

SandRidge Energy

North Park Basin

T7N-R80W-S9

Castle 0780 5-17H20

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 5-17H20
Project:	North Park Basin	TVD Reference:	WELL @ 8134.0usft (Original Well Elev)
Reference Site:	T7N-R80W-S9	MD Reference:	WELL @ 8134.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Castle 0780 5-17H20	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	18,949.4	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	8,975.3	7,475.0	1,973.7	1,928.6	43.775	CC
Castle 0780 1-17H20 - Wellbore #1 - Wellbore #1	18,418.5	16,939.0	1,997.1	1,629.6	5.433	ES
Castle 0780 1-17H20 - Wellbore #1 - Wellbore #1	18,600.0	16,939.0	2,005.4	1,634.4	5.406	SF
Castle 0780 3-17H20 - Wellbore #1 - Design #1	18,733.8	16,941.8	1,450.7	1,067.6	3.787	CC
Castle 0780 3-17H20 - Wellbore #1 - Design #1	18,800.0	16,952.7	1,451.8	1,067.2	3.775	ES, SF
Castle 0780 4-17H20 - Wellbore #1 - Design #1	9,144.6	7,914.0	845.7	797.7	17.615	CC
Castle 0780 4-17H20 - Wellbore #1 - Design #1	18,800.0	17,523.1	857.1	508.6	2.460	ES, SF
Castle 0780 9-17H20 - Wellbore #1 - Design #1	8,945.9	7,019.6	2,354.3	2,310.5	53.762	CC
Castle 0780 9-17H20 - Wellbore #1 - Design #1	9,000.0	7,050.0	2,354.8	2,310.4	52.986	ES
Castle 0780 9-17H20 - Wellbore #1 - Design #1	18,949.4	16,892.8	2,721.2	2,323.4	6.841	SF
Hebron 0780 3-18H - Wellbore #1 - Design #1	8,637.5	6,600.0	3,281.8	3,239.5	77.409	CC, ES
Hebron 0780 3-18H - Wellbore #1 - Design #1	14,900.0	12,281.8	4,153.7	3,929.6	18.540	SF
Hebron 0780 4-18H - Wellbore #2 - Wellbore #2	11,934.9	10,397.0	3,191.4	3,053.6	23.155	CC
Hebron 0780 4-18H - Wellbore #2 - Wellbore #2	12,100.0	10,485.0	3,193.6	3,051.2	22.435	ES
Hebron 0780 4-18H - Wellbore #2 - Wellbore #2	14,500.0	11,903.0	3,423.2	3,213.3	16.307	SF
Hebron 0780 4-7H - Wellbore #1 - Wellbore #1	8,600.0	7,253.0	3,186.8	3,142.5	71.964	ES
Hebron 0780 4-7H - Wellbore #1 - Wellbore #1	8,600.6	7,253.0	3,186.8	3,142.5	71.989	CC
Hebron 0780 4-7H - Wellbore #1 - Wellbore #1	15,300.0	6,292.0	7,398.5	7,252.5	50.674	SF
Mutual 0780 1-8H - Wellbore #1 - Design #1	8,300.0	7,720.1	1,876.0	1,821.4	34.347	SF
Mutual 0780 1-8H - Wellbore #1 - Design #1	8,588.8	7,650.0	1,805.7	1,759.1	38.787	CC, ES
Mutual 0780 2-8H - Wellbore #1 - Wellbore #1	8,600.0	7,167.0	2,485.8	2,446.2	62.877	ES
Mutual 0780 2-8H - Wellbore #1 - Wellbore #1	8,600.4	7,167.0	2,485.8	2,446.2	62.894	CC
Mutual 0780 2-8H - Wellbore #1 - Wellbore #1	13,300.0	6,643.0	5,388.5	5,280.1	49.738	SF
Mutual 0780 3-8H - Wellbore #1 - Wellbore #1	8,200.0	7,754.5	1,337.1	1,280.2	23.473	SF
Mutual 0780 3-8H - Wellbore #1 - Wellbore #1	8,500.0	7,524.2	1,261.4	1,216.5	28.103	ES
Mutual 0780 3-8H - Wellbore #1 - Wellbore #1	8,515.3	7,514.0	1,261.2	1,217.0	28.514	CC
Mutual 0780 4-8H - Wellbore #1 - Wellbore #1	8,250.0	7,720.0	707.3	649.7	12.289	SF
Mutual 0780 4-8H - Wellbore #1 - Wellbore #1	8,350.0	7,679.1	688.2	634.6	12.840	ES
Mutual 0780 4-8H - Wellbore #1 - Wellbore #1	8,391.0	7,658.9	686.5	634.9	13.297	CC
Mutual 7-17H - Wellbore #1 - Wellbore #1	8,150.0	8,204.8	2,374.3	2,310.9	37.434	SF
Mutual 7-17H - Wellbore #1 - Wellbore #1	8,400.0	7,990.5	2,310.4	2,253.2	40.435	ES
Mutual 7-17H - Wellbore #1 - Wellbore #1	8,454.5	7,939.5	2,308.2	2,253.4	42.148	CC

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

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Reference Site:	T7N-R80W-S9	MD Reference:	WELL @ 8134.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Castle 0780 5-17H20	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
T7N-R80W-S9						
Castle 0780 6-17H20 - Wellbore #1 - Design #1	2,500.0	2,502.0	15.1	4.1	1.377	Level 3, CC, ES, SF
Castle 0780 7-17H20 - Wellbore #1 - Design #1	2,500.0	2,502.0	30.2	19.3	2.754	CC, ES, SF
Castle 0780 8-17H20 - Wellbore #1 - Design #1	2,500.0	2,500.0	45.4	34.4	4.132	CC, ES
Castle 0780 8-17H20 - Wellbore #1 - Design #1	2,600.0	2,600.0	47.0	35.6	4.120	SF
Gregory 0780 1-9H - Wellbore #1 - Wellbore #1	0.0	3.0	164.2			
Gregory 0780 1-9H - Wellbore #1 - Wellbore #1	3,500.0	3,481.8	328.9	313.4	21.208	SF
Gregory 0780 2-9H - Wellbore #1 - Design #1	2,500.0	2,500.0	193.5	182.6	17.630	CC, ES
Gregory 0780 2-9H - Wellbore #1 - Design #1	2,800.0	2,799.5	202.1	189.9	16.494	SF
Gregory 0780 3-9H - Wellbore #1 - Design #1	2,500.0	2,500.0	203.2	192.2	18.508	CC, ES
Gregory 0780 3-9H - Wellbore #1 - Design #1	2,900.0	2,898.7	217.7	205.0	17.160	SF
Gregory 0780 4-9H - Wellbore #1 - Design #1	2,500.0	2,500.0	213.4	202.5	19.442	CC, ES
Gregory 0780 4-9H - Wellbore #1 - Design #1	2,700.0	2,692.6	219.8	208.0	18.653	SF
Janet 0780 1-16H21 - Wellbore #1 - Design #1	2,500.0	2,517.0	549.2	538.2	49.900	CC
Janet 0780 1-16H21 - Wellbore #1 - Design #1	2,600.0	2,617.0	549.4	537.9	48.016	ES
Janet 0780 1-16H21 - Wellbore #1 - Design #1	18,949.4	17,846.0	2,642.3	2,235.0	6.488	SF
Janet 0780 2-16H21 - Wellbore #1 - Design #1	2,500.0	2,517.0	534.2	523.2	48.538	CC
Janet 0780 2-16H21 - Wellbore #1 - Design #1	2,600.0	2,617.0	534.4	523.0	46.706	ES
Janet 0780 2-16H21 - Wellbore #1 - Design #1	18,949.4	17,908.8	3,310.9	2,903.5	8.126	SF
Janet 0780 3-16H21 - Wellbore #1 - Design #1	2,500.0	2,517.0	519.2	508.2	47.176	CC
Janet 0780 3-16H21 - Wellbore #1 - Design #1	2,600.0	2,617.0	519.4	508.0	45.397	ES
Janet 0780 3-16H21 - Wellbore #1 - Design #1	18,949.4	18,042.6	3,979.7	3,571.9	9.759	SF
Janet 0780 4-16H21 - Wellbore #1 - Design #1	2,500.0	2,517.0	504.2	493.2	45.814	CC
Janet 0780 4-16H21 - Wellbore #1 - Design #1	2,600.0	2,617.0	504.4	493.0	44.087	ES
Janet 0780 4-16H21 - Wellbore #1 - Design #1	18,949.4	18,236.4	4,649.5	4,240.9	11.379	SF
Mutual 0780 5-8H - Wellbore #1 - Design #1	3,587.3	3,613.3	143.6	126.5	8.414	CC
Mutual 0780 5-8H - Wellbore #1 - Design #1	3,600.0	3,626.0	143.6	126.4	8.361	ES
Mutual 0780 5-8H - Wellbore #1 - Design #1	4,900.0	4,923.3	187.0	159.3	6.748	SF
Mutual 0780 6-8H - Wellbore #1 - Design #1	2,500.0	2,500.0	166.3	155.3	15.151	CC, ES
Mutual 0780 6-8H - Wellbore #1 - Design #1	3,500.0	3,537.7	204.4	189.3	13.526	SF
Mutual 0780 7-8H - Wellbore #1 - Design #1	2,500.0	2,500.0	181.4	170.5	16.528	CC, ES
Mutual 0780 7-8H - Wellbore #1 - Design #1	2,800.0	2,799.5	189.2	177.0	15.436	SF
Mutual 0780 8-8H - Wellbore #1 - Design #1	2,500.0	2,500.0	196.6	185.6	17.906	CC, ES
Mutual 0780 8-8H - Wellbore #1 - Design #1	2,900.0	2,898.7	210.9	198.2	16.629	SF

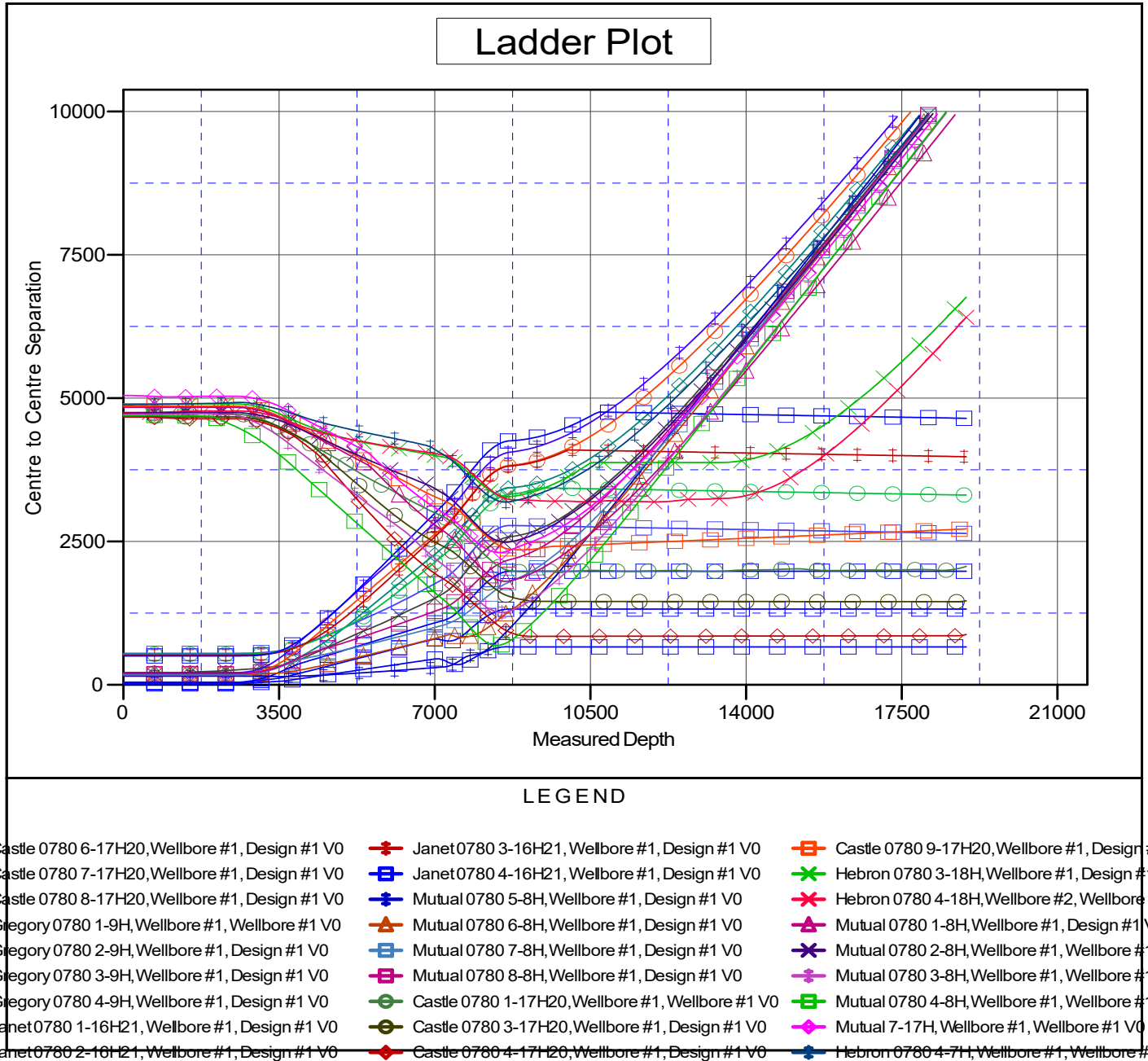
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Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 8134.0usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Castle 0780 5-17H20
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

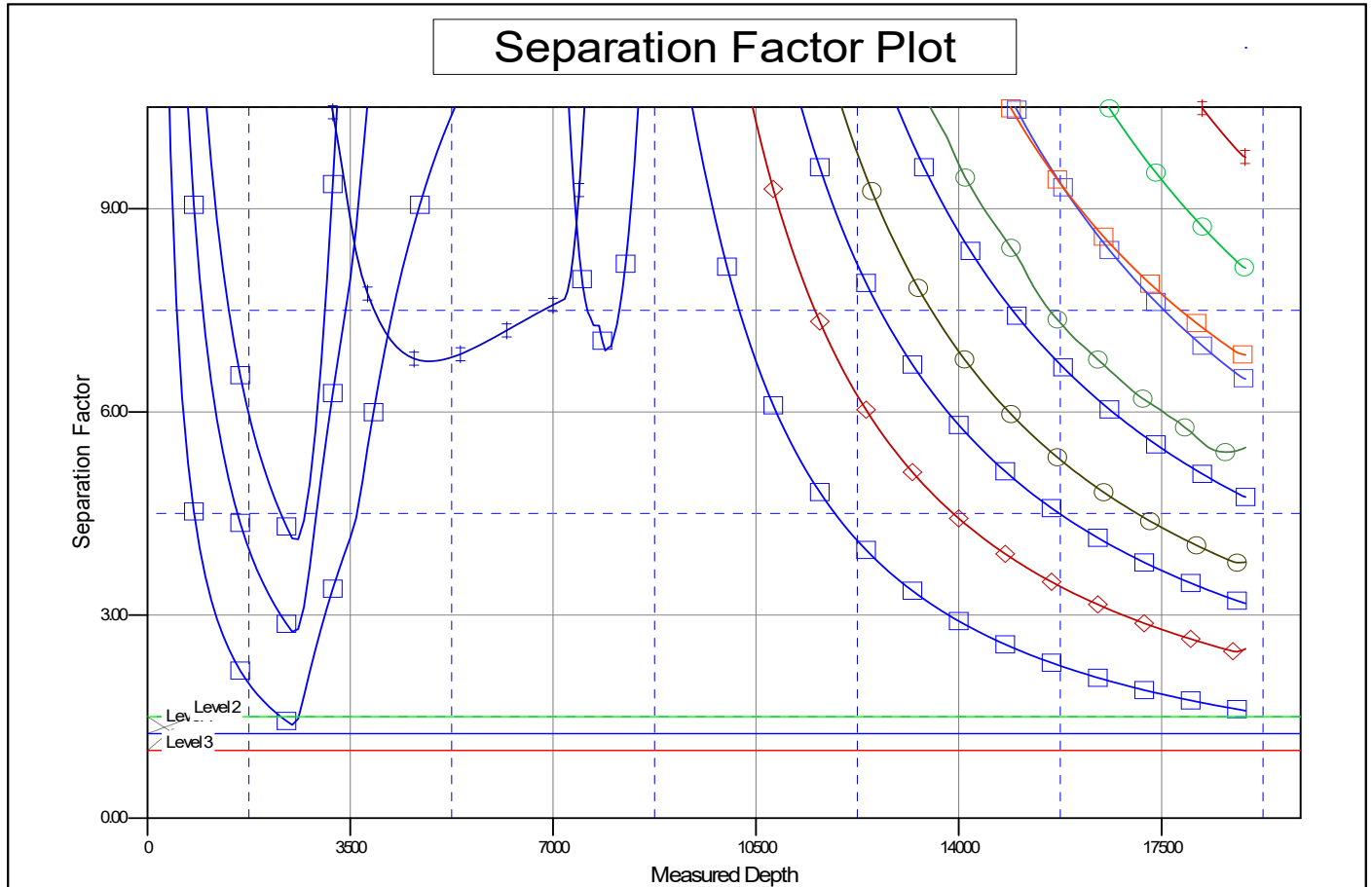
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Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Castle 0780 5-17H20
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: -0.57°



LEGEND

Castle 0780 6-17H20, Wellbore #1, Design #1 V0	Janet 0780 3-16H21, Wellbore #1, Design #1 V0	Castle 0780 9-17H20, Wellbore #1, Design #1 V0
Castle 0780 7-17H20, Wellbore #1, Design #1 V0	Janet 0780 4-16H21, Wellbore #1, Design #1 V0	Hebron 0780 3-18H, Wellbore #1, Design #1 V0
Castle 0780 8-17H20, Wellbore #1, Design #1 V0	Mutual 0780 5-8H, Wellbore #1, Design #1 V0	Hebron 0780 4-18H, Wellbore #2, Wellbore #1 V0
Gregory 0780 1-9H, Wellbore #1, Wellbore #1 V0	Mutual 0780 6-8H, Wellbore #1, Design #1 V0	Mutual 0780 1-8H, Wellbore #1, Design #1 V0
Gregory 0780 2-9H, Wellbore #1, Design #1 V0	Mutual 0780 7-8H, Wellbore #1, Design #1 V0	Mutual 0780 2-8H, Wellbore #1, Wellbore #1 V0
Gregory 0780 3-9H, Wellbore #1, Design #1 V0	Mutual 0780 8-8H, Wellbore #1, Design #1 V0	Mutual 0780 3-8H, Wellbore #1, Wellbore #1 V0
Gregory 0780 4-9H, Wellbore #1, Design #1 V0	Castle 0780 1-17H20, Wellbore #1, Wellbore #1 V0	Mutual 0780 4-8H, Wellbore #1, Wellbore #1 V0
Janet 0780 1-16H21, Wellbore #1, Design #1 V0	Castle 0780 3-17H20, Wellbore #1, Design #1 V0	Mutual 7-17H, Wellbore #1, Wellbore #1 V0
Janet 0780 2-16H21, Wellbore #1, Design #1 V0	Castle 0780 4-17H20, Wellbore #1, Design #1 V0	Hebron 0780 4-7H, Wellbore #1, Wellbore #1 V0