

SandRidge Energy

North Park Basin

T7N-R80W-S9

Castle 0780 7-17H20

Wellbore #1

Design #1

Anticollision Summary Report

13 September, 2017

SandRidge Energy

Anticollision Summary Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Castle 0780 7-17H20
Project:	North Park Basin	TVD Reference:	WELL @ 8136.0usft (Original Well Elev)
Reference Site:	T7N-R80W-S9	MD Reference:	WELL @ 8136.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Castle 0780 7-17H20	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	9/13/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	18,366.1	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-S17						
Castle 0780 1-17H20 - Wellbore #1 - Wellbore #1	12,638.5	11,711.0	3,266.3	3,084.5	17.964	CC
Castle 0780 1-17H20 - Wellbore #1 - Wellbore #1	17,900.0	16,939.0	3,291.5	2,917.5	8.800	ES
Castle 0780 1-17H20 - Wellbore #1 - Wellbore #1	18,366.1	16,939.0	3,330.1	2,947.3	8.697	SF
Castle 0780 3-17H20 - Wellbore #1 - Design #1	18,170.7	16,939.0	2,732.4	2,336.9	6.909	CC
Castle 0780 3-17H20 - Wellbore #1 - Design #1	18,200.0	16,952.7	2,732.4	2,336.1	6.895	ES
Castle 0780 3-17H20 - Wellbore #1 - Design #1	18,366.1	16,952.7	2,738.3	2,338.9	6.855	SF
Castle 0780 4-17H20 - Wellbore #1 - Design #1	8,586.2	7,913.7	2,073.9	2,027.3	44.531	CC
Castle 0780 4-17H20 - Wellbore #1 - Design #1	18,200.0	17,523.1	2,085.8	1,692.7	5.306	ES
Castle 0780 4-17H20 - Wellbore #1 - Design #1	18,366.1	17,523.1	2,093.0	1,696.7	5.282	SF
Castle 0780 9-17H20 - Wellbore #1 - Design #1	8,310.4	6,900.0	3,641.3	3,602.9	94.789	CC
Castle 0780 9-17H20 - Wellbore #1 - Design #1	8,400.0	6,924.9	3,642.2	3,602.7	92.169	ES
Castle 0780 9-17H20 - Wellbore #1 - Design #1	18,366.1	16,892.8	4,030.3	3,631.7	10.112	SF
Hebron 0780 4-18H - Wellbore #2 - Wellbore #2	11,398.2	10,424.7	4,499.1	4,361.1	32.601	CC
Hebron 0780 4-18H - Wellbore #2 - Wellbore #2	12,900.0	11,903.0	4,546.9	4,355.7	23.786	ES
Hebron 0780 4-18H - Wellbore #2 - Wellbore #2	14,900.0	11,903.0	4,982.3	4,753.4	21.768	SF
Hebron 0780 4-7H - Wellbore #1 - Wellbore #1	8,089.1	7,253.0	4,485.9	4,447.4	116.635	CC, ES
Hebron 0780 4-7H - Wellbore #1 - Wellbore #1	17,000.0	6,292.0	9,973.0	9,782.5	52.338	SF
Mutual 0780 1-8H - Wellbore #1 - Design #1	8,090.0	7,650.0	3,106.4	3,065.9	76.750	CC, ES
Mutual 0780 1-8H - Wellbore #1 - Design #1	14,300.0	6,700.0	6,819.1	6,677.1	48.041	SF
Mutual 0780 2-8H - Wellbore #1 - Wellbore #1	8,093.1	7,167.0	3,782.8	3,749.1	112.311	CC, ES
Mutual 0780 2-8H - Wellbore #1 - Wellbore #1	17,200.0	6,556.0	9,954.5	9,763.2	52.025	SF
Mutual 0780 3-8H - Wellbore #1 - Wellbore #1	8,038.2	7,551.5	2,541.2	2,504.7	69.714	CC, ES
Mutual 0780 3-8H - Wellbore #1 - Wellbore #1	13,500.0	6,904.0	6,061.1	5,937.2	48.925	SF
Mutual 0780 4-8H - Wellbore #1 - Wellbore #1	7,850.0	7,701.0	1,935.2	1,890.9	43.645	SF
Mutual 0780 4-8H - Wellbore #1 - Wellbore #1	8,000.0	7,641.5	1,918.9	1,876.8	45.561	ES
Mutual 0780 4-8H - Wellbore #1 - Wellbore #1	8,001.1	7,641.1	1,918.9	1,876.8	45.579	CC
Mutual 7-17H - Wellbore #1 - Wellbore #1	7,894.3	8,360.3	3,551.9	3,500.6	69.268	CC, ES
Mutual 7-17H - Wellbore #1 - Wellbore #1	16,900.0	6,751.0	9,576.7	9,386.7	50.410	SF

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

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Reference Well:	Castle 0780 7-17H20	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-S9						
Castle 0780 5-17H20 - Wellbore #1 - Design #1	2,500.0	2,498.0	30.2	19.3	2.756	CC, ES, SF
Castle 0780 6-17H20 - Wellbore #1 - Design #1	2,633.4	2,633.4	15.1	3.5	1.306	Level 3, CC, ES, SF
Castle 0780 8-17H20 - Wellbore #1 - Design #1	2,800.0	2,798.0	15.1	2.8	1.228	Level 2, CC, ES, SF
Gregory 0780 1-9H - Wellbore #1 - Long String	3,348.2	3,345.9	157.2	142.5	10.645	CC, ES
Gregory 0780 1-9H - Wellbore #1 - Long String	3,500.0	3,494.1	160.6	145.1	10.347	SF
Gregory 0780 1-9H - Wellbore #1 - Wellbore #1	0.0	1.0	165.7			
Gregory 0780 1-9H - Wellbore #1 - Wellbore #1	100.0	100.3	165.9	165.7	860.536	ES
Gregory 0780 1-9H - Wellbore #1 - Wellbore #1	3,800.0	3,782.1	336.9	320.3	20.268	SF
Gregory 0780 2-9H - Wellbore #1 - Design #1	2,800.0	2,798.0	170.8	158.5	13.868	CC, ES
Gregory 0780 2-9H - Wellbore #1 - Design #1	3,100.0	3,097.5	180.3	166.7	13.255	SF
Gregory 0780 3-9H - Wellbore #1 - Design #1	2,800.0	2,798.0	181.7	169.4	14.748	CC, ES
Gregory 0780 3-9H - Wellbore #1 - Design #1	3,000.0	2,994.5	186.3	173.2	14.160	SF
Gregory 0780 4-9H - Wellbore #1 - Design #1	2,500.0	2,498.0	193.1	182.1	17.600	CC, ES
Gregory 0780 4-9H - Wellbore #1 - Design #1	2,900.0	2,886.2	205.1	192.4	16.195	SF
Janet 0780 1-16H21 - Wellbore #1 - Design #1	2,800.0	2,815.0	536.1	523.7	43.416	CC
Janet 0780 1-16H21 - Wellbore #1 - Design #1	2,900.0	2,915.0	536.5	523.7	41.960	ES
Janet 0780 1-16H21 - Wellbore #1 - Design #1	18,366.1	17,846.0	1,321.8	914.9	3.249	SF
Janet 0780 2-16H21 - Wellbore #1 - Design #1	2,800.0	2,815.0	521.1	508.7	42.201	CC
Janet 0780 2-16H21 - Wellbore #1 - Design #1	2,900.0	2,915.0	521.5	508.7	40.787	ES
Janet 0780 2-16H21 - Wellbore #1 - Design #1	18,366.1	17,908.8	1,990.3	1,583.1	4.888	SF
Janet 0780 3-16H21 - Wellbore #1 - Design #1	2,800.0	2,815.0	506.1	493.7	40.986	CC
Janet 0780 3-16H21 - Wellbore #1 - Design #1	2,900.0	2,915.0	506.5	493.7	39.614	ES
Janet 0780 3-16H21 - Wellbore #1 - Design #1	18,366.1	18,042.6	2,659.0	2,251.4	6.524	SF
Janet 0780 4-16H21 - Wellbore #1 - Design #1	2,801.0	2,816.0	491.1	478.7	39.763	CC
Janet 0780 4-16H21 - Wellbore #1 - Design #1	2,900.0	2,915.1	491.5	478.7	38.485	ES
Janet 0780 4-16H21 - Wellbore #1 - Design #1	18,366.1	18,236.4	3,328.8	2,920.4	8.150	SF
Mutual 0780 5-8H - Wellbore #1 - Design #1	3,515.5	3,510.9	133.5	117.5	8.331	CC, ES
Mutual 0780 5-8H - Wellbore #1 - Design #1	3,800.0	3,792.4	139.8	122.0	7.862	SF
Mutual 0780 6-8H - Wellbore #1 - Design #1	4,457.9	4,470.6	37.5	17.8	1.904	Level 4, CC
Mutual 0780 6-8H - Wellbore #1 - Design #1	4,500.0	4,512.4	37.8	17.7	1.876	Level 4, ES, SF
Mutual 0780 7-8H - Wellbore #1 - Design #1	2,800.0	2,798.0	180.2	167.8	14.624	CC
Mutual 0780 7-8H - Wellbore #1 - Design #1	2,900.0	2,898.0	180.4	167.6	14.141	ES
Mutual 0780 7-8H - Wellbore #1 - Design #1	7,500.0	7,556.2	334.7	294.0	8.236	SF
Mutual 0780 8-8H - Wellbore #1 - Design #1	2,800.0	2,798.0	195.1	182.8	15.835	CC
Mutual 0780 8-8H - Wellbore #1 - Design #1	2,900.0	2,898.0	195.3	182.6	15.312	ES
Mutual 0780 8-8H - Wellbore #1 - Design #1	3,300.0	3,295.5	206.2	191.7	14.215	SF

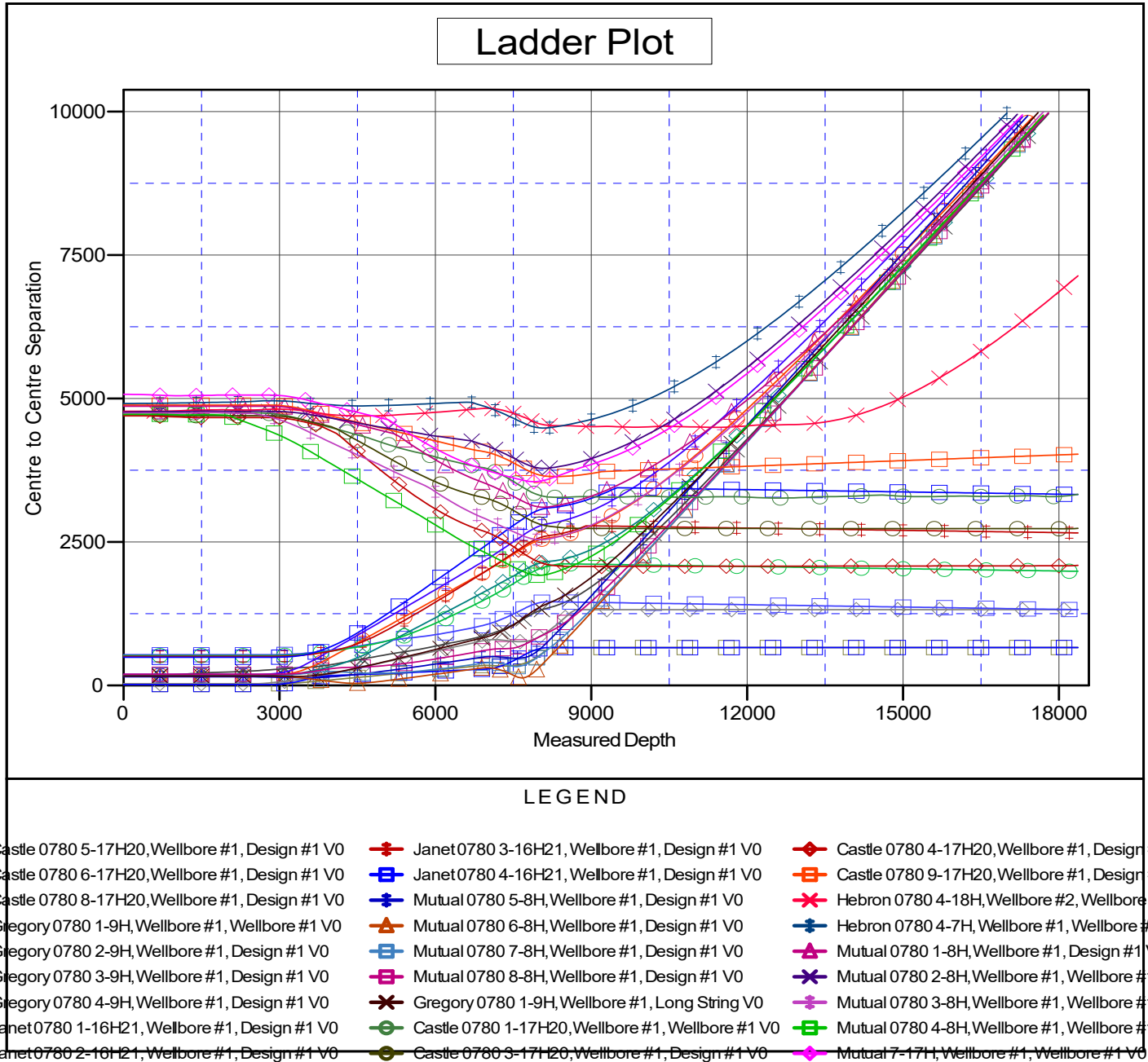
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Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 8136.0usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Castle 0780 7-17H20
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: -0.57°



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

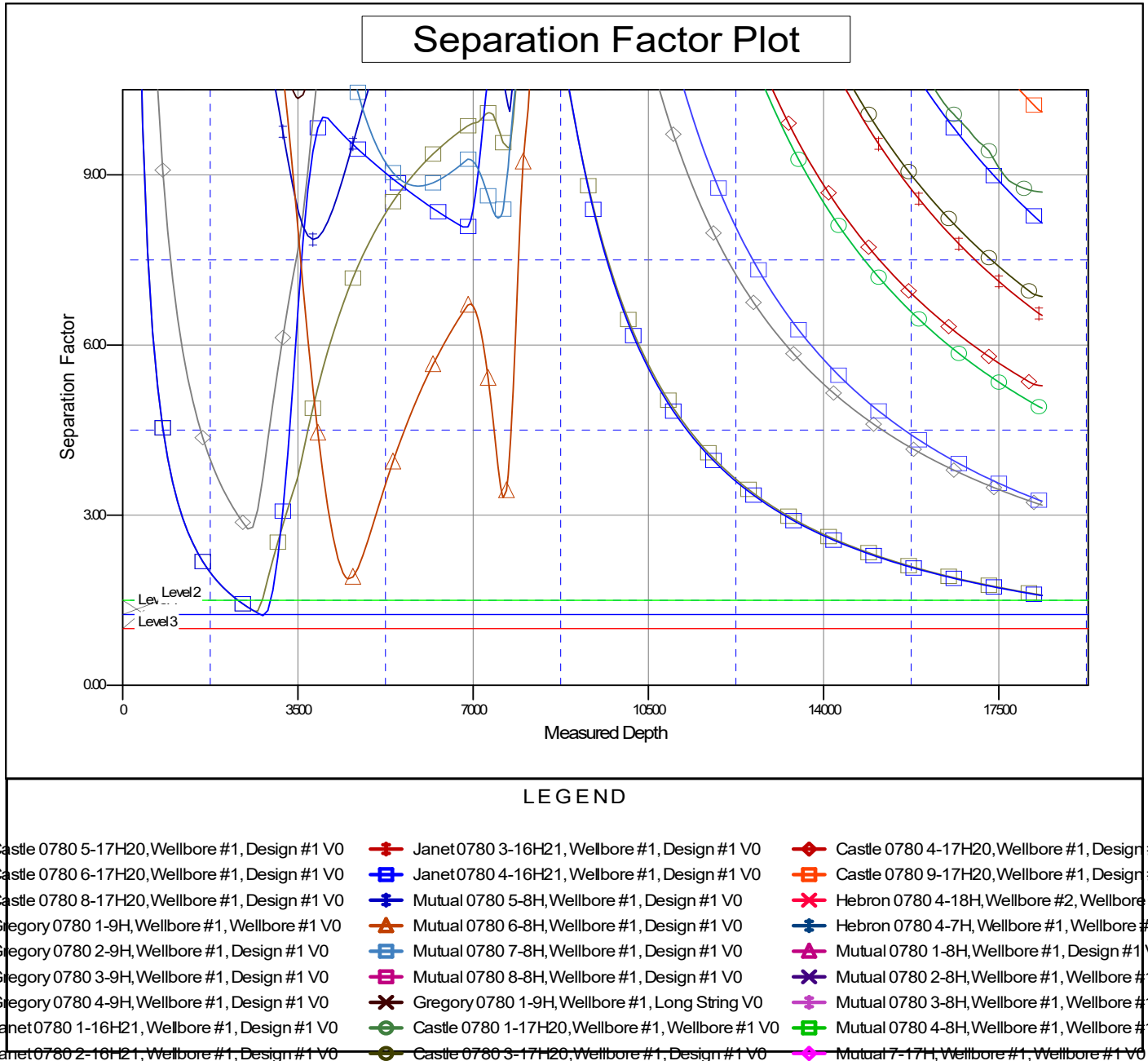
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Offset Depths are relative to Offset Datum
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