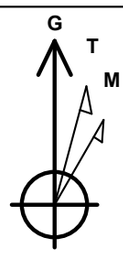
PROJECT DETAILS: North Park Basin

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

System Datum: Mean Sea Level



Azimuths to Grid North
True North: 0.57°
Magnetic North: 10.45°

Magnetic Field
Strength: 53185.4snT
Dip Angle: 66.97°
Date: 12/31/2009
Model: IGRF200510

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
9485.0	10594.0	Entrada	0.00	
9660.0	10802.7	Chugwater	0.00	

CASING DETAILS

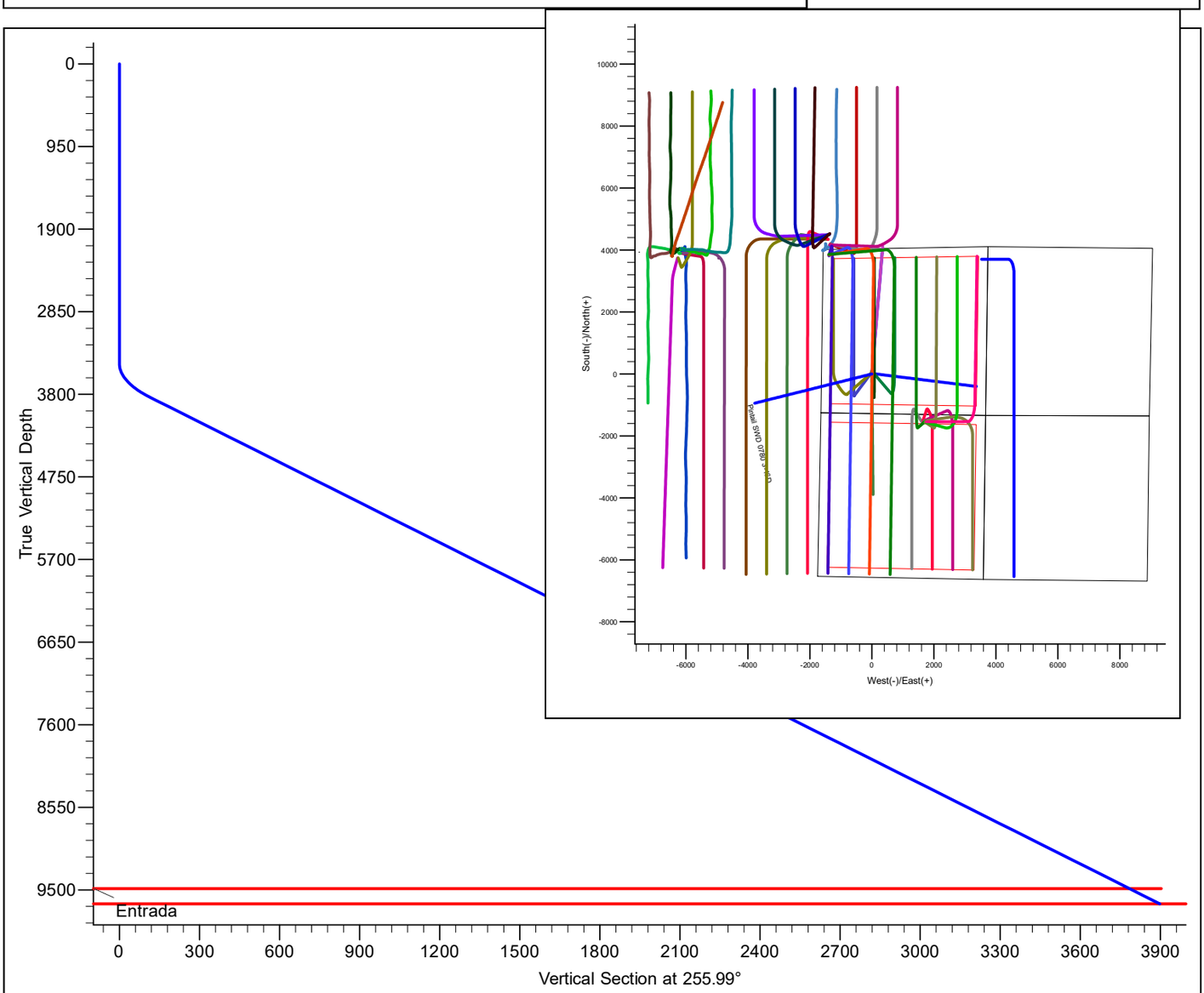
No casing data is available

DESIGN DETAILS: Design #1

0' Vertical Section coordinates

Type	Target	Azimuth	Origin Type	N/S	E/W	From TVD
TD		255.99	Slot	0.0	0.0	0.0

Project: North Park Basin
Site: T7N-R80W-S16
Well: Pintail SWD 0780 3-16D
Wellbore: Wellbore #1
Design: Design #1



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	3445.0	0.00	0.00	3445.0	0.0	0.0	0.00	0.00	0.0	
3	3857.5	33.00	255.99	3835.0	-28.0	-112.1	8.00	255.99	115.5	
4	10594.0	33.00	255.99	9485.0	-916.3	-3671.6	0.00	0.00	3784.2	Pintail 3 Entrada Entry
5	10802.7	33.00	255.99	9660.0	-943.8	-3781.8	0.00	0.00	3897.8	

SandRidge Energy

North Park Basin
T7N-R80W-S16
Pintail SWD 0780 3-16D

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 3-16D
Project:	North Park Basin	**TVD Reference:**	KB @ 8234.0usft
Site:	T7N-R80W-S16	**MD Reference:**	KB @ 8234.0usft
Well:	Pintail SWD 0780 3-16D	**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 3-16D					
Well Position	**+N/-S**	0.0 usft	**Northing:**	1,453,067.86 usft	**Latitude:**	40° 34' 25.406 N
	+E/-W	0.0 usft	**Easting:**	2,754,928.85 usft	**Longitude:**	106° 22' 55.959 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	255.99

Survey Tool Program **Date** 9/29/2017

From (usft)	**To (usft)**	**Survey (Wellbore)**	**Tool Name**	**Description**
0.0	10,801.8	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 3-16D
Project:	North Park Basin	**TVD Reference:**	KB @ 8234.0usft
Site:	T7N-R80W-S16	**MD Reference:**	KB @ 8234.0usft
Well:	Pintail SWD 0780 3-16D	**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
3,445.0	0.00	0.00	3,445.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 8.00									
3,500.0	4.40	255.99	3,499.9	-0.5	-2.0	2.1	8.00	8.00	0.00
3,600.0	12.40	255.99	3,598.8	-4.0	-16.2	16.7	8.00	8.00	0.00
3,700.0	20.40	255.99	3,694.6	-10.9	-43.6	44.9	8.00	8.00	0.00
3,800.0	28.40	255.99	3,785.6	-20.9	-83.6	86.2	8.00	8.00	0.00
3,857.5	33.00	255.99	3,835.0	-28.0	-112.1	115.5	8.00	8.00	0.00
Start 6736.6 hold at 3857.5 MD									
3,900.0	33.00	255.99	3,870.7	-33.6	-134.6	138.7	0.00	0.00	0.00
4,000.0	33.00	255.99	3,954.6	-46.8	-187.4	193.1	0.00	0.00	0.00
4,100.0	33.00	255.99	4,038.5	-60.0	-240.2	247.6	0.00	0.00	0.00
4,200.0	33.00	255.99	4,122.3	-73.1	-293.1	302.1	0.00	0.00	0.00
4,300.0	33.00	255.99	4,206.2	-86.3	-345.9	356.5	0.00	0.00	0.00
4,400.0	33.00	255.99	4,290.1	-99.5	-398.8	411.0	0.00	0.00	0.00
4,500.0	33.00	255.99	4,373.9	-112.7	-451.6	465.4	0.00	0.00	0.00
4,600.0	33.00	255.99	4,457.8	-125.9	-504.4	519.9	0.00	0.00	0.00
4,700.0	33.00	255.99	4,541.7	-139.1	-557.3	574.4	0.00	0.00	0.00
4,800.0	33.00	255.99	4,625.5	-152.3	-610.1	628.8	0.00	0.00	0.00
4,900.0	33.00	255.99	4,709.4	-165.4	-662.9	683.3	0.00	0.00	0.00

SandRidge Energy

Survey Report

Company:	SandRidge Energy	**Local Co-ordinate Reference:**	Well Pintail SWD 0780 3-16D
Project:	North Park Basin	**TVD Reference:**	KB @ 8234.0usft
Site:	T7N-R80W-S16	**MD Reference:**	KB @ 8234.0usft
Well:	Pintail SWD 0780 3-16D	**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	255.99	4,793.3	-178.6	-715.8	737.7	0.00	0.00	0.00
5,100.0	33.00	255.99	4,877.2	-191.8	-768.6	792.2	0.00	0.00	0.00
5,200.0	33.00	255.99	4,961.0	-205.0	-821.5	846.7	0.00	0.00	0.00
5,300.0	33.00	255.99	5,044.9	-218.2	-874.3	901.1	0.00	0.00	0.00
5,400.0	33.00	255.99	5,128.8	-231.4	-927.1	955.6	0.00	0.00	0.00
5,500.0	33.00	255.99	5,212.6	-244.6	-980.0	1,010.0	0.00	0.00	0.00
5,600.0	33.00	255.99	5,296.5	-257.7	-1,032.8	1,064.5	0.00	0.00	0.00
5,700.0	33.00	255.99	5,380.4	-270.9	-1,085.7	1,118.9	0.00	0.00	0.00
5,800.0	33.00	255.99	5,464.2	-284.1	-1,138.5	1,173.4	0.00	0.00	0.00
5,900.0	33.00	255.99	5,548.1	-297.3	-1,191.3	1,227.9	0.00	0.00	0.00
6,000.0	33.00	255.99	5,632.0	-310.5	-1,244.2	1,282.3	0.00	0.00	0.00
6,100.0	33.00	255.99	5,715.9	-323.7	-1,297.0	1,336.8	0.00	0.00	0.00
6,200.0	33.00	255.99	5,799.7	-336.9	-1,349.8	1,391.2	0.00	0.00	0.00
6,300.0	33.00	255.99	5,883.6	-350.1	-1,402.7	1,445.7	0.00	0.00	0.00
6,400.0	33.00	255.99	5,967.5	-363.2	-1,455.5	1,500.2	0.00	0.00	0.00
6,500.0	33.00	255.99	6,051.3	-376.4	-1,508.4	1,554.6	0.00	0.00	0.00
6,600.0	33.00	255.99	6,135.2	-389.6	-1,561.2	1,609.1	0.00	0.00	0.00
6,700.0	33.00	255.99	6,219.1	-402.8	-1,614.0	1,663.5	0.00	0.00	0.00
6,800.0	33.00	255.99	6,303.0	-416.0	-1,666.9	1,718.0	0.00	0.00	0.00
6,900.0	33.00	255.99	6,386.8	-429.2	-1,719.7	1,772.5	0.00	0.00	0.00
7,000.0	33.00	255.99	6,470.7	-442.4	-1,772.6	1,826.9	0.00	0.00	0.00
7,100.0	33.00	255.99	6,554.6	-455.5	-1,825.4	1,881.4	0.00	0.00	0.00
7,200.0	33.00	255.99	6,638.4	-468.7	-1,878.2	1,935.8	0.00	0.00	0.00
7,300.0	33.00	255.99	6,722.3	-481.9	-1,931.1	1,990.3	0.00	0.00	0.00
7,400.0	33.00	255.99	6,806.2	-495.1	-1,983.9	2,044.8	0.00	0.00	0.00
7,500.0	33.00	255.99	6,890.0	-508.3	-2,036.7	2,099.2	0.00	0.00	0.00
7,600.0	33.00	255.99	6,973.9	-521.5	-2,089.6	2,153.7	0.00	0.00	0.00
7,700.0	33.00	255.99	7,057.8	-534.7	-2,142.4	2,208.1	0.00	0.00	0.00
7,800.0	33.00	255.99	7,141.7	-547.8	-2,195.3	2,262.6	0.00	0.00	0.00
7,900.0	33.00	255.99	7,225.5	-561.0	-2,248.1	2,317.0	0.00	0.00	0.00
8,000.0	33.00	255.99	7,309.4	-574.2	-2,300.9	2,371.5	0.00	0.00	0.00
8,100.0	33.00	255.99	7,393.3	-587.4	-2,353.8	2,426.0	0.00	0.00	0.00
8,200.0	33.00	255.99	7,477.1	-600.6	-2,406.6	2,480.4	0.00	0.00	0.00
8,300.0	33.00	255.99	7,561.0	-613.8	-2,459.5	2,534.9	0.00	0.00	0.00
8,400.0	33.00	255.99	7,644.9	-627.0	-2,512.3	2,589.3	0.00	0.00	0.00
8,500.0	33.00	255.99	7,728.7	-640.1	-2,565.1	2,643.8	0.00	0.00	0.00
8,600.0	33.00	255.99	7,812.6	-653.3	-2,618.0	2,698.3	0.00	0.00	0.00
8,700.0	33.00	255.99	7,896.5	-666.5	-2,670.8	2,752.7	0.00	0.00	0.00
8,800.0	33.00	255.99	7,980.4	-679.7	-2,723.6	2,807.2	0.00	0.00	0.00
8,900.0	33.00	255.99	8,064.2	-692.9	-2,776.5	2,861.6	0.00	0.00	0.00
9,000.0	33.00	255.99	8,148.1	-706.1	-2,829.3	2,916.1	0.00	0.00	0.00
9,100.0	33.00	255.99	8,232.0	-719.3	-2,882.2	2,970.6	0.00	0.00	0.00
9,200.0	33.00	255.99	8,315.8	-732.5	-2,935.0	3,025.0	0.00	0.00	0.00

SandRidge Energy

Survey Report

Company:	SandRidge Energy	**Local Co-ordinate Reference:**	Well Pintail SWD 0780 3-16D
Project:	North Park Basin	**TVD Reference:**	KB @ 8234.0usft
Site:	T7N-R80W-S16	**MD Reference:**	KB @ 8234.0usft
Well:	Pintail SWD 0780 3-16D	**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	255.99	8,399.7	-745.6	-2,987.8	3,079.5	0.00	0.00	0.00
9,400.0	33.00	255.99	8,483.6	-758.8	-3,040.7	3,133.9	0.00	0.00	0.00
9,500.0	33.00	255.99	8,567.5	-772.0	-3,093.5	3,188.4	0.00	0.00	0.00
9,600.0	33.00	255.99	8,651.3	-785.2	-3,146.4	3,242.8	0.00	0.00	0.00
9,700.0	33.00	255.99	8,735.2	-798.4	-3,199.2	3,297.3	0.00	0.00	0.00
9,800.0	33.00	255.99	8,819.1	-811.6	-3,252.0	3,351.8	0.00	0.00	0.00
9,900.0	33.00	255.99	8,902.9	-824.8	-3,304.9	3,406.2	0.00	0.00	0.00
10,000.0	33.00	255.99	8,986.8	-837.9	-3,357.7	3,460.7	0.00	0.00	0.00
10,100.0	33.00	255.99	9,070.7	-851.1	-3,410.5	3,515.1	0.00	0.00	0.00
10,200.0	33.00	255.99	9,154.5	-864.3	-3,463.4	3,569.6	0.00	0.00	0.00
10,300.0	33.00	255.99	9,238.4	-877.5	-3,516.2	3,624.1	0.00	0.00	0.00
10,400.0	33.00	255.99	9,322.3	-890.7	-3,569.1	3,678.5	0.00	0.00	0.00
10,500.0	33.00	255.99	9,406.2	-903.9	-3,621.9	3,733.0	0.00	0.00	0.00
10,594.0	33.00	255.99	9,485.0	-916.3	-3,671.6	3,784.2	0.00	0.00	0.00
Start 208.7 hold at 10594.0 MD									
10,600.0	33.00	255.99	9,490.0	-917.1	-3,674.7	3,787.4	0.00	0.00	0.00
10,700.0	33.00	255.99	9,573.9	-930.2	-3,727.6	3,841.9	0.00	0.00	0.00
10,800.0	33.00	255.99	9,657.8	-943.4	-3,780.4	3,896.4	0.00	0.00	0.00
10,802.7	33.00	255.99	9,660.0	-943.8	-3,781.8	3,897.8	0.00	0.00	0.00
TD at 10802.7									

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
Pintail 3 Entrada Entry - plan hits target center - Point	0.00	360.00	9,485.0	-916.3	-3,671.6	1,452,151.59	2,751,257.28	40° 34' 15.989 N	106° 23' 43.417 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
3445	3445	0	0	Start Build 8.00
3857	3835	-28	-112	Start 6736.6 hold at 3857.5 MD
10,594	9485	-916	-3672	Start 208.7 hold at 10594.0 MD
10,803	9660	-944	-3782	TD at 10802.7

Checked By: _____ Approved By: _____ Date: _____

SandRidge Energy

North Park Basin
T7N-R80W-S16
Pintail SWD 0780 3-16D

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 3-16D
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 3-16D	**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	10,801.8	Design #1 (Wellbore #1)	Sperry MWD	Fixed:v2:standard declination

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
T7N-R80W-S16						
Mallard 0780 1-15H22 - Wellbore #1 - Design #1	3,445.0	3,347.0	5,118.1	5,103.1	341.160	CC
Mallard 0780 1-15H22 - Wellbore #1 - Design #1	3,450.0	3,352.0	5,118.1	5,103.1	340.675	ES
Mallard 0780 1-15H22 - Wellbore #1 - Design #1	8,800.0	12,006.5	7,313.7	7,209.4	70.100	SF
Pintail SWD 0780 1-16D - Wellbore #1 - 33 deg	3,428.9	3,428.9	30.0	14.8	1.978	Level 4, CC
Pintail SWD 0780 1-16D - Wellbore #1 - 33 deg	3,445.0	3,444.9	30.0	14.8	1.969	Level 4, ES
Pintail SWD 0780 1-16D - Wellbore #1 - 33 deg	3,450.0	3,449.7	30.0	14.8	1.969	Level 4, SF
Pintail SWD 0780 1-16D - Wellbore #1 - 60 Deg	3,445.0	3,445.0	30.0	14.8	1.969	Level 4, CC
Pintail SWD 0780 1-16D - Wellbore #1 - 60 Deg	3,450.0	3,450.0	30.0	14.7	1.966	Level 4, ES, SF
Pintail SWD 0780 2-16D - Wellbore #1 - Design #1	3,445.0	3,445.0	15.0	-0.2	0.984	Level 1, CC
Pintail SWD 0780 2-16D - Wellbore #1 - Design #1	3,450.0	3,450.0	15.0	-0.3	0.983	Level 1, ES, SF
Pintail SWD 0780 4-16D - Wellbore #1 - Design #1	3,485.0	3,484.8	14.8	-0.6	0.961	Level 1, CC, ES, SF
Ray Ranch 0780 5-16H - Wellbore #1 - Design #1	3,445.0	3,363.0	90.0	75.0	5.981	CC
Ray Ranch 0780 5-16H - Wellbore #1 - Design #1	3,450.0	3,368.0	90.0	74.9	5.973	ES
Ray Ranch 0780 5-16H - Wellbore #1 - Design #1	3,500.0	3,417.9	90.5	75.3	5.927	SF
Ray Ranch 0780 6-16H - Wellbore #1 - Design #1	3,445.0	3,363.0	75.0	60.0	4.984	CC
Ray Ranch 0780 6-16H - Wellbore #1 - Design #1	3,450.0	3,368.0	75.0	59.9	4.978	ES
Ray Ranch 0780 6-16H - Wellbore #1 - Design #1	3,500.0	3,417.9	75.5	60.3	4.945	SF
Ray Ranch 0780 7-16H - Wellbore #1 - Design #1	3,445.0	3,363.0	60.0	45.0	3.988	CC
Ray Ranch 0780 7-16H - Wellbore #1 - Design #1	3,450.0	3,368.0	60.0	44.9	3.982	ES
Ray Ranch 0780 7-16H - Wellbore #1 - Design #1	3,500.0	3,417.9	60.5	45.3	3.964	SF
Ray Ranch 0780 8-16H - Wellbore #1 - Design #1	2,993.0	2,912.4	33.9	21.0	2.632	CC
Ray Ranch 0780 8-16H - Wellbore #1 - Design #1	3,000.0	2,919.3	33.9	21.0	2.627	ES, SF

SandRidge Energy

Anticollision Summary Report

Company:	SandRidge Energy	**Local Co-ordinate Reference:**	Well Pintail SWD 0780 3-16D
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 3-16D	**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 Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
T7N-R80W-S17						
Big Horn 0780 1-17 - Gas Injection Well - Coring Design	10,310.4	9,000.0	4,834.6	4,751.6	58.277	CC
Big Horn 0780 1-17 - Gas Injection Well - Coring Design	10,400.0	9,000.0	4,835.4	4,751.3	57.530	ES
Big Horn 0780 1-17 - Gas Injection Well - Coring Design	10,802.7	9,000.0	4,859.5	4,770.9	54.841	SF
Castle 0780 1-17H20 - Wellbore #1 - Wellbore #1	9,764.0	11,734.3	3,212.8	3,103.6	29.420	CC, ES
Castle 0780 1-17H20 - Wellbore #1 - Wellbore #1	10,300.0	11,773.8	3,256.9	3,144.8	29.050	SF
Castle 0780 3-17H20 - Wellbore #1 - Design #1	9,556.6	11,466.2	2,725.7	2,614.3	24.470	CC, ES
Castle 0780 3-17H20 - Wellbore #1 - Design #1	10,000.0	11,524.7	2,760.9	2,646.9	24.210	SF
Castle 0780 4-17H20 - Wellbore #1 - Design #1	9,196.1	11,978.2	2,159.1	2,049.6	19.713	CC
Castle 0780 4-17H20 - Wellbore #1 - Design #1	9,200.0	11,978.7	2,159.1	2,049.6	19.709	ES
Castle 0780 4-17H20 - Wellbore #1 - Design #1	9,500.0	12,018.6	2,180.0	2,068.5	19.548	SF
Castle 0780 9-17H20 - Wellbore #1 - Design #1	10,260.1	11,406.5	3,621.4	3,507.8	31.860	CC
Castle 0780 9-17H20 - Wellbore #1 - Design #1	10,300.0	11,412.5	3,621.7	3,507.8	31.797	ES
Castle 0780 9-17H20 - Wellbore #1 - Design #1	10,700.0	11,472.3	3,647.5	3,531.3	31.393	SF
Hebron 0780 4-18H - Wellbore #2 - Wellbore #2	10,313.8	11,535.0	4,360.2	4,246.0	38.195	CC, ES
Hebron 0780 4-18H - Wellbore #2 - Wellbore #2	10,802.7	11,552.6	4,387.5	4,270.9	37.626	SF
Hebron 0780 4-7H - Wellbore #1 - Wellbore #1	9,283.7	6,505.1	6,476.7	6,396.2	80.538	CC
Hebron 0780 4-7H - Wellbore #1 - Wellbore #1	9,300.0	6,506.8	6,476.7	6,396.1	80.362	ES
Hebron 0780 4-7H - Wellbore #1 - Wellbore #1	10,802.7	6,816.0	6,635.3	6,538.1	68.270	SF
Mutual 0780 1-8H - Wellbore #1 - Design #1	9,099.3	6,875.5	5,485.0	5,408.3	71.511	CC
Mutual 0780 1-8H - Wellbore #1 - Design #1	9,200.0	6,900.0	5,486.0	5,408.1	70.356	ES
Mutual 0780 1-8H - Wellbore #1 - Design #1	10,802.7	7,000.0	5,735.9	5,639.6	59.543	SF
Mutual 0780 2-8H - Wellbore #1 - Wellbore #1	9,110.8	6,686.8	6,050.1	5,976.3	81.937	CC, ES
Mutual 0780 2-8H - Wellbore #1 - Wellbore #1	10,802.7	6,906.0	6,257.9	6,164.9	67.273	SF
Mutual 0780 3-8H - Wellbore #1 - Wellbore #1	8,629.3	6,904.0	5,333.0	5,257.7	70.866	CC
Mutual 0780 3-8H - Wellbore #1 - Wellbore #1	8,700.0	6,904.0	5,333.4	5,257.4	70.110	ES
Mutual 0780 3-8H - Wellbore #1 - Wellbore #1	10,802.7	7,078.0	5,737.0	5,635.5	56.532	SF
Mutual 0780 4-8H - Wellbore #1 - Wellbore #1	8,382.5	7,127.5	5,102.6	5,015.7	58.757	CC
Mutual 0780 4-8H - Wellbore #1 - Wellbore #1	8,400.0	7,128.4	5,102.8	5,015.7	58.612	ES
Mutual 0780 4-8H - Wellbore #1 - Wellbore #1	10,802.7	7,262.0	5,652.3	5,535.5	48.379	SF
Mutual 7-17H - Wellbore #1 - Wellbore #1	9,297.4	6,891.1	5,921.2	5,843.3	76.004	CC
Mutual 7-17H - Wellbore #1 - Wellbore #1	9,400.0	6,907.0	5,922.1	5,843.0	74.836	ES
Mutual 7-17H - Wellbore #1 - Wellbore #1	10,802.7	6,970.0	6,104.2	6,009.4	64.368	SF

SandRidge Energy

Anticollision Summary Report

Company:	SandRidge Energy	**Local Co-ordinate Reference:**	Well Pintail SWD 0780 3-16D
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 3-16D	**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 Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
T7N-R80W-S21						
Evans 0780 1-21H - Wellbore #1 - Design #1	3,452.0	3,480.3	2,226.1	2,211.0	146.710	CC, ES
Evans 0780 1-21H - Wellbore #1 - Design #1	10,594.0	8,450.0	5,162.6	5,090.8	71.905	SF
Evans 0780 2-21H - Wellbore #1 - Design #1	3,448.7	3,480.1	2,228.1	2,212.8	146.112	CC, ES
Evans 0780 2-21H - Wellbore #1 - Design #1	7,900.0	7,158.9	4,047.4	3,999.5	84.521	SF
Evans 0780 3-21H - Wellbore #1 - Design #1	3,448.2	3,480.4	2,249.0	2,233.7	147.535	CC, ES
Evans 0780 3-21H - Wellbore #1 - Design #1	7,200.0	5,800.0	3,871.6	3,826.9	86.690	SF
Evans 0780 4-21H - Wellbore #1 - Design #1	3,452.6	3,482.7	2,263.7	2,248.4	148.198	CC, ES
Evans 0780 4-21H - Wellbore #1 - Design #1	7,100.0	5,586.0	3,963.0	3,919.1	90.308	SF
Ray Ranch 0780 1-16H - Wellbore #1 - Design #1	3,445.7	3,463.2	2,299.2	2,284.3	153.858	CC
Ray Ranch 0780 1-16H - Wellbore #1 - Design #1	3,450.0	3,467.4	2,299.2	2,284.3	153.682	ES
Ray Ranch 0780 1-16H - Wellbore #1 - Design #1	8,000.0	9,197.2	3,842.4	3,791.9	76.199	SF
Ray Ranch 0780 2-16H - Wellbore #1 - Design #1	2,460.3	2,476.3	2,311.9	2,301.1	213.264	CC
Ray Ranch 0780 2-16H - Wellbore #1 - Design #1	2,500.0	2,500.0	2,312.0	2,301.0	210.503	ES
Ray Ranch 0780 2-16H - Wellbore #1 - Design #1	9,400.0	7,921.1	5,124.1	5,063.1	83.997	SF
Ray Ranch 0780 3-16H - Wellbore #1 - Design #1	2,460.3	2,476.3	2,323.4	2,312.6	214.325	CC
Ray Ranch 0780 3-16H - Wellbore #1 - Design #1	2,500.0	2,500.0	2,323.5	2,312.5	211.550	ES
Ray Ranch 0780 3-16H - Wellbore #1 - Design #1	7,500.0	5,841.7	4,199.0	4,151.7	88.664	SF
Ray Ranch 0780 4-16H - Wellbore #1 - Design #1	2,460.3	2,476.3	2,335.0	2,324.1	215.388	CC
Ray Ranch 0780 4-16H - Wellbore #1 - Design #1	2,500.0	2,500.0	2,335.0	2,324.0	212.600	ES
Ray Ranch 0780 4-16H - Wellbore #1 - Design #1	7,700.0	5,613.7	4,742.2	4,693.5	97.343	SF

SandRidge Energy

Anticollision Summary Report

Company:	SandRidge Energy	**Local Co-ordinate Reference:**	Well Pintail SWD 0780 3-16D
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 3-16D	**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

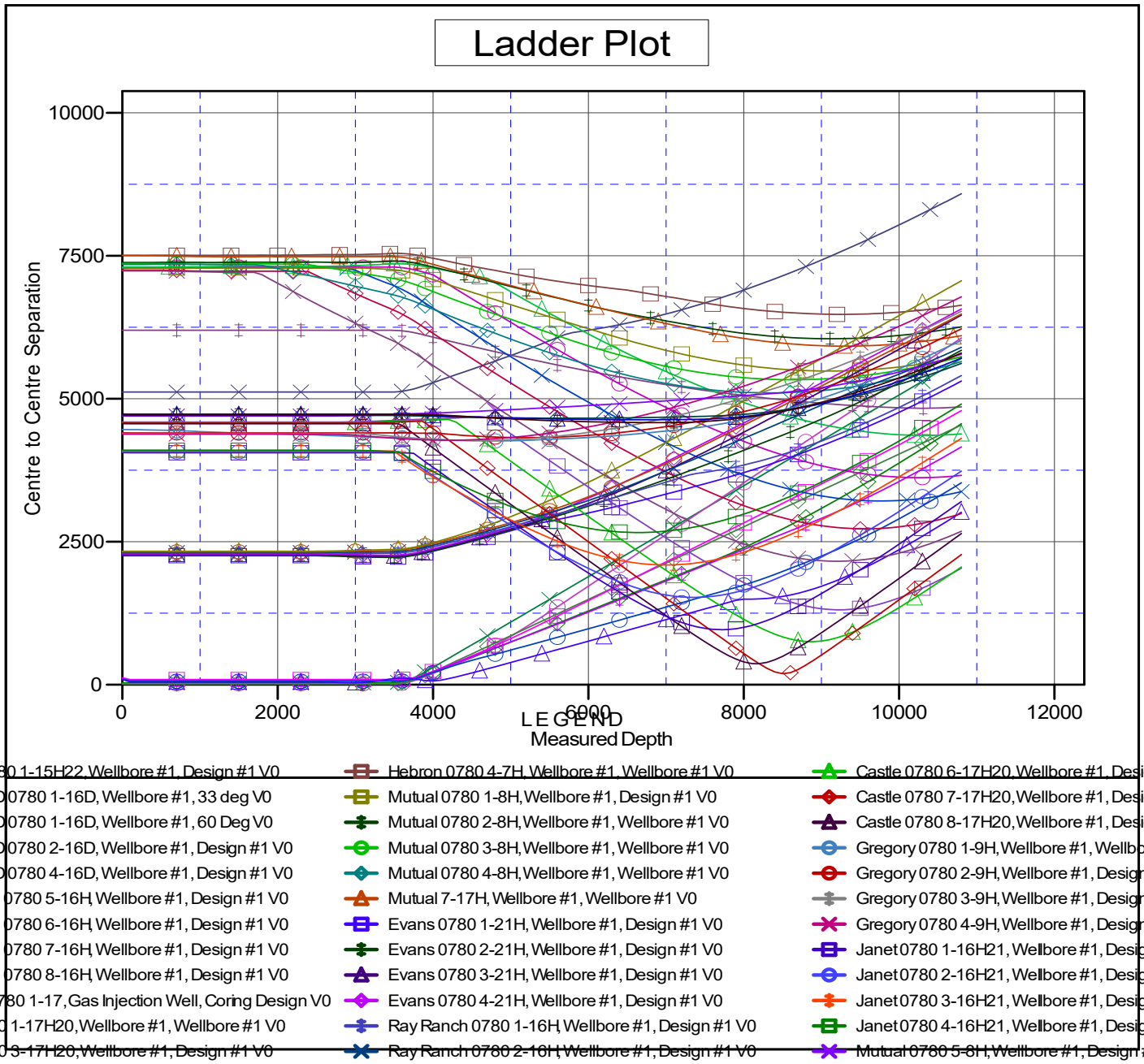
Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
T7N-R80W-S9						
Castle 0780 5-17H20 - Wellbore #1 - Design #1	9,226.3	13,214.2	1,309.7	1,187.4	10.712	CC, ES, SF
Castle 0780 6-17H20 - Wellbore #1 - Design #1	8,869.6	12,831.4	752.0	634.4	6.393	CC, ES, SF
Castle 0780 7-17H20 - Wellbore #1 - Design #1	8,500.0	12,558.5	193.7	79.0	1.688	Level 4, SF
Castle 0780 7-17H20 - Wellbore #1 - Design #1	8,514.5	12,560.4	193.2	78.8	1.689	Level 4, CC, ES
Castle 0780 8-17H20 - Wellbore #1 - Design #1	8,161.2	12,454.0	366.4	254.3	3.269	CC, ES
Castle 0780 8-17H20 - Wellbore #1 - Design #1	8,200.0	12,459.1	368.4	255.5	3.264	SF
Gregory 0780 1-9H - Wellbore #1 - Wellbore #1	4,807.0	4,633.0	4,262.9	4,235.9	158.287	CC
Gregory 0780 1-9H - Wellbore #1 - Wellbore #1	4,900.0	4,670.1	4,263.6	4,235.6	152.157	ES
Gregory 0780 1-9H - Wellbore #1 - Wellbore #1	10,700.0	7,141.0	5,955.6	5,857.6	60.774	SF
Gregory 0780 2-9H - Wellbore #1 - Design #1	5,197.1	5,412.4	4,321.6	4,287.6	127.222	CC
Gregory 0780 2-9H - Wellbore #1 - Design #1	5,300.0	5,483.3	4,322.2	4,286.9	122.250	ES
Gregory 0780 2-9H - Wellbore #1 - Design #1	10,700.0	7,500.0	6,156.3	6,057.5	62.290	SF
Gregory 0780 3-9H - Wellbore #1 - Design #1	4,530.5	4,721.2	4,269.9	4,242.9	157.853	CC
Gregory 0780 3-9H - Wellbore #1 - Design #1	4,600.0	4,766.5	4,270.2	4,242.3	152.604	ES
Gregory 0780 3-9H - Wellbore #1 - Design #1	10,200.0	7,500.0	6,136.8	6,039.7	63.152	SF
Gregory 0780 4-9H - Wellbore #1 - Design #1	4,179.1	4,339.1	4,275.5	4,251.7	179.902	CC
Gregory 0780 4-9H - Wellbore #1 - Design #1	4,300.0	4,414.1	4,276.6	4,251.3	169.234	ES
Gregory 0780 4-9H - Wellbore #1 - Design #1	10,400.0	7,600.0	6,518.6	6,417.2	64.265	SF
Janet 0780 1-16H21 - Wellbore #1 - Design #1	7,716.1	11,957.0	962.5	862.7	9.647	CC, ES
Janet 0780 1-16H21 - Wellbore #1 - Design #1	7,800.0	11,968.7	966.0	865.4	9.597	SF
Janet 0780 2-16H21 - Wellbore #1 - Design #1	7,358.2	11,966.7	1,527.0	1,430.7	15.858	CC, ES
Janet 0780 2-16H21 - Wellbore #1 - Design #1	7,600.0	12,000.4	1,545.6	1,447.3	15.722	SF
Janet 0780 3-16H21 - Wellbore #1 - Design #1	6,998.8	12,047.7	2,093.8	2,000.5	22.442	CC
Janet 0780 3-16H21 - Wellbore #1 - Design #1	7,000.0	12,047.8	2,093.8	2,000.5	22.440	ES
Janet 0780 3-16H21 - Wellbore #1 - Design #1	7,300.0	12,089.6	2,114.9	2,019.5	22.159	SF
Janet 0780 4-16H21 - Wellbore #1 - Design #1	6,638.8	12,188.6	2,661.7	2,571.1	29.374	CC, ES
Janet 0780 4-16H21 - Wellbore #1 - Design #1	7,200.0	12,266.7	2,719.1	2,624.8	28.855	SF
Mutual 0780 5-8H - Wellbore #1 - Design #1	2,600.0	2,500.0	4,699.4	4,688.2	419.294	CC
Mutual 0780 5-8H - Wellbore #1 - Design #1	2,700.0	2,569.8	4,699.8	4,688.2	405.875	ES
Mutual 0780 5-8H - Wellbore #1 - Design #1	10,802.7	8,189.4	5,782.0	5,648.5	43.336	SF
Mutual 0780 6-8H - Wellbore #1 - Design #1	5,729.1	5,566.6	4,660.8	4,616.3	104.830	CC
Mutual 0780 6-8H - Wellbore #1 - Design #1	6,500.0	6,298.0	4,667.2	4,610.1	81.792	ES
Mutual 0780 6-8H - Wellbore #1 - Design #1	10,700.0	7,950.0	5,568.0	5,449.9	47.175	SF
Mutual 0780 7-8H - Wellbore #1 - Design #1	6,666.6	6,642.1	4,634.3	4,576.6	80.231	CC
Mutual 0780 7-8H - Wellbore #1 - Design #1	7,300.0	7,243.2	4,638.6	4,570.9	68.481	ES
Mutual 0780 7-8H - Wellbore #1 - Design #1	10,700.0	7,650.0	5,656.8	5,547.3	51.701	SF
Mutual 0780 8-8H - Wellbore #1 - Design #1	7,020.0	7,132.4	4,583.0	4,523.3	76.863	CC
Mutual 0780 8-8H - Wellbore #1 - Design #1	7,100.0	7,164.8	4,583.3	4,522.6	75.594	ES
Mutual 0780 8-8H - Wellbore #1 - Design #1	10,700.0	7,550.0	5,741.5	5,638.5	55.736	SF

Company:	SandRidge Energy	**Local Co-ordinate Reference:**	Well Pintail SWD 0780 3-16D
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 3-16D	**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 3-16D
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: -0.57°



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

Company:	SandRidge Energy	**Local Co-ordinate Reference:**	Well Pintail SWD 0780 3-16D
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 3-16D	**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 3-16D
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: -0.57°