

# **SandRidge Energy**

**North Park Basin**

**T7N-R80W-S16**

**Ray Ranch 0780 6-16H**

**Wellbore #1**

**Design #1**

## **Anticollision Summary Report**

**08 July, 2016**

# SandRidge Energy

## Anticollision Summary Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Ray Ranch 0780 6-16H
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	KB @ 8152.0usft
<b>Reference Site:</b>	T7N-R80W-S16	<b>MD Reference:</b>	KB @ 8152.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Ray Ranch 0780 6-16H	<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	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	7/8/2016		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	12,392.6	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						
Evans 0780 5-21H - Wellbore #1 - Design #1	4,918.8	4,911.3	7.1	-14.5	0.327	Level 1, CC, ES, SF
Evans 0780 6-21H - Wellbore #1 - Design #1	4,856.0	4,852.2	5.9	-15.4	0.276	Level 1, CC, ES, SF
Evans 0780 7-21H - Wellbore #1 - Design #1	4,786.4	4,782.4	4.7	-16.3	0.224	Level 1, CC, ES, SF
Evans 0780 8-21H - Wellbore #1 - Design #1	2,955.1	2,955.2	44.1	31.2	3.404	CC
Evans 0780 8-21H - Wellbore #1 - Design #1	3,200.0	3,200.0	44.7	30.6	3.184	ES
Evans 0780 8-21H - Wellbore #1 - Design #1	4,559.6	4,558.3	53.8	34.1	2.723	SF
Ray Ranch 0780 5-16H - Wellbore #1 - Design #1	4,155.2	4,155.5	9.8	-8.6	0.533	Level 1, CC, ES, SF
Ray Ranch 0780 7-16H - Wellbore #1 - Design #1	3,700.0	3,700.0	15.0	-1.4	0.916	Level 1, CC, ES, SF
Ray Ranch 0780 8-16H - Wellbore #1 - Design #1	2,500.0	2,500.0	30.0	19.0	2.733	CC, ES, SF
T7N-R80W-S21						
Evans 0780 1-21H - Wellbore #1 - Design #1	7,710.1	7,800.0	1,373.9	1,334.2	34.564	CC, ES, SF
Evans 0780 2-21H - Wellbore #1 - Design #1	7,628.7	7,629.7	1,778.5	1,738.9	44.881	CC, ES
Evans 0780 2-21H - Wellbore #1 - Design #1	7,750.0	7,735.1	1,781.7	1,741.7	44.547	SF
Evans 0780 3-21H - Wellbore #1 - Design #1	6,300.1	5,953.8	2,153.9	2,125.9	76.986	CC, ES
Evans 0780 3-21H - Wellbore #1 - Design #1	12,392.6	8,000.0	5,480.1	5,386.8	58.713	SF
Evans 0780 4-21H - Wellbore #1 - Design #1	5,804.9	5,420.9	2,293.7	2,268.9	92.568	CC
Evans 0780 4-21H - Wellbore #1 - Design #1	5,900.0	5,507.8	2,294.0	2,268.7	90.450	ES
Evans 0780 4-21H - Wellbore #1 - Design #1	12,392.6	7,987.7	5,708.9	5,616.2	61.622	SF
Ray Ranch 0780 1-16H - Wellbore #1 - Design #1	8,410.7	9,542.0	1,356.1	1,303.9	25.989	CC
Ray Ranch 0780 1-16H - Wellbore #1 - Design #1	12,392.6	13,496.6	1,368.1	1,189.3	7.654	ES, SF
Ray Ranch 0780 2-16H - Wellbore #1 - Design #1	8,656.2	9,886.6	2,016.2	1,960.7	36.327	CC
Ray Ranch 0780 2-16H - Wellbore #1 - Design #1	12,392.6	13,621.2	2,017.2	1,837.5	11.225	ES, SF
Ray Ranch 0780 3-16H - Wellbore #1 - Design #1	6,019.0	5,600.0	2,302.4	2,276.9	90.270	CC, ES
Ray Ranch 0780 3-16H - Wellbore #1 - Design #1	12,392.6	13,877.2	2,676.8	2,497.7	14.946	SF
Ray Ranch 0780 4-16H - Wellbore #1 - Design #1	2,400.0	2,498.0	2,472.6	2,461.9	230.048	CC, ES
Ray Ranch 0780 4-16H - Wellbore #1 - Design #1	12,392.6	13,799.6	3,319.8	3,142.4	18.714	SF

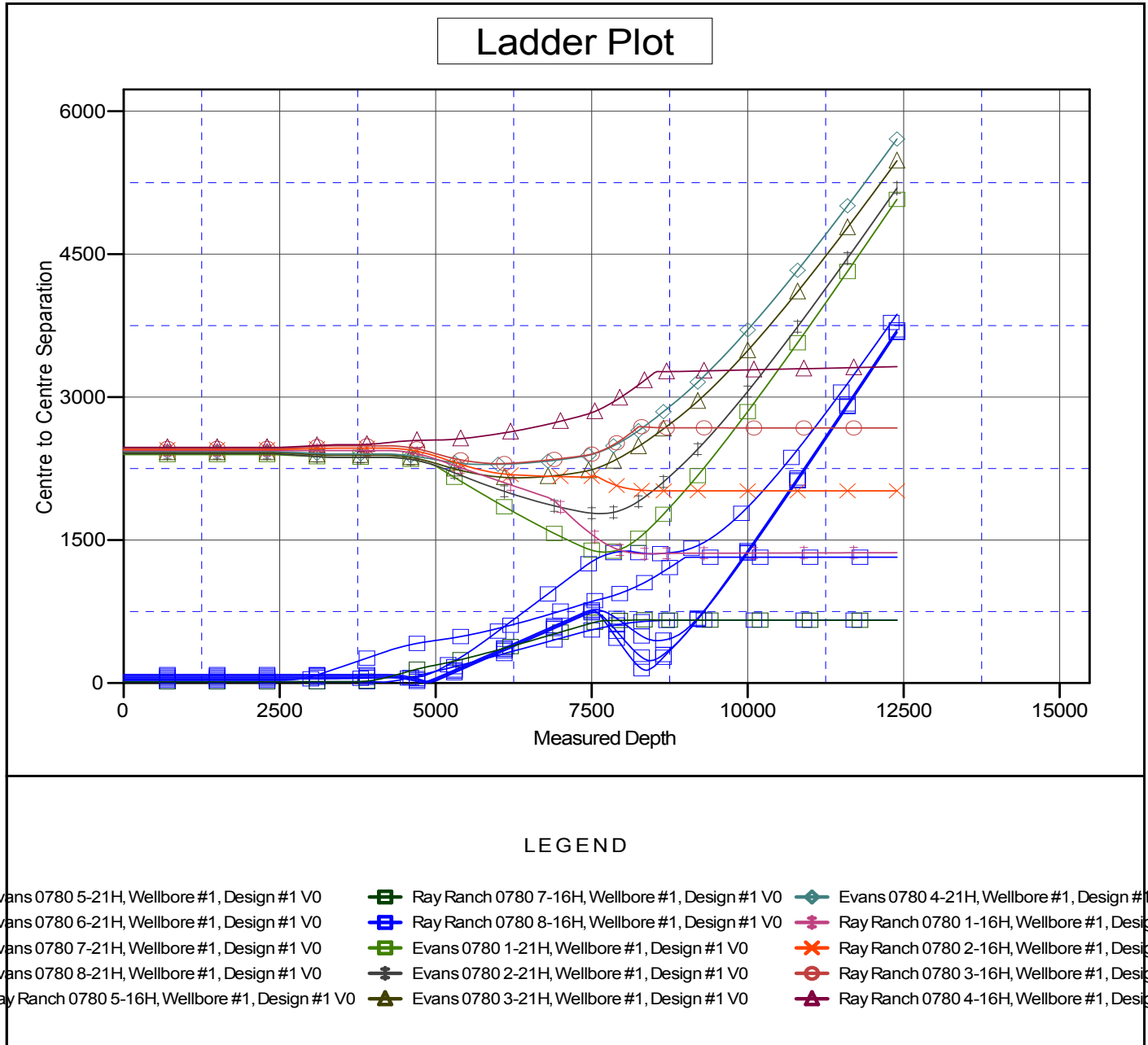
# SandRidge Energy

## Anticollision Summary Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Ray Ranch 0780 6-16H
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	KB @ 8152.0usft
<b>Reference Site:</b>	T7N-R80W-S16	<b>MD Reference:</b>	KB @ 8152.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Ray Ranch 0780 6-16H	<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 @ 8152.0usft  
Offset Depths are relative to Offset Datum  
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Ray Ranch 0780 6-16H  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: -0.57°



# SandRidge Energy

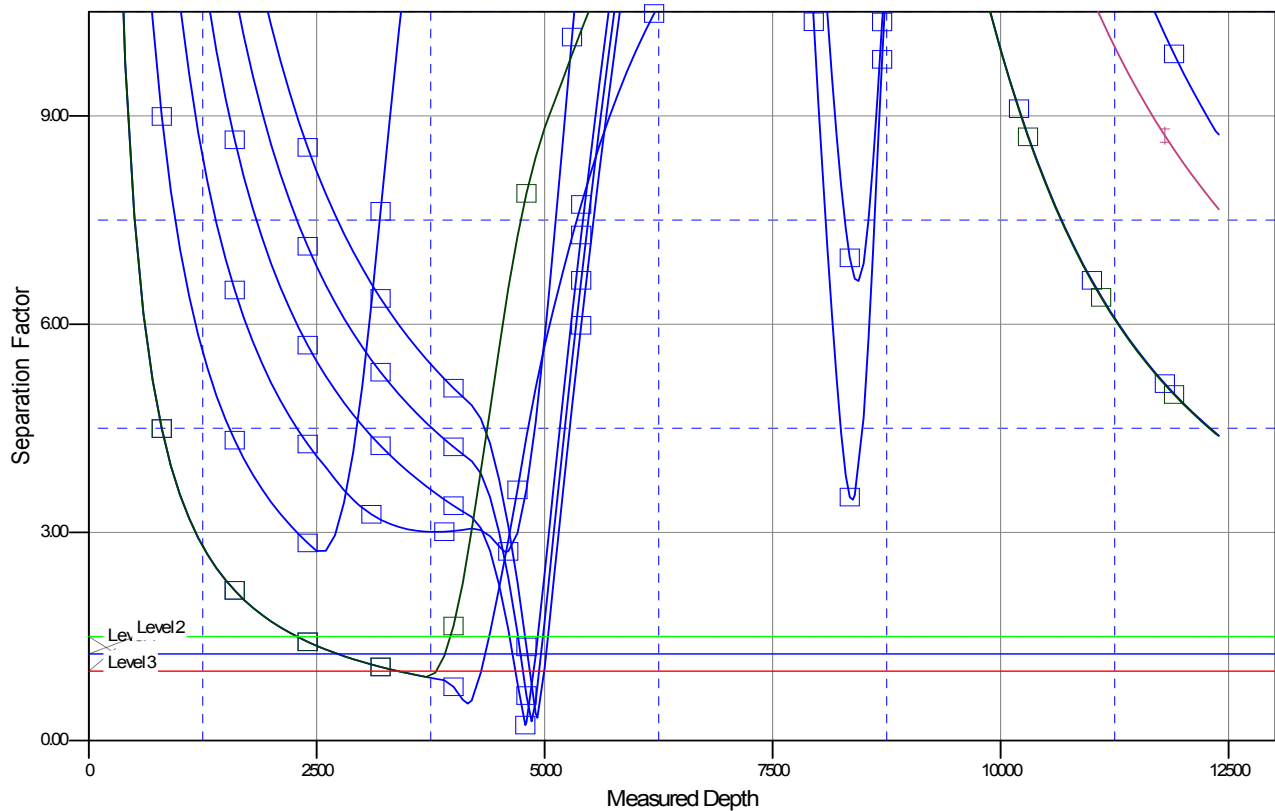
## Anticollision Summary Report

<b>Company:</b>	SandRidge Energy	<b>Local Co-ordinate Reference:</b>	Well Ray Ranch 0780 6-16H
<b>Project:</b>	North Park Basin	<b>TVD Reference:</b>	KB @ 8152.0usft
<b>Reference Site:</b>	T7N-R80W-S16	<b>MD Reference:</b>	KB @ 8152.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Ray Ranch 0780 6-16H	<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 @ 8152.0usft  
Offset Depths are relative to Offset Datum  
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Ray Ranch 0780 6-16H  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: -0.57°

### Separation Factor Plot



### LEGEND

Evans 0780 5-21H, Wellbore #1, Design #1 V0	Ray Ranch 0780 7-16H, Wellbore #1, Design #1 V0	Evans 0780 4-21H, Wellbore #1, Design #1 V0
Evans 0780 6-21H, Wellbore #1, Design #1 V0	Ray Ranch 0780 8-16H, Wellbore #1, Design #1 V0	Ray Ranch 0780 1-16H, Wellbore #1, Design #1 V0
Evans 0780 7-21H, Wellbore #1, Design #1 V0	Evans 0780 1-21H, Wellbore #1, Design #1 V0	Ray Ranch 0780 2-16H, Wellbore #1, Design #1 V0
Evans 0780 8-21H, Wellbore #1, Design #1 V0	Evans 0780 2-21H, Wellbore #1, Design #1 V0	Ray Ranch 0780 3-16H, Wellbore #1, Design #1 V0
Ray Ranch 0780 5-16H, Wellbore #1, Design #1 V0	Evans 0780 3-21H, Wellbore #1, Design #1 V0	Ray Ranch 0780 4-16H, Wellbore #1, Design #1 V0