 6-17H20, Wellbore #1, Design #1 V0
0780 1-16D, Wellbore #1, 33 deg V0	Mutual 0780 1-8H, Wellbore #1, Design #1 V0	Castle 0780 7-17H20, Wellbore #1, Design #1 V0
0780 1-16D, Wellbore #1, 60 Deg V0	Mutual 0780 2-8H, Wellbore #1, Wellbore #1 V0	Castle 0780 8-17H20, Wellbore #1, Design #1 V0
0780 3-16D, Wellbore #1, Design #1 V0	Mutual 0780 3-8H, Wellbore #1, Wellbore #1 V0	Gregory 0780 1-9H, Wellbore #1, Wellbore #1 V0
0780 4-16D, Wellbore #1, Design #1 V0	Mutual 0780 4-8H, Wellbore #1, Wellbore #1 V0	Gregory 0780 2-9H, Wellbore #1, Design #1 V0
0780 5-16H, Wellbore #1, Design #1 V0	Mutual 7-17H, Wellbore #1, Wellbore #1 V0	Gregory 0780 3-9H, Wellbore #1, Design #1 V0
0780 6-16H, Wellbore #1, Design #1 V0	Evans 0780 1-21H, Wellbore #1, Design #1 V0	Gregory 0780 4-9H, Wellbore #1, Design #1 V0
0780 7-16H, Wellbore #1, Design #1 V0	Evans 0780 2-21H, Wellbore #1, Design #1 V0	Janet 0780 1-16H21, Wellbore #1, Design #1 V0
0780 8-16H, Wellbore #1, Design #1 V0	Evans 0780 3-21H, Wellbore #1, Design #1 V0	Janet 0780 2-16H21, Wellbore #1, Design #1 V0
0780 1-17, Gas Injection Well, Coring Design V0	Evans 0780 4-21H, Wellbore #1, Design #1 V0	Janet 0780 3-16H21, Wellbore #1, Design #1 V0
80 1-17H20, Wellbore #1, Wellbore #1 V0	Ray Ranch 0780 1-16H, Wellbore #1, Design #1 V0	Janet 0780 4-16H21, Wellbore #1, Design #1 V0
80 3-17H20, Wellbore #1, Design #1 V0	Ray Ranch 0780 2-16H, Wellbore #1, Design #1 V0	Mutual 0780 5-8H, Wellbore #1, Design #1 V0

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

SandRidge Energy

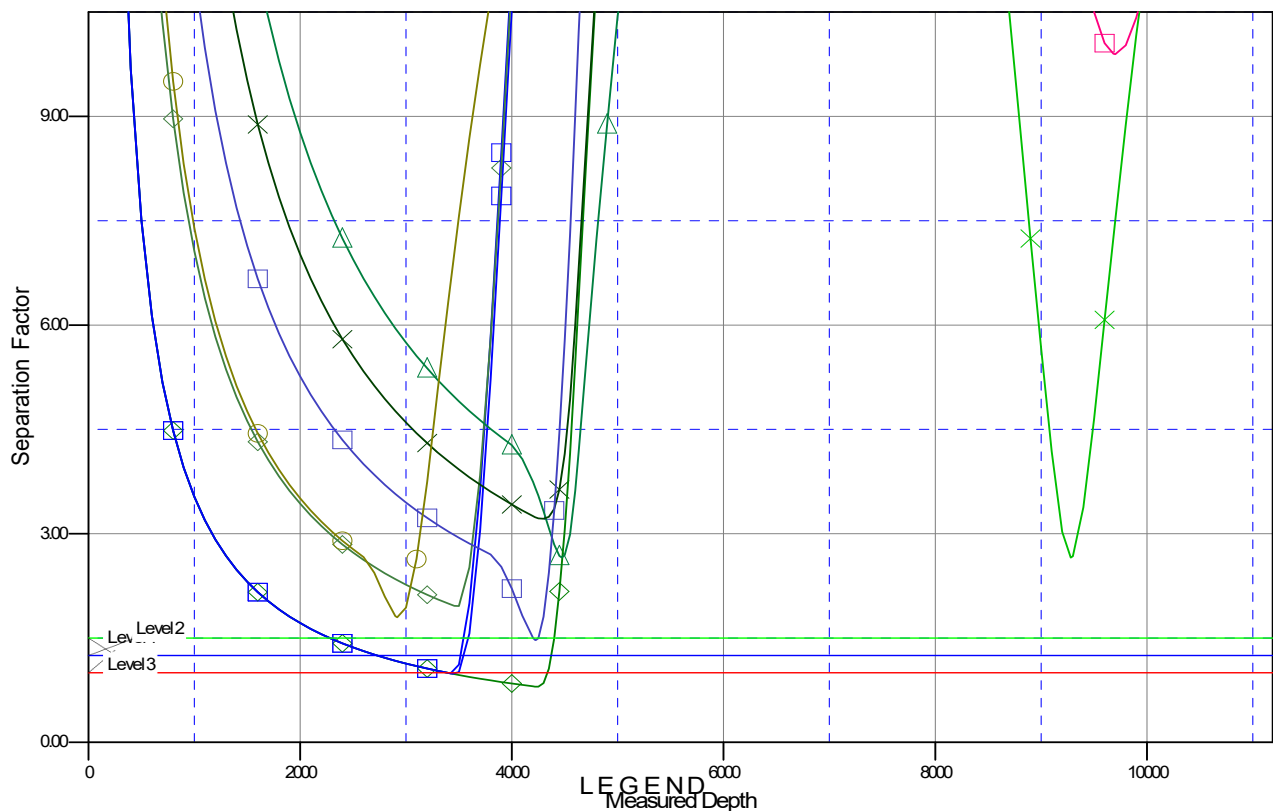
Anticollision Summary Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Pintail SWD 0780 2-16D
Project:	North Park Basin	TVD Reference:	KB @ 8234.0usft
Reference Site:	T7N-R80W-S16	MD Reference:	KB @ 8234.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Pintail SWD 0780 2-16D	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 @ 8234.0usft
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Pintail SWD 0780 2-16D
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: -0.57°

Separation Factor Plot



780 1-15H22, Wellbore #1, Design #1 V0	Hebron 0780 4-7H, Wellbore #1, Wellbore #1 V0	Castle 0780 6-17H20, Wellbore #1, Design #1 V0
VD 0780 1-16D, Wellbore #1, 33 deg V0	Mutual 0780 1-8H, Wellbore #1, Design #1 V0	Castle 0780 7-17H20, Wellbore #1, Design #1 V0
VD 0780 1-16D, Wellbore #1, 60 Deg V0	Mutual 0780 2-8H, Wellbore #1, Wellbore #1 V0	Castle 0780 8-17H20, Wellbore #1, Design #1 V0
VD 0780 3-16D, Wellbore #1, Design #1 V0	Mutual 0780 3-8H, Wellbore #1, Wellbore #1 V0	Gregory 0780 1-9H, Wellbore #1, Wellbore #1 V0
VD 0780 4-16D, Wellbore #1, Design #1 V0	Mutual 0780 4-8H, Wellbore #1, Wellbore #1 V0	Gregory 0780 2-9H, Wellbore #1, Design #1 V0
h 0780 5-16H, Wellbore #1, Design #1 V0	Mutual 7-17H, Wellbore #1, Wellbore #1 V0	Gregory 0780 3-9H, Wellbore #1, Design #1 V0
h 0780 6-16H, Wellbore #1, Design #1 V0	Evans 0780 1-21H, Wellbore #1, Design #1 V0	Gregory 0780 4-9H, Wellbore #1, Design #1 V0
h 0780 7-16H, Wellbore #1, Design #1 V0	Evans 0780 2-21H, Wellbore #1, Design #1 V0	Janet 0780 1-16H21, Wellbore #1, Design #1 V0
h 0780 8-16H, Wellbore #1, Design #1 V0	Evans 0780 3-21H, Wellbore #1, Design #1 V0	Janet 0780 2-16H21, Wellbore #1, Design #1 V0
0780 1-17, Gas Injection Well, Coring Design V0	Evans 0780 4-21H, Wellbore #1, Design #1 V0	Janet 0780 3-16H21, Wellbore #1, Design #1 V0
80 1-17H20, Wellbore #1, Wellbore #1 V0	Ray Ranch 0780 1-16H, Wellbore #1, Design #1 V0	Janet 0780 4-16H21, Wellbore #1, Design #1 V0
80 3-17H20, Wellbore #1, Design #1 V0	Ray Ranch 0780 2-16H, Wellbore #1, Design #1 V0	Mutual 0780 5-8H, Wellbore #1, Design #1 V0

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