

# **SandRidge Energy**

**North Park Basin**

**T8N-R81W-S7**

**Hebron 0781 1-12H**

**Wellbore #1**

**Design #1**

## **Anticollision Report**

**02 December, 2016**

# SandRidge Energy

## Anticollision Summary Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Hebron 0781 1-12H
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	KB @ 8146.0usft
<b>Reference Site:</b>	T8N-R81W-S7	<b>MD Reference:</b>	KB @ 8146.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hebron 0781 1-12H	<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

<b>Reference</b>	Design #1		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria	WARNING: There is hidden tight data in this project	
<b>Interpolation Method:</b>	Stations	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 10,000.0 usft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma	<b>Casing Method:</b>	Not applied

<b>Survey Tool Program</b>	Date	9/29/2016		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	11,355.5	Design #1 (Wellbore #1)	Sperry MWD	Fixed:v2:standard declination

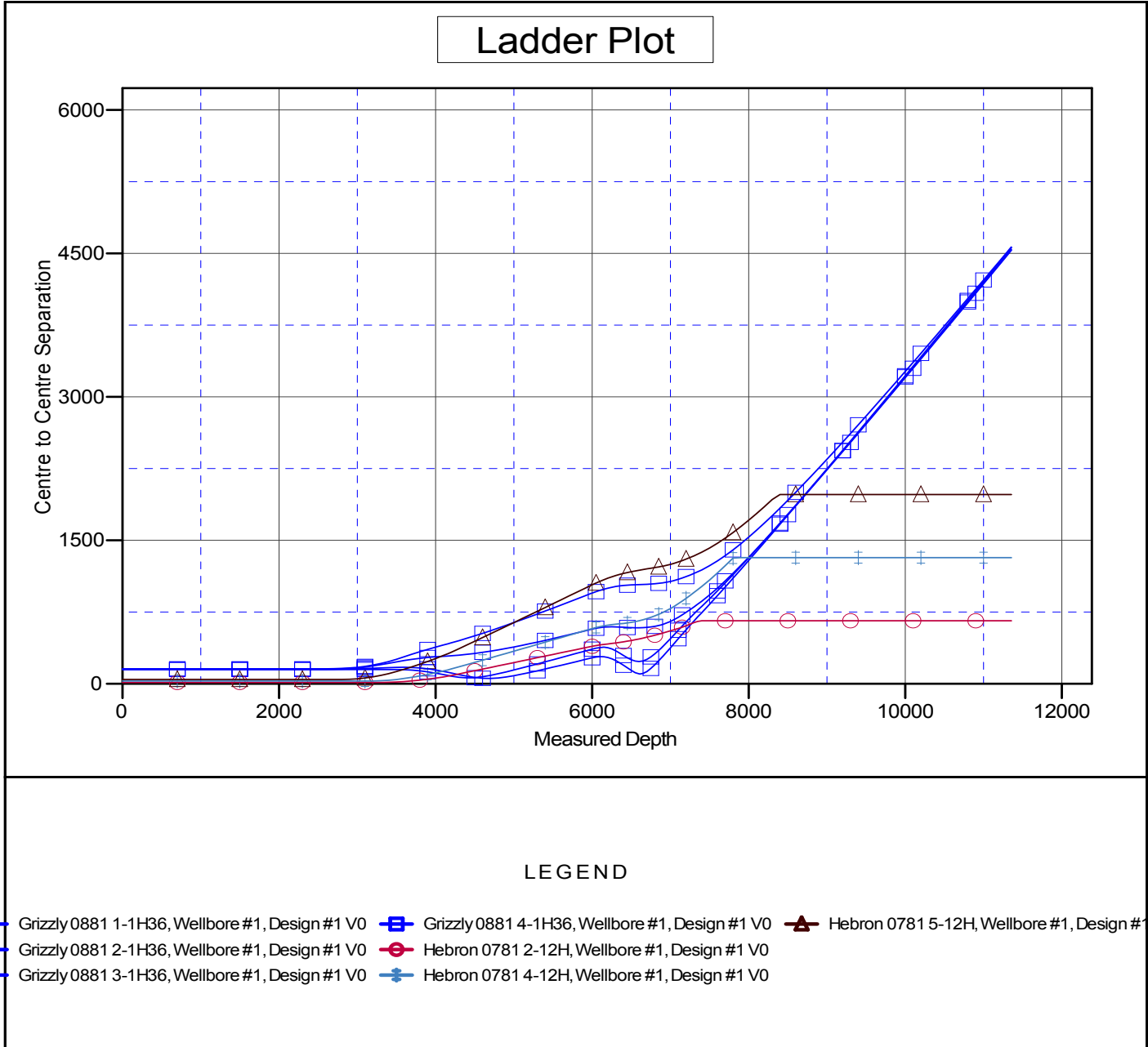
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
T8N-R81W-S7						
Grizzly 0881 1-1H36 - Wellbore #1 - Design #1	4,427.3	4,414.5	62.3	42.5	3.138	CC, ES, SF
Grizzly 0881 2-1H36 - Wellbore #1 - Design #1	4,684.7	4,665.6	55.9	35.0	2.668	CC
Grizzly 0881 2-1H36 - Wellbore #1 - Design #1	4,700.0	4,680.6	56.0	34.9	2.658	ES, SF
Grizzly 0881 3-1H36 - Wellbore #1 - Design #1	2,500.0	2,500.0	153.0	142.0	13.936	CC
Grizzly 0881 3-1H36 - Wellbore #1 - Design #1	2,600.0	2,599.0	153.3	141.9	13.435	ES
Grizzly 0881 3-1H36 - Wellbore #1 - Design #1	2,900.0	2,893.6	160.4	147.7	12.623	SF
Grizzly 0881 4-1H36 - Wellbore #1 - Design #1	2,500.0	2,500.0	156.6	145.6	14.268	CC, ES
Grizzly 0881 4-1H36 - Wellbore #1 - Design #1	2,900.0	2,892.1	165.7	153.0	13.045	SF
Hebron 0781 2-12H - Wellbore #1 - Design #1	3,333.6	3,333.6	15.0	0.3	1.018	Level 2, CC, ES, SF
Hebron 0781 4-12H - Wellbore #1 - Design #1	3,200.0	3,200.0	30.0	15.9	2.123	CC, ES, SF
Hebron 0781 5-12H - Wellbore #1 - Design #1	2,800.0	2,800.0	45.1	32.7	3.656	CC, ES, SF

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<b>Project:</b> North Park Basin	<b>TVD Reference:</b> KB @ 8146.0usft
<b>Reference Site:</b> T8N-R81W-S7	<b>MD Reference:</b> KB @ 8146.0usft
<b>Site Error:</b> 0.0 usft	<b>North Reference:</b> Grid
<b>Reference Well:</b> Hebron 0781 1-12H	<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 KB @ 8146.0usft	Coordinates are relative to: Hebron 0781 1-12H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is 105° 30' 0.000 W	Grid Convergence at Surface is: -0.60°



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

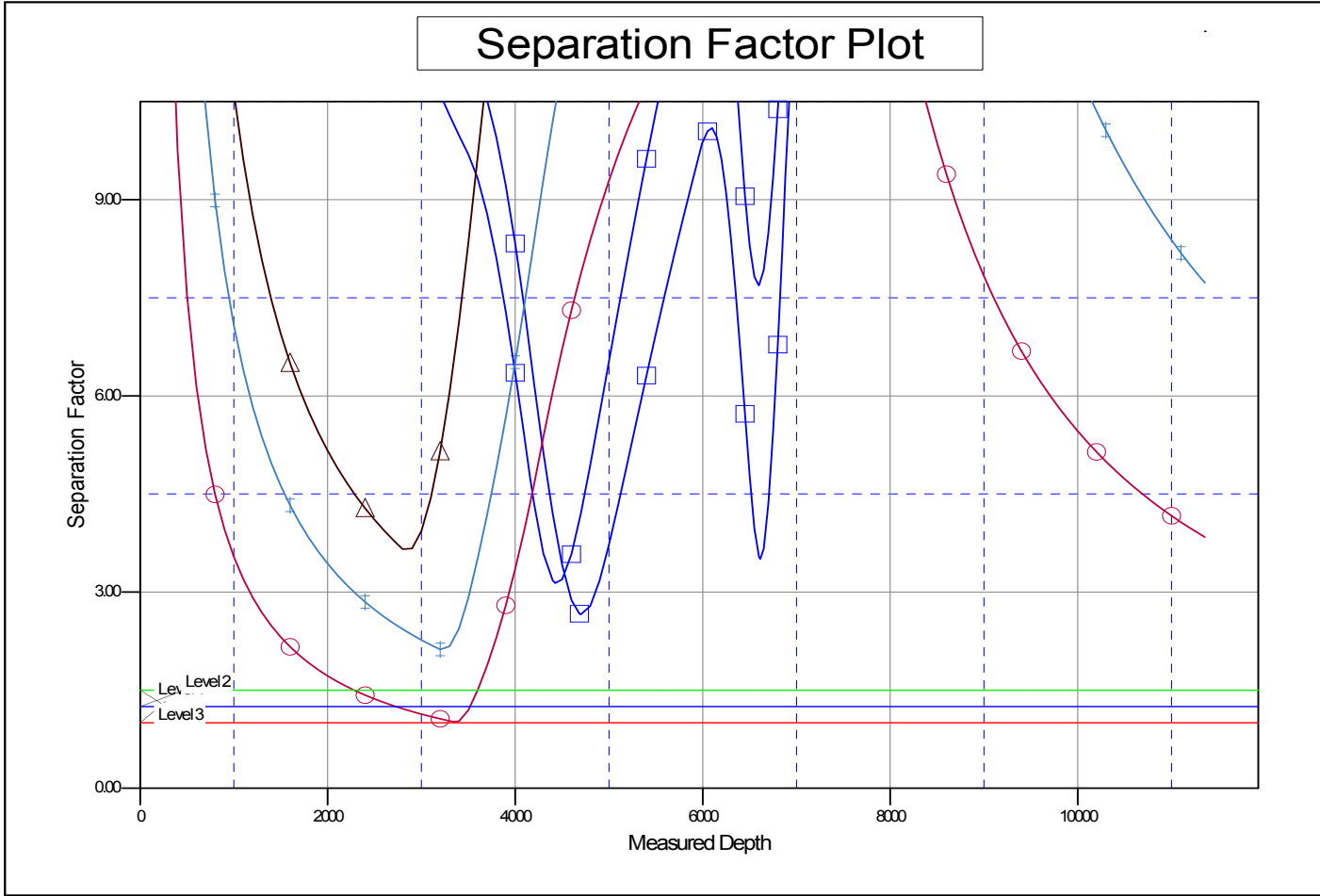
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<b>Company:</b> SandRidge Energy	<b>Local Co-ordinate Reference:</b> Well Hebron 0781 1-12H
<b>Project:</b> North Park Basin	<b>TVD Reference:</b> KB @ 8146.0usft
<b>Reference Site:</b> T8N-R81W-S7	<b>MD Reference:</b> KB @ 8146.0usft
<b>Site Error:</b> 0.0 usft	<b>North Reference:</b> Grid
<b>Reference Well:</b> Hebron 0781 1-12H	<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 KB @ 8146.0usft  
 Offset Depths are relative to Offset Datum  
 Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Hebron 0781 1-12H  
 Coordinate System is US State Plane 1983, Colorado Northern Zone  
 Grid Convergence at Surface is: -0.60°



### LEGEND

- Grizzly 0881 1-1H36, Wellbore #1, Design #1 V0    
 ■ Grizzly 0881 4-1H36, Wellbore #1, Design #1 V0    
 ▲ Hebron 0781 5-12H, Wellbore #1, Design #1 V0
- Grizzly 0881 2-1H36, Wellbore #1, Design #1 V0    
 ● Hebron 0781 2-12H, Wellbore #1, Design #1 V0
- Grizzly 0881 3-1H36, Wellbore #1, Design #1 V0    
 ▲ Hebron 0781 4-12H, Wellbore #1, Design #1 V0

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

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## Anticollision Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Hebron 0781 1-12H
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	KB @ 8146.0usft
<b>Reference Site:</b>	T8N-R81W-S7	<b>MD Reference:</b>	KB @ 8146.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hebron 0781 1-12H	<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

<b>Reference</b>	Design #1		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria	WARNING: There is hidden tight data in this project	
<b>Interpolation Method:</b>	Stations	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 10,000.0 usft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma	<b>Casing Method:</b>	Not applied

<b>Survey Tool Program</b>	Date	9/29/2016		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	11,355.5	Design #1 (Wellbore #1)	Sperry MWD	Fixed:v2:standard declination

<b>Summary</b>						
	<b>Reference</b>	<b>Offset</b>	<b>Distance</b>			
<b>Site Name</b>	<b>Measured Depth (usft)</b>	<b>Measured Depth (usft)</b>	<b>Between Centres (usft)</b>	<b>Between Ellipses (usft)</b>	<b>Separation Factor</b>	<b>Warning</b>
<b>Offset Well - Wellbore - Design</b>						
T8N-R81W-S7						
Hebron 3-12H - Wellbore #1 - Wellbore #1	1,110.4	1,112.0	441.8	437.1	94.631	CC
Hebron 3-12H - Wellbore #1 - Wellbore #1	1,200.0	1,199.0	442.1	437.0	86.747	ES
Hebron 3-12H - Wellbore #1 - Wellbore #1	11,356.4	10,059.5	1,694.3	1,549.8	11.726	SF

<b>Offset Design</b>													<b>Offset Site Error:</b>	0.0 usft
Survey Program: 209-Sperry MWD													<b>Offset Well Error:</b>	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
<b>Measured Depth (usft)</b>	<b>Vertical Depth (usft)</b>	<b>Measured Depth (usft)</b>	<b>Vertical Depth (usft)</b>	<b>Reference (usft)</b>	<b>Offset (usft)</b>	<b>Highside Toolface (°)</b>	<b>Offset Wellbore Centre +N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Between Centres (usft)</b>	<b>Between Ellipses (usft)</b>	<b>Minimum Separation (usft)</b>	<b>Separation Factor</b>		
0.0	0.0	0.0	0.0	0.0	0.0	-131.65	-294.3	-330.9	442.8					
100.0	100.0	97.3	97.3	0.1	0.1	-131.63	-294.4	-331.2	443.1	442.9	0.20	2,254.248		
200.0	200.0	194.5	194.5	0.3	0.2	-131.60	-294.8	-332.0	444.0	443.5	0.52	848.230		
300.0	300.0	299.4	299.4	0.5	0.4	-131.43	-294.4	-333.5	444.9	443.9	0.95	467.083		
400.0	400.0	399.4	399.4	0.8	0.6	-131.13	-292.7	-335.2	445.0	443.6	1.39	319.542		
500.0	500.0	503.4	503.3	1.0	0.9	-130.75	-290.3	-336.9	444.7	442.9	1.84	241.169		
600.0	600.0	605.3	605.2	1.2	1.1	-130.22	-286.4	-338.7	443.6	441.3	2.30	193.217		
700.0	700.0	702.7	702.4	1.4	1.3	-129.59	-282.2	-341.2	442.7	440.0	2.75	161.239		
800.0	800.0	800.6	800.1	1.7	1.5	-128.86	-277.6	-344.6	442.5	439.3	3.20	138.173		
804.1	804.1	804.6	804.1	1.7	1.6	-128.83	-277.4	-344.7	442.5	439.3	3.22	137.361		
900.0	900.0	900.9	900.2	1.9	1.8	-127.92	-272.0	-349.1	442.6	438.9	3.67	120.595		
1,000.0	1,000.0	1,003.6	1,002.5	2.1	2.0	-126.83	-265.1	-354.0	442.3	438.1	4.15	106.642		
1,100.0	1,100.0	1,101.9	1,100.4	2.3	2.3	-125.66	-257.6	-358.9	441.8	437.2	4.62	95.636		
1,110.4	1,110.4	1,112.0	1,110.4	2.4	2.3	-125.54	-256.8	-359.5	441.8	437.1	4.67	94.631	CC	
1,200.0	1,200.0	1,199.0	1,197.0	2.6	2.6	-124.42	-249.9	-364.7	442.1	437.0	5.10	86.747	ES	
1,300.0	1,300.0	1,298.6	1,296.0	2.8	2.8	-123.01	-241.3	-371.4	442.9	437.3	5.59	79.300		
1,400.0	1,400.0	1,384.2	1,381.1	3.0	3.1	-121.74	-234.1	-378.4	445.3	439.3	6.04	73.772		
1,500.0	1,500.0	1,467.3	1,463.4	3.2	3.3	-120.47	-228.2	-387.9	451.5	445.0	6.47	69.758		
1,600.0	1,600.0	1,570.8	1,566.0	3.5	3.6	-119.12	-223.3	-400.7	460.0	453.1	6.93	66.382		
1,700.0	1,700.0	1,678.5	1,673.1	3.7	3.9	-118.08	-219.2	-410.9	466.5	459.1	7.37	63.278		
1,800.0	1,800.0	1,779.8	1,774.0	3.9	4.1	-117.13	-215.0	-419.5	472.1	464.3	7.82	60.384		
1,900.0	1,900.0	1,883.0	1,876.6	4.1	4.4	-116.04	-209.3	-428.4	477.4	469.1	8.29	57.611		
2,000.0	2,000.0	1,989.4	1,982.4	4.4	4.7	-114.79	-201.8	-437.0	481.7	472.9	8.76	54.975		
2,100.0	2,100.0	2,095.7	2,088.1	4.6	5.0	-113.61	-194.0	-444.0	484.7	475.5	9.23	52.527		

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

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## Anticollision Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Hebron 0781 1-12H
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	KB @ 8146.0usft
<b>Reference Site:</b>	T8N-R81W-S7	<b>MD Reference:</b>	KB @ 8146.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hebron 0781 1-12H	<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

Offset Design													Offset Site Error:	0.0 usft
Survey Program: 209-Sperry MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
2,200.0	2,200.0	2,193.0	2,185.0	4.8	5.2	-112.58	-187.0	-449.6	487.1	477.5	9.67	50.373		
2,300.0	2,300.0	2,285.2	2,276.8	5.0	5.5	-111.65	-181.0	-455.9	491.0	480.9	10.10	48.600		
2,400.0	2,400.0	2,372.0	2,363.2	5.3	5.7	-110.77	-175.7	-463.3	496.9	486.3	10.52	47.212		
2,500.0	2,500.0	2,458.3	2,448.8	5.5	6.0	-109.98	-172.0	-473.0	505.9	494.9	10.94	46.238		
2,600.0	2,600.0	2,563.2	2,552.7	5.7	6.3	-108.94	-166.9	-486.3	516.3	504.9	11.40	45.283		
2,700.0	2,700.0	2,680.1	2,668.5	5.9	6.7	-107.46	-156.8	-498.6	523.6	511.7	11.89	44.021		
2,800.0	2,800.0	2,784.8	2,772.3	6.2	7.0	-106.05	-146.1	-507.8	529.1	516.7	12.37	42.778		
2,900.0	2,900.0	2,895.7	2,882.2	6.4	7.3	-104.51	-133.6	-516.1	533.4	520.6	12.86	41.487		
3,000.0	3,000.0	3,005.6	2,991.2	6.6	7.6	-103.02	-120.7	-521.9	535.7	522.4	13.34	40.158		
3,100.0	3,100.0	3,104.3	3,089.1	6.8	7.9	-101.72	-109.2	-526.2	537.5	523.7	13.79	38.970		
3,200.0	3,200.0	3,201.5	3,185.5	7.1	8.2	-100.44	-97.8	-530.8	539.9	525.7	14.25	37.896		
3,300.0	3,300.0	3,299.5	3,282.7	7.3	8.5	-99.14	-86.2	-535.7	542.9	528.1	14.71	36.910		
3,400.0	3,400.0	3,399.1	3,381.5	7.5	8.8	-97.79	-74.0	-540.9	546.2	531.0	15.17	36.009		
3,500.0	3,500.0	3,500.6	3,482.1	7.7	9.1	-96.50	-62.2	-545.7	549.5	533.9	15.62	35.176		
3,600.0	3,600.0	3,601.7	3,582.5	8.0	9.3	-95.18	-51.2	-550.1	552.2	535.5	16.74	32.992		
3,700.0	3,699.8	3,699.3	3,679.5	8.2	9.6	-93.88	-41.2	-554.2	553.8	536.6	17.21	32.185		
3,800.0	3,799.5	3,796.9	3,776.5	8.4	9.9	-92.62	-31.2	-558.9	554.9	537.2	17.69	31.364		
3,900.0	3,898.7	3,895.4	3,874.3	8.6	10.2	-91.49	-21.0	-564.0	555.1	536.9	18.20	30.502		
4,000.0	3,997.5	3,993.3	3,971.5	8.9	10.5	-90.41	-10.7	-569.3	554.5	535.8	18.72	29.615		
4,100.0	4,095.6	4,090.6	4,068.1	9.1	10.7	-89.38	-0.6	-575.0	553.3	534.0	19.27	28.717		
4,156.8	4,151.1	4,146.2	4,123.3	9.3	10.9	-88.40	4.7	-578.3	552.3	532.7	19.58	28.200		
4,200.0	4,193.1	4,188.8	4,165.8	9.4	11.0	-87.47	8.6	-581.0	551.5	531.7	19.83	27.808		
4,300.0	4,290.5	4,291.3	4,267.6	9.7	11.3	-86.59	18.1	-587.0	549.7	529.3	20.43	26.903		
4,400.0	4,387.9	4,390.0	4,365.7	10.0	11.6	-85.76	27.3	-592.5	547.8	526.8	21.04	26.040		
4,500.0	4,485.3	4,483.5	4,458.7	10.3	11.8	-84.97	35.7	-598.2	546.8	525.1	21.64	25.261		
4,600.0	4,582.7	4,583.8	4,558.4	10.6	12.1	-84.22	44.6	-604.9	546.5	524.2	22.29	24.519		
4,700.0	4,680.0	4,684.7	4,658.6	11.0	12.4	-83.51	54.1	-611.3	546.2	523.3	22.95	23.801		
4,738.4	4,717.5	4,721.7	4,695.4	11.1	12.5	-82.84	57.5	-613.7	546.1	522.9	23.20	23.541		
4,800.0	4,777.4	4,781.6	4,754.9	11.3	12.7	-82.21	62.8	-617.6	546.3	522.7	23.60	23.144		
4,900.0	4,874.8	4,884.6	4,857.3	11.7	13.0	-81.61	71.6	-623.8	546.4	522.1	24.28	22.502		
5,000.0	4,972.2	4,982.1	4,954.3	12.0	13.2	-81.04	79.7	-629.6	546.8	521.8	24.95	21.911		
5,100.0	5,069.6	5,083.7	5,055.4	12.4	13.5	-80.50	88.0	-635.4	547.3	521.7	25.64	21.344		
5,200.0	5,167.0	5,185.0	5,156.3	12.8	13.8	-80.00	95.7	-640.6	547.8	521.4	26.33	20.806		
5,300.0	5,264.3	5,285.1	5,256.1	13.2	14.0	-79.52	102.1	-644.9	548.3	521.3	27.00	20.304		
5,400.0	5,361.7	5,383.3	5,354.2	13.6	14.2	-79.06	107.0	-648.4	549.1	521.4	27.66	19.850		
5,500.0	5,459.1	5,487.9	5,458.5	14.0	14.5	-78.63	111.4	-651.6	550.4	522.0	28.33	19.425		
5,600.0	5,556.5	5,586.8	5,557.3	14.4	14.7	-78.23	115.6	-653.2	550.9	521.9	28.98	19.011		
5,700.0	5,653.9	5,680.2	5,650.7	14.8	14.9	-77.85	117.8	-654.7	552.9	523.3	29.60	18.681		
5,800.0	5,751.3	5,774.1	5,744.6	15.2	15.0	-77.49	120.0	-657.0	556.3	526.1	30.21	18.413		
5,900.0	5,848.6	5,829.7	5,800.1	15.6	15.2	-77.15	120.7	-660.1	564.0	533.3	30.75	18.342		
5,993.8	5,940.0	5,871.0	5,841.0	16.0	15.2	-76.83	117.3	-664.4	579.8	548.6	31.21	18.578		
6,000.0	5,946.0	5,871.0	5,841.0	16.1	15.2	-76.53	117.3	-664.4	581.2	549.9	31.24	18.604		
6,050.0	5,995.1	5,890.5	5,860.0	16.2	15.3	-76.25	114.3	-667.2	592.1	560.7	31.42	18.847		
6,100.0	6,044.6	5,902.0	5,871.2	16.4	15.3	-75.99	112.2	-669.1	603.4	571.9	31.52	19.145		
6,150.0	6,094.2	5,934.0	5,901.7	16.5	15.3	-75.74	104.7	-674.9	614.4	582.9	31.56	19.471		
6,200.0	6,143.8	5,952.6	5,919.1	16.5	15.3	-75.50	99.3	-678.7	625.4	593.9	31.50	19.855		
6,250.0	6,193.0	5,975.7	5,940.3	16.6	15.3	-75.27	91.6	-683.7	636.2	604.9	31.37	20.284		
6,300.0	6,241.7	5,997.0	5,959.5	16.6	15.3	-75.05	83.5	-688.3	646.5	615.3	31.15	20.753		
6,350.0	6,289.7	6,028.0	5,986.6	16.6	15.3	-74.84	70.0	-694.7	656.0	625.1	30.85	21.265		
6,400.0	6,336.5	6,059.0	6,012.8	16.6	15.3	-74.64	54.5	-700.8	664.9	634.4	30.46	21.828		
6,450.0	6,382.2	6,073.4	6,024.5	16.6	15.3	-74.45	46.7	-703.7	673.1	643.0	30.03	22.416		
6,500.0	6,426.3	6,091.0	6,038.5	16.5	15.3	-74.27	36.6	-707.3	680.8	651.3	29.53	23.051		

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

# SandRidge Energy

## Anticollision Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Hebron 0781 1-12H
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	KB @ 8146.0usft
<b>Reference Site:</b>	T8N-R81W-S7	<b>MD Reference:</b>	KB @ 8146.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hebron 0781 1-12H	<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

Offset Design													Offset Site Error:	0.0 usft
T8N-R81W-S7 - Hebron 3-12H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.0 usft
Survey Program: 209-Sperry MWD														
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
6,550.0	6,468.8	6,122.0	6,061.9	16.5	15.3	28.61	17.4	-713.8	688.0	659.0	28.97	23.748		
6,600.0	6,509.4	6,136.6	6,072.4	16.4	15.2	29.33	7.7	-716.9	694.6	666.2	28.40	24.459		
6,650.0	6,547.9	6,154.0	6,084.4	16.3	15.2	29.84	-4.4	-720.5	700.6	672.8	27.80	25.204		
6,700.0	6,584.1	6,185.0	6,104.0	16.2	15.2	30.16	-27.5	-726.6	706.2	679.0	27.16	26.001		
6,750.0	6,617.8	6,196.4	6,110.7	16.2	15.2	30.46	-36.5	-728.7	711.0	684.4	26.56	26.765		
6,800.0	6,649.0	6,217.0	6,121.9	16.1	15.1	30.65	-53.4	-732.5	715.4	689.4	25.98	27.539		
6,850.0	6,677.3	6,231.4	6,129.1	16.0	15.1	30.82	-65.7	-735.2	719.3	693.9	25.45	28.270		
6,882.4	6,694.1	6,248.0	6,136.6	16.0	15.1	30.91	-80.1	-738.4	721.8	696.6	25.12	28.728		
6,900.0	6,702.9	6,248.0	6,136.6	15.9	15.1	30.91	-80.1	-738.4	723.1	697.9	25.13	28.770		
7,000.0	6,752.9	6,275.7	6,147.1	15.8	15.0	30.85	-105.0	-744.1	736.6	711.4	25.19	29.244		
7,032.4	6,769.1	6,293.0	6,152.4	15.8	15.0	30.77	-121.0	-748.0	743.2	718.0	25.21	29.483		
7,050.0	6,777.7	6,293.0	6,152.4	15.9	15.0	30.82	-121.0	-748.0	746.8	721.7	25.06	29.796		
7,100.0	6,799.6	6,309.1	6,156.5	16.1	15.0	30.81	-136.1	-751.8	756.9	732.2	24.69	30.652		
7,150.0	6,817.7	6,335.4	6,162.3	16.4	15.0	30.77	-161.1	-757.7	766.0	741.6	24.44	31.343		
7,200.0	6,831.9	6,370.1	6,168.9	16.7	15.0	30.84	-194.2	-765.5	773.4	749.1	24.36	31.752		
7,250.0	6,842.1	6,407.8	6,175.5	17.1	15.1	31.10	-230.3	-774.0	778.9	754.4	24.50	31.795		
7,300.0	6,848.1	6,449.2	6,182.1	17.5	15.2	31.60	-270.1	-783.4	782.1	757.2	24.89	31.426		
7,347.9	6,850.0	6,495.3	6,189.1	18.0	15.3	32.42	-314.4	-793.8	783.0	757.5	25.52	30.678		
7,400.0	6,850.0	6,567.1	6,201.6	18.5	15.6	33.93	-383.2	-810.3	781.8	755.5	26.27	29.756		
7,499.7	6,850.0	6,646.6	6,215.9	19.5	16.1	35.63	-459.2	-828.6	780.2	752.6	27.55	28.316		
7,500.0	6,850.0	6,646.8	6,215.9	19.5	16.1	35.63	-459.5	-828.6	780.2	752.6	27.56	28.311		
7,600.0	6,850.0	6,773.2	6,240.6	20.7	16.9	38.49	-579.6	-858.7	778.9	749.4	29.44	26.459		
7,700.0	6,850.0	6,869.2	6,261.6	21.9	17.7	40.75	-670.7	-881.1	776.8	745.5	31.34	24.787		
7,800.0	6,850.0	6,976.3	6,285.8	23.3	18.8	43.29	-772.1	-905.6	775.2	741.6	33.59	23.077		
7,847.4	6,850.0	7,013.3	6,294.5	23.9	19.2	44.19	-807.0	-914.2	774.8	740.2	34.57	22.409		
7,900.0	6,850.0	7,049.2	6,302.2	24.7	19.6	45.03	-841.0	-922.6	775.4	739.8	35.63	21.765		
8,000.0	6,850.0	7,135.4	6,318.7	26.2	20.6	46.95	-923.2	-942.9	779.2	741.2	38.02	20.496		
8,100.0	6,850.0	7,229.1	6,335.8	27.7	21.8	48.96	-1,012.7	-964.7	784.5	743.8	40.67	19.288		
8,200.0	6,850.0	7,299.7	6,347.3	29.3	22.8	50.38	-1,080.3	-981.4	792.4	749.3	43.07	18.397		
8,300.0	6,850.0	7,370.4	6,355.2	30.9	23.8	51.60	-1,148.5	-998.4	804.4	758.9	45.52	17.670		
8,400.0	6,850.0	7,447.0	6,360.9	32.5	24.9	52.75	-1,222.4	-1,017.4	819.7	771.6	48.14	17.029		
8,500.0	6,850.0	7,534.0	6,364.6	34.2	26.2	53.88	-1,306.6	-1,039.1	837.5	786.5	50.97	16.432		
8,600.0	6,850.0	7,624.9	6,366.3	35.9	27.6	54.86	-1,394.7	-1,061.4	856.5	802.6	53.89	15.893		
8,700.0	6,850.0	7,716.0	6,366.9	37.6	29.0	55.74	-1,483.2	-1,083.3	876.2	819.3	56.87	15.408		
8,800.0	6,850.0	7,797.2	6,365.9	39.4	30.4	56.41	-1,561.9	-1,103.1	897.2	837.5	59.71	15.027		
8,900.0	6,850.0	7,891.2	6,362.9	41.1	31.8	57.07	-1,652.9	-1,126.2	919.7	857.0	62.68	14.672		
9,000.0	6,850.0	7,976.3	6,360.4	42.9	33.0	57.67	-1,735.2	-1,147.7	942.7	877.1	65.53	14.384		
9,100.0	6,850.0	8,057.1	6,357.6	44.7	34.3	58.23	-1,813.1	-1,169.2	967.3	898.9	68.38	14.146		
9,200.0	6,850.0	8,150.2	6,354.8	46.5	35.7	58.93	-1,902.2	-1,195.8	993.4	921.9	71.48	13.898		
9,300.0	6,850.0	8,242.2	6,354.2	48.3	37.2	59.70	-1,990.2	-1,222.7	1,019.2	944.6	74.63	13.656		
9,400.0	6,850.0	8,331.1	6,352.4	50.1	38.6	60.38	-2,075.0	-1,249.3	1,046.3	968.5	77.78	13.452		
9,500.0	6,850.0	8,427.2	6,352.4	52.0	40.1	61.19	-2,166.5	-1,278.7	1,073.4	992.2	81.13	13.231		
9,600.0	6,850.0	8,517.0	6,352.7	53.8	41.6	61.94	-2,251.8	-1,306.8	1,101.0	1,016.6	84.40	13.045		
9,700.0	6,850.0	8,605.8	6,355.1	55.6	43.1	62.77	-2,335.6	-1,335.9	1,129.3	1,041.5	87.74	12.870		
9,800.0	6,850.0	8,686.3	6,357.8	57.5	44.4	63.54	-2,411.3	-1,363.2	1,158.6	1,067.6	90.96	12.737		
9,900.0	6,850.0	8,763.0	6,359.8	59.3	45.7	64.25	-2,483.1	-1,390.3	1,189.6	1,095.5	94.17	12.632		
10,000.0	6,850.0	8,850.7	6,363.0	61.2	47.2	65.08	-2,564.6	-1,422.5	1,221.8	1,124.2	97.59	12.520		
10,100.0	6,850.0	8,969.4	6,371.4	63.0	49.1	66.34	-2,674.6	-1,466.1	1,253.1	1,151.4	101.64	12.328		
10,200.0	6,850.0	9,051.6	6,377.8	64.9	50.6	67.18	-2,750.9	-1,496.2	1,284.4	1,179.3	105.05	12.226		
10,300.0	6,850.0	9,138.0	6,383.1	66.8	52.1	67.97	-2,831.1	-1,527.9	1,316.6	1,208.0	108.58	12.126		
10,400.0	6,850.0	9,217.3	6,386.3	68.7	53.5	68.60	-2,904.7	-1,557.1	1,349.8	1,237.9	111.93	12.060		
10,500.0	6,850.0	9,305.6	6,387.4	70.5	55.1	69.16	-2,986.9	-1,589.4	1,383.8	1,268.4	115.40	11.991		

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

# SandRidge Energy

## Anticollision Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Hebron 0781 1-12H
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	KB @ 8146.0usft
<b>Reference Site:</b>	T8N-R81W-S7	<b>MD Reference:</b>	KB @ 8146.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hebron 0781 1-12H	<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

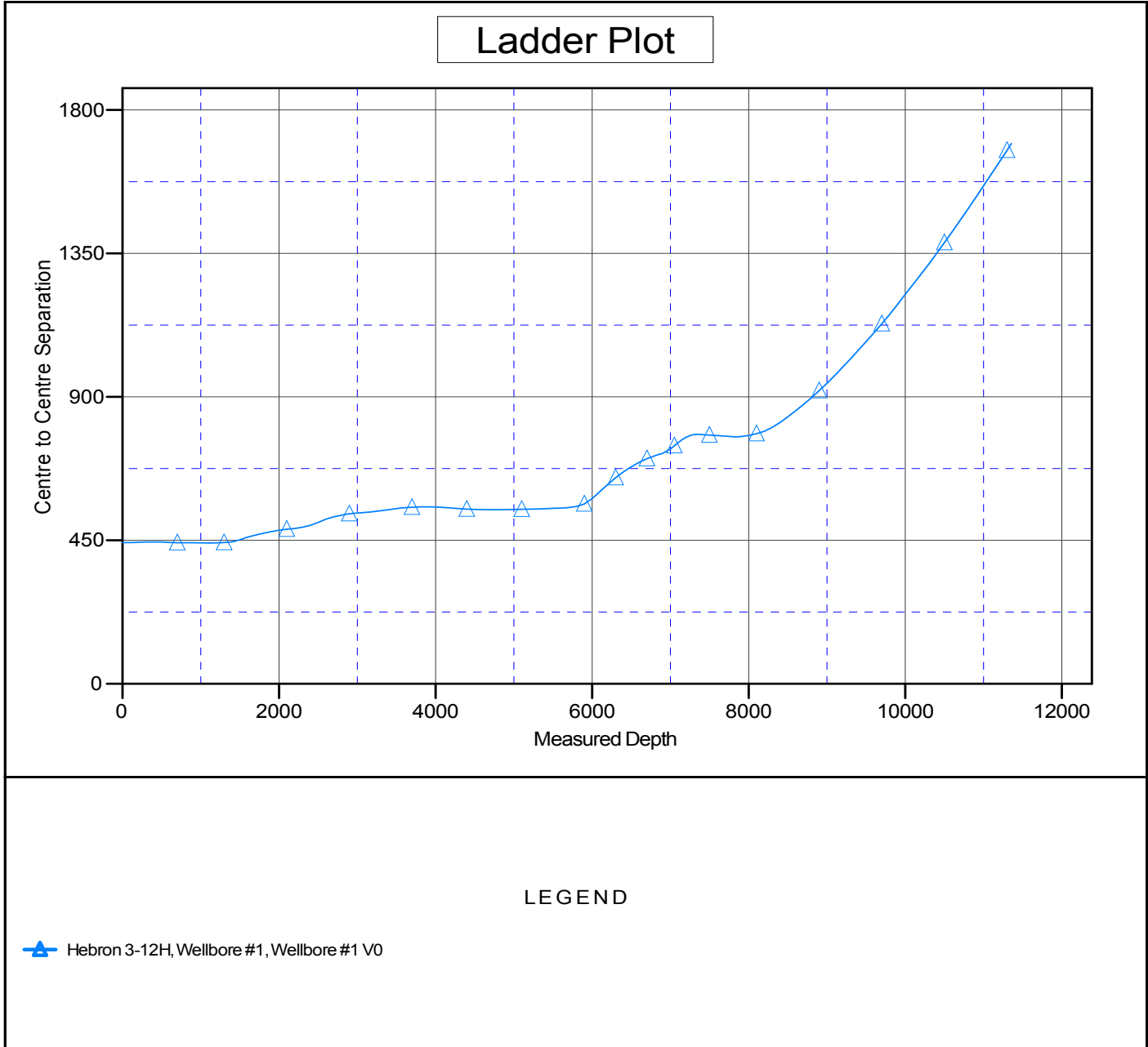
Offset Design													Offset Site Error:	0.0 usft
T8N-R81W-S7 - Hebron 3-12H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.0 usft
Survey Program: 209-Sperry MWD														
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,600.0	6,850.0	9,387.7	6,386.2	72.4	56.6	69.57	-3,063.5	-1,619.0	1,418.3	1,299.6	118.71	11.948		
10,700.0	6,850.0	9,476.8	6,383.4	74.3	58.2	69.93	-3,146.5	-1,651.3	1,453.6	1,331.5	122.07	11.907		
10,800.0	6,850.0	9,563.4	6,382.0	76.2	59.7	70.33	-3,226.9	-1,683.2	1,489.0	1,363.6	125.40	11.874		
10,900.0	6,850.0	9,643.8	6,380.7	78.1	61.1	70.69	-3,301.4	-1,713.4	1,525.2	1,396.6	128.64	11.857		
11,000.0	6,850.0	9,730.9	6,380.0	79.9	62.6	71.10	-3,381.8	-1,747.0	1,562.2	1,430.2	132.00	11.834		
11,100.0	6,850.0	9,829.4	6,381.9	81.8	64.3	71.65	-3,472.5	-1,785.4	1,598.9	1,463.3	135.60	11.791		
11,200.0	6,850.0	9,914.9	6,383.3	83.7	65.8	72.10	-3,551.1	-1,818.8	1,635.8	1,496.9	138.99	11.769		
11,300.0	6,850.0	10,004.3	6,384.5	85.6	67.4	72.54	-3,633.4	-1,853.9	1,673.2	1,530.7	142.47	11.744		
11,355.5	6,850.0	10,058.6	6,385.2	86.7	68.4	72.80	-3,683.3	-1,875.2	1,693.9	1,549.5	144.46	11.726		
11,356.4	6,850.0	10,059.5	6,385.2	86.7	68.4	72.80	-3,684.1	-1,875.5	1,694.3	1,549.8	144.49	11.726 SF		

# SandRidge Energy

## Anticollision Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Hebron 0781 1-12H
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	KB @ 8146.0usft
<b>Reference Site:</b>	T8N-R81W-S7	<b>MD Reference:</b>	KB @ 8146.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hebron 0781 1-12H	<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 KB @ 8146.0usft	Coordinates are relative to: Hebron 0781 1-12H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is 105° 30' 0.000 W	Grid Convergence at Surface is: -0.60°



# SandRidge Energy

## Anticollision Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Hebron 0781 1-12H
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	KB @ 8146.0usft
<b>Reference Site:</b>	T8N-R81W-S7	<b>MD Reference:</b>	KB @ 8146.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hebron 0781 1-12H	<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 KB @ 8146.0usft  
 Offset Depths are relative to Offset Datum  
 Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Hebron 0781 1-12H  
 Coordinate System is US State Plane 1983, Colorado Northern Zone  
 Grid Convergence at Surface is: -0.60°

