

Company Name: SandRidge Energy
SU 0680 12-9H16
Jackson County, Colorado
Rig: Cyclone #33
Created By: Will Jircik
Date : 22:36, November 27 2018

SU 0680 12-9H16
Jackson County, Colorado
Q181651 & RM-181392
Design #3

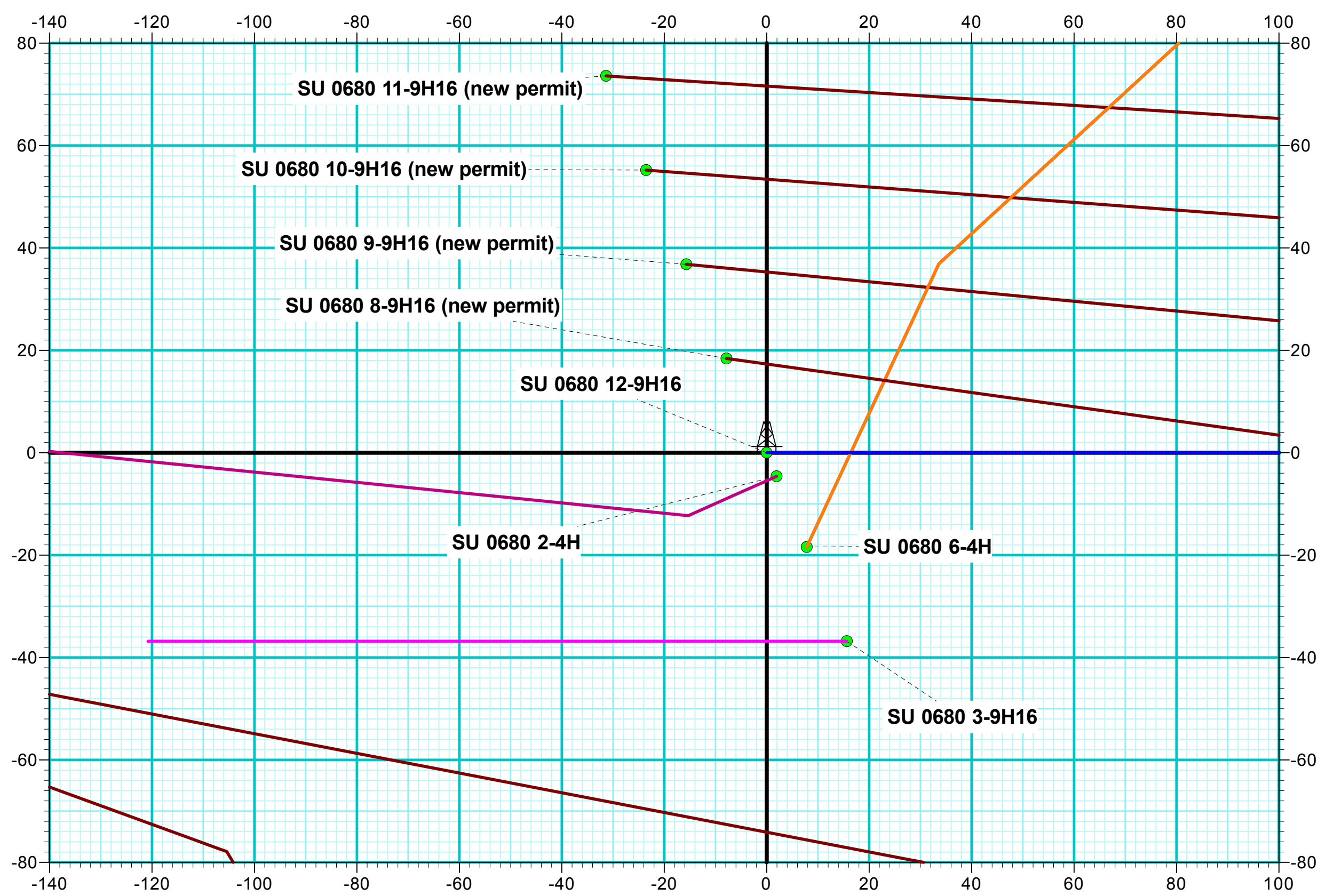
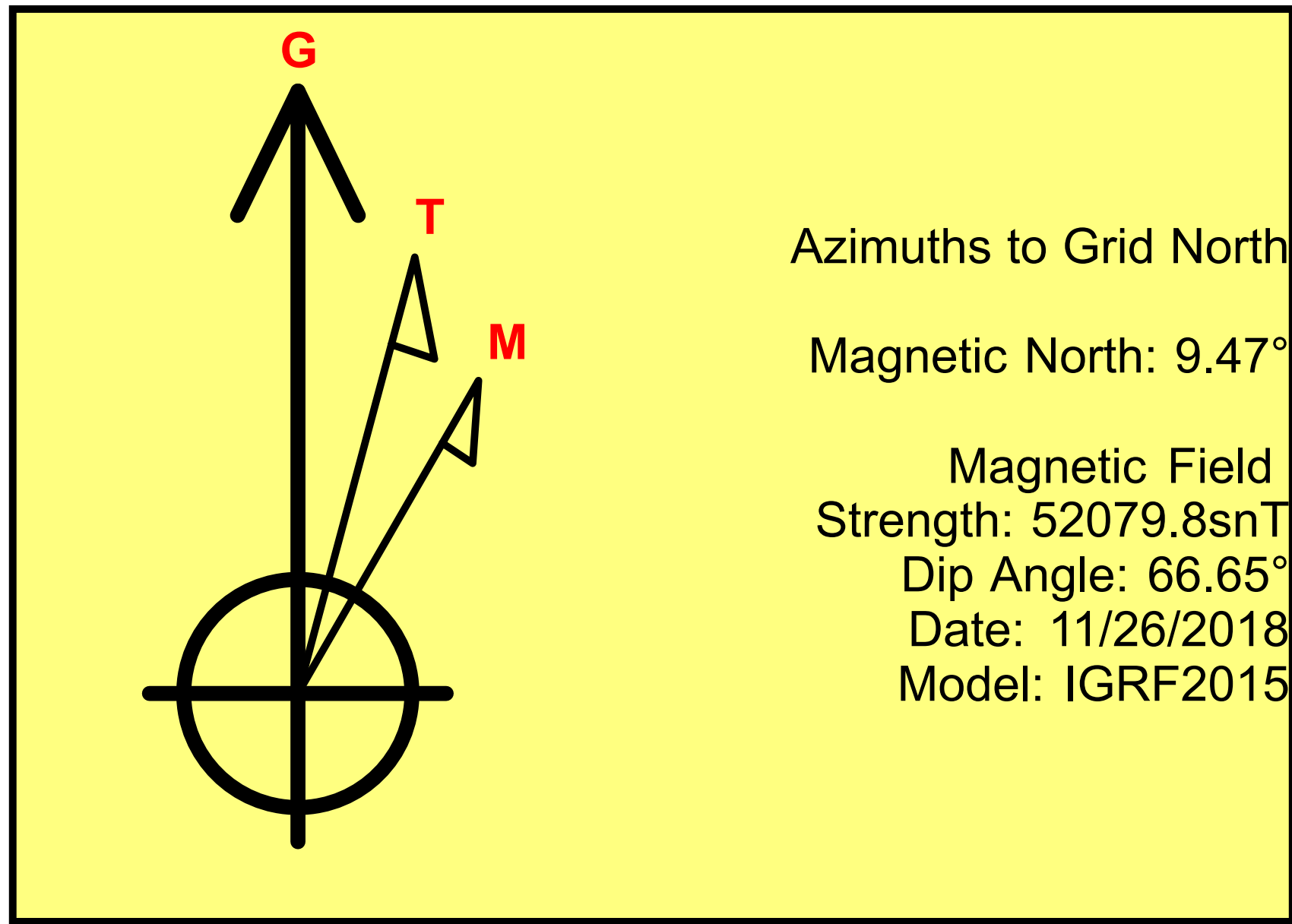


DIRECTIONAL DRILLING

WELL DETAILS: SU 0680 12-9H16						
			8259.0			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.0	0.0	1429888.21	2754173.34	40° 30' 36.288 N	106° 23' 2.754 W	

PROJECT DETAILS: Jackson County, Colorado

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



DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL - SU 0680 12-9H16	7943.8	-10090.4	1802.3	1419797.85	2755975.64	40° 28' 56.759 N	106° 22' 38.129 W
LP - SU 0680 12-9H16	8165.0	-476.4	1633.7	1429411.84	2755807.01	40° 30' 31.742 N	106° 22' 41.543 W

- plan hits target center
- plan misses target center by 692.8usft at 8162.5usft MD (7540.3 TVD, -725.9 N, 1799.1 E)

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0	KOP (Build 2° / 100')
3	2615.0	22.30	90.00	2587.1	0.0	214.3	2.00	90.00	3.7	EOB @ 22.30° Inc. / 90.00° Azm
4	6200.0	22.30	90.00	5903.9	0.0	1574.6	0.00	0.00	27.5	Drop 2.92° / 100'
5	6792.5	5.00	90.00	6477.5	0.0	1713.9	2.92	180.00	29.9	EOD @ 5.00° Inc. / Build 5° / 100'
6	8453.0	83.00	180.00	7611.5	-1006.7	1802.3	5.00	90.61	1038.0	EOB @ 83.00° Inc. / 180.00° Azm
7	11500.0	83.00	180.00	7982.9	-4031.0	1802.3	0.00	0.00	4061.9	Drop 2° / 100'
8	11650.0	80.00	180.00	8005.0	-4179.4	1802.3	2.00	180.00	4210.2	EOD @ 80.00° Inc.
9	12700.0	80.00	180.00	8187.4	-5213.4	1802.3	0.00	0.00	5244.1	Build 1.75° / 100'
10	13500.0	94.00	180.00	8229.1	-6010.3	1802.3	1.75	0.00	6040.9	EOB @ 94.00° Inc. / 180.00° Azm
11	14000.0	94.00	180.00	8194.3	-6509.1	1802.3	0.00	0.00	6539.6	Hold
12	17590.0	94.00	180.00	7943.8	-10090.4	1802.3	0.00	0.00	10120.3	TD @ 17590.0' MD / 7943.8' TVD

Vertical Section at 179.00° (200 usft/in)

Vertical Section at 179.00° (200 usft/in)



SandRidge Energy

**Jackson County, Colorado
Sec 9, T6N, R80W, 6th PM
SU 0680 12-9H16**

Wellbore #1

Plan: Design #3

QES Well Planning Report

27 November, 2018



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SU 0680 12-9H16
Company:	SandRidge Energy	TVD Reference:	RKB @ 8285.0usft (Cyclone #33)
Project:	Jackson County, Colorado	MD Reference:	RKB @ 8285.0usft (Cyclone #33)
Site:	Sec 9, T6N, R80W, 6th PM	North Reference:	Grid
Well:	SU 0680 12-9H16	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

Project	Jackson County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	Sec 9, T6N, R80W, 6th PM		
Site Position:		Northing:	1,429,883.61 usft
From:	Map	Easting:	2,754,175.30 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	40° 30' 36.243 N
		Longitude:	106° 23' 2.728 W
		Grid Convergence:	-0.57 °

Well	SU 0680 12-9H16		
Well Position	+N/-S	4.6 usft	Northing:
	+E/-W	-2.0 usft	Easting:
Position Uncertainty	0.0 usft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	11/26/2018	8.90	66.65	52,079.78172936

Design	Design #3			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	179.00

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,615.0	22.30	90.00	2,587.1	0.0	214.3	2.00	2.00	0.00	90.00	
6,200.0	22.30	90.00	5,903.9	0.0	1,574.6	0.00	0.00	0.00	0.00	
6,792.5	5.00	90.00	6,477.5	0.0	1,713.9	2.92	-2.92	0.00	180.00	
8,453.0	83.00	180.00	7,611.5	-1,006.7	1,802.3	5.00	4.70	5.42	90.61	
11,500.0	83.00	180.00	7,982.9	-4,031.0	1,802.3	0.00	0.00	0.00	0.00	
11,650.0	80.00	180.00	8,005.0	-4,179.4	1,802.3	2.00	-2.00	0.00	180.00	
12,700.0	80.00	180.00	8,187.4	-5,213.4	1,802.3	0.00	0.00	0.00	0.00	
13,500.0	94.00	180.00	8,229.1	-6,010.3	1,802.3	1.75	1.75	0.00	0.00	
14,000.0	94.00	180.00	8,194.3	-6,509.1	1,802.3	0.00	0.00	0.00	0.00	
17,590.0	94.00	180.00	7,943.8	-10,090.4	1,802.3	0.00	0.00	0.00	0.00	

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SU 0680 12-9H16
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Project:	Jackson County, Colorado	MD Reference:	RKB @ 8285.0usft (Cyclone #33)
Site:	Sec 9, T6N, R80W, 6th PM	North Reference:	Grid
Well:	SU 0680 12-9H16	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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
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
KOP (Build 2° / 100')									
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	2.00	90.00	1,600.0	0.0	1.7	0.0	2.00	2.00	0.00
1,700.0	4.00	90.00	1,699.8	0.0	7.0	0.1	2.00	2.00	0.00
1,800.0	6.00	90.00	1,799.5	0.0	15.7	0.3	2.00	2.00	0.00
1,900.0	8.00	90.00	1,898.7	0.0	27.9	0.5	2.00	2.00	0.00
2,000.0	10.00	90.00	1,997.5	0.0	43.5	0.8	2.00	2.00	0.00
2,100.0	12.00	90.00	2,095.6	0.0	62.6	1.1	2.00	2.00	0.00
2,200.0	14.00	90.00	2,193.1	0.0	85.1	1.5	2.00	2.00	0.00
2,300.0	16.00	90.00	2,289.6	0.0	111.0	1.9	2.00	2.00	0.00
2,400.0	18.00	90.00	2,385.3	0.0	140.2	2.4	2.00	2.00	0.00
2,500.0	20.00	90.00	2,479.8	0.0	172.8	3.0	2.00	2.00	0.00
2,600.0	22.00	90.00	2,573.2	0.0	208.6	3.6	2.00	2.00	0.00
EOB @ 22.30° Inc. / 90.00° Azm									
2,615.0	22.30	90.00	2,587.1	0.0	214.3	3.7	2.00	2.00	0.00
2,700.0	22.30	90.00	2,665.7	0.0	246.5	4.3	0.00	0.00	0.00
2,800.0	22.30	90.00	2,758.2	0.0	284.5	5.0	0.00	0.00	0.00
2,900.0	22.30	90.00	2,850.7	0.0	322.4	5.6	0.00	0.00	0.00
3,000.0	22.30	90.00	2,943.3	0.0	360.3	6.3	0.00	0.00	0.00
3,100.0	22.30	90.00	3,035.8	0.0	398.3	7.0	0.00	0.00	0.00
3,200.0	22.30	90.00	3,128.3	0.0	436.2	7.6	0.00	0.00	0.00
3,300.0	22.30	90.00	3,220.8	0.0	474.2	8.3	0.00	0.00	0.00
3,400.0	22.30	90.00	3,313.4	0.0	512.1	8.9	0.00	0.00	0.00
3,500.0	22.30	90.00	3,405.9	0.0	550.1	9.6	0.00	0.00	0.00
3,600.0	22.30	90.00	3,498.4	0.0	588.0	10.3	0.00	0.00	0.00
Shannon									
3,645.0	22.30	90.00	3,540.0	0.0	605.1	10.6	0.00	0.00	0.00
3,700.0	22.30	90.00	3,590.9	0.0	626.0	10.9	0.00	0.00	0.00
3,800.0	22.30	90.00	3,683.4	0.0	663.9	11.6	0.00	0.00	0.00
3,900.0	22.30	90.00	3,776.0	0.0	701.9	12.2	0.00	0.00	0.00
4,000.0	22.30	90.00	3,868.5	0.0	739.8	12.9	0.00	0.00	0.00
4,100.0	22.30	90.00	3,961.0	0.0	777.8	13.6	0.00	0.00	0.00
4,200.0	22.30	90.00	4,053.5	0.0	815.7	14.2	0.00	0.00	0.00
4,300.0	22.30	90.00	4,146.0	0.0	853.6	14.9	0.00	0.00	0.00
4,400.0	22.30	90.00	4,238.6	0.0	891.6	15.6	0.00	0.00	0.00
4,500.0	22.30	90.00	4,331.1	0.0	929.5	16.2	0.00	0.00	0.00
4,600.0	22.30	90.00	4,423.6	0.0	967.5	16.9	0.00	0.00	0.00
4,700.0	22.30	90.00	4,516.1	0.0	1,005.4	17.5	0.00	0.00	0.00

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Site:	Sec 9, T6N, R80W, 6th PM	North Reference:	Grid
Well:	SU 0680 12-9H16	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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)
4,800.0	22.30	90.00	4,608.6	0.0	1,043.4	18.2	0.00	0.00	0.00
4,900.0	22.30	90.00	4,701.2	0.0	1,081.3	18.9	0.00	0.00	0.00
5,000.0	22.30	90.00	4,793.7	0.0	1,119.3	19.5	0.00	0.00	0.00
5,100.0	22.30	90.00	4,886.2	0.0	1,157.2	20.2	0.00	0.00	0.00
5,200.0	22.30	90.00	4,978.7	0.0	1,195.2	20.9	0.00	0.00	0.00
5,300.0	22.30	90.00	5,071.2	0.0	1,233.1	21.5	0.00	0.00	0.00
5,400.0	22.30	90.00	5,163.8	0.0	1,271.0	22.2	0.00	0.00	0.00
5,500.0	22.30	90.00	5,256.3	0.0	1,309.0	22.8	0.00	0.00	0.00
5,600.0	22.30	90.00	5,348.8	0.0	1,346.9	23.5	0.00	0.00	0.00
5,700.0	22.30	90.00	5,441.3	0.0	1,384.9	24.2	0.00	0.00	0.00
5,800.0	22.30	90.00	5,533.9	0.0	1,422.8	24.8	0.00	0.00	0.00
5,900.0	22.30	90.00	5,626.4	0.0	1,460.8	25.5	0.00	0.00	0.00
Sussex									
5,936.3	22.30	90.00	5,660.0	0.0	1,474.6	25.7	0.00	0.00	0.00
6,000.0	22.30	90.00	5,718.9	0.0	1,498.7	26.2	0.00	0.00	0.00
6,100.0	22.30	90.00	5,811.4	0.0	1,536.7	26.8	0.00	0.00	0.00
Drop 2.92° /100'									
6,200.0	22.30	90.00	5,903.9	0.0	1,574.6	27.5	0.00	0.00	0.00
6,300.0	19.38	90.00	5,997.4	0.0	1,610.2	28.1	2.92	-2.92	0.00
6,400.0	16.46	90.00	6,092.5	0.0	1,640.9	28.6	2.92	-2.92	0.00
6,500.0	13.54	90.00	6,189.1	0.0	1,666.8	29.1	2.92	-2.92	0.00
6,600.0	10.62	90.00	6,286.9	0.0	1,687.8	29.5	2.92	-2.92	0.00
6,700.0	7.70	90.00	6,385.6	0.0	1,703.7	29.7	2.92	-2.92	0.00
EOD @ 5.00° Inc. / Build 5° / 100'									
6,792.5	5.00	90.00	6,477.5	0.0	1,713.9	29.9	2.92	-2.92	0.00
6,800.0	5.01	94.32	6,485.0	0.0	1,714.6	29.9	5.00	0.13	57.30
Lower Pierce									
6,815.1	5.11	102.78	6,500.0	-0.2	1,715.9	30.2	5.00	0.69	56.18
6,900.0	7.30	137.53	6,584.5	-5.0	1,723.2	35.1	5.00	2.57	40.91
7,000.0	11.46	155.05	6,683.1	-18.7	1,731.7	49.0	5.00	4.16	17.52
7,100.0	16.10	162.97	6,780.2	-41.0	1,739.9	71.4	5.00	4.64	7.93
7,200.0	20.90	167.37	6,875.0	-71.7	1,747.9	102.2	5.00	4.80	4.40
7,300.0	25.78	170.18	6,966.8	-110.6	1,755.5	141.2	5.00	4.88	2.81
7,400.0	30.69	172.14	7,054.9	-157.3	1,762.7	188.0	5.00	4.91	1.96
7,500.0	35.63	173.60	7,138.6	-211.6	1,769.5	242.4	5.00	4.94	1.46
7,600.0	40.58	174.75	7,217.3	-272.9	1,775.7	303.9	5.00	4.95	1.15
7,700.0	45.54	175.69	7,290.3	-341.0	1,781.3	372.0	5.00	4.96	0.94
7,800.0	50.50	176.48	7,357.2	-415.1	1,786.4	446.2	5.00	4.97	0.79
7,900.0	55.47	177.17	7,417.3	-494.8	1,790.8	526.0	5.00	4.97	0.68
8,000.0	60.45	177.77	7,470.4	-579.5	1,794.5	610.7	5.00	4.97	0.61
8,100.0	65.42	178.32	7,515.9	-668.4	1,797.6	699.7	5.00	4.98	0.55
Mancos									
8,161.7	68.49	178.64	7,540.0	-725.2	1,799.1	756.5	5.00	4.98	0.51
8,200.0	70.40	178.83	7,553.5	-761.0	1,799.9	792.3	5.00	4.98	0.50
8,300.0	75.38	179.31	7,582.9	-856.6	1,801.4	887.9	5.00	4.98	0.48
8,400.0	80.36	179.76	7,603.9	-954.3	1,802.2	985.6	5.00	4.98	0.46
EOB @ 83.00° Inc. / 180.00° Azm									
8,453.0	83.00	180.00	7,611.5	-1,006.7	1,802.3	1,038.0	5.00	4.98	0.45
8,500.0	83.00	180.00	7,617.3	-1,053.4	1,802.3	1,084.7	0.00	0.00	0.00
8,600.0	83.00	180.00	7,629.5	-1,152.6	1,802.3	1,183.9	0.00	0.00	0.00
8,700.0	83.00	180.00	7,641.6	-1,251.9	1,802.3	1,283.2	0.00	0.00	0.00
8,800.0	83.00	180.00	7,653.8	-1,351.1	1,802.3	1,382.4	0.00	0.00	0.00
8,900.0	83.00	180.00	7,666.0	-1,450.4	1,802.3	1,481.6	0.00	0.00	0.00

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Well:	SU 0680 12-9H16	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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)
9,000.0	83.00	180.00	7,678.2	-1,549.7	1,802.3	1,580.9	0.00	0.00	0.00
9,100.0	83.00	180.00	7,690.4	-1,648.9	1,802.3	1,680.1	0.00	0.00	0.00
9,200.0	83.00	180.00	7,702.6	-1,748.2	1,802.3	1,779.4	0.00	0.00	0.00
9,300.0	83.00	180.00	7,714.8	-1,847.4	1,802.3	1,878.6	0.00	0.00	0.00
9,400.0	83.00	180.00	7,726.9	-1,946.7	1,802.3	1,977.8	0.00	0.00	0.00
9,500.0	83.00	180.00	7,739.1	-2,045.9	1,802.3	2,077.1	0.00	0.00	0.00
9,600.0	83.00	180.00	7,751.3	-2,145.2	1,802.3	2,176.3	0.00	0.00	0.00
9,700.0	83.00	180.00	7,763.5	-2,244.4	1,802.3	2,275.6	0.00	0.00	0.00
9,800.0	83.00	180.00	7,775.7	-2,343.7	1,802.3	2,374.8	0.00	0.00	0.00
Niobrara									
9,860.0	83.00	180.00	7,783.0	-2,403.2	1,802.3	2,434.3	0.00	0.00	0.00
9,900.0	83.00	180.00	7,787.9	-2,443.0	1,802.3	2,474.0	0.00	0.00	0.00
10,000.0	83.00	180.00	7,800.1	-2,542.2	1,802.3	2,573.3	0.00	0.00	0.00
10,100.0	83.00	180.00	7,812.3	-2,641.5	1,802.3	2,672.5	0.00	0.00	0.00
10,200.0	83.00	180.00	7,824.4	-2,740.7	1,802.3	2,771.8	0.00	0.00	0.00
10,300.0	83.00	180.00	7,836.6	-2,840.0	1,802.3	2,871.0	0.00	0.00	0.00
10,400.0	83.00	180.00	7,848.8	-2,939.2	1,802.3	2,970.2	0.00	0.00	0.00
10,500.0	83.00	180.00	7,861.0	-3,038.5	1,802.3	3,069.5	0.00	0.00	0.00
10,600.0	83.00	180.00	7,873.2	-3,137.7	1,802.3	3,168.7	0.00	0.00	0.00
10,700.0	83.00	180.00	7,885.4	-3,237.0	1,802.3	3,267.9	0.00	0.00	0.00
10,800.0	83.00	180.00	7,897.6	-3,336.2	1,802.3	3,367.2	0.00	0.00	0.00
10,900.0	83.00	180.00	7,909.7	-3,435.5	1,802.3	3,466.4	0.00	0.00	0.00
11,000.0	83.00	180.00	7,921.9	-3,534.8	1,802.3	3,565.7	0.00	0.00	0.00
11,100.0	83.00	180.00	7,934.1	-3,634.0	1,802.3	3,664.9	0.00	0.00	0.00
11,200.0	83.00	180.00	7,946.3	-3,733.3	1,802.3	3,764.1	0.00	0.00	0.00
11,300.0	83.00	180.00	7,958.5	-3,832.5	1,802.3	3,863.4	0.00	0.00	0.00
11,400.0	83.00	180.00	7,970.7	-3,931.8	1,802.3	3,962.6	0.00	0.00	0.00
Drop 2° / 100'									
11,500.0	83.00	180.00	7,982.9	-4,031.0	1,802.3	4,061.9	0.00	0.00	0.00
11,600.0	81.00	180.00	7,996.8	-4,130.0	1,802.3	4,160.9	2.00	-2.00	0.00
EOD @ 80.00° Inc.									
11,650.0	80.00	180.00	8,005.0	-4,179.4	1,802.3	4,210.2	2.00	-2.00	0.00
11,700.0	80.00	180.00	8,013.7	-4,228.6	1,802.3	4,259.4	0.00	0.00	0.00
11,800.0	80.00	180.00	8,031.1	-4,327.1	1,802.3	4,357.9	0.00	0.00	0.00
11,900.0	80.00	180.00	8,048.5	-4,425.6	1,802.3	4,456.3	0.00	0.00	0.00
12,000.0	80.00	180.00	8,065.8	-4,524.0	1,802.3	4,554.8	0.00	0.00	0.00
12,100.0	80.00	180.00	8,083.2	-4,622.5	1,802.3	4,653.3	0.00	0.00	0.00
12,200.0	80.00	180.00	8,100.5	-4,721.0	1,802.3	4,751.7	0.00	0.00	0.00
12,300.0	80.00	180.00	8,117.9	-4,819.5	1,802.3	4,850.2	0.00	0.00	0.00
12,400.0	80.00	180.00	8,135.3	-4,918.0	1,802.3	4,948.7	0.00	0.00	0.00
12,500.0	80.00	180.00	8,152.6	-5,016.4	1,802.3	5,047.1	0.00	0.00	0.00
12,600.0	80.00	180.00	8,170.0	-5,114.9	1,802.3	5,145.6	0.00	0.00	0.00
Build 1.75° / 100'									
12,700.0	80.00	180.00	8,187.4	-5,213.4	1,802.3	5,244.1	0.00	0.00	0.00
12,800.0	81.75	180.00	8,203.2	-5,312.1	1,802.3	5,342.8	1.75	1.75	0.00
12,900.0	83.50	180.00	8,216.1	-5,411.3	1,802.3	5,441.9	1.75	1.75	0.00
13,000.0	85.25	180.00	8,225.9	-5,510.8	1,802.3	5,541.4	1.75	1.75	0.00
13,100.0	87.00	180.00	8,232.6	-5,610.6	1,802.3	5,641.2	1.75	1.75	0.00
13,200.0	88.75	180.00	8,236.3	-5,710.5	1,802.3	5,741.1	1.75	1.75	0.00
13,300.0	90.50	180.00	8,237.0	-5,810.5	1,802.3	5,841.1	1.75	1.75	0.00
13,400.0	92.25	180.00	8,234.6	-5,910.5	1,802.3	5,941.0	1.75	1.75	0.00
EOB @ 94.00° Inc. / 180.00° Azm									
13,500.0	94.00	180.00	8,229.1	-6,010.3	1,802.3	6,040.9	1.75	1.75	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SU 0680 12-9H16
Company:	SandRidge Energy	TVD Reference:	RKB @ 8285.0usft (Cyclone #33)
Project:	Jackson County, Colorado	MD Reference:	RKB @ 8285.0usft (Cyclone #33)
Site:	Sec 9, T6N, R80W, 6th PM	North Reference:	Grid
Well:	SU 0680 12-9H16	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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)
13,600.0	94.00	180.00	8,222.2	-6,110.1	1,802.3	6,140.6	0.00	0.00	0.00
13,700.0	94.00	180.00	8,215.2	-6,209.8	1,802.3	6,240.3	0.00	0.00	0.00
13,800.0	94.00	180.00	8,208.2	-6,309.6	1,802.3	6,340.1	0.00	0.00	0.00
13,900.0	94.00	180.00	8,201.2	-6,409.4	1,802.3	6,439.8	0.00	0.00	0.00
Hold									
14,000.0	94.00	180.00	8,194.3	-6,509.1	1,802.3	6,539.6	0.00	0.00	0.00
14,100.0	94.00	180.00	8,187.3	-6,608.9	1,802.3	6,639.3	0.00	0.00	0.00
14,200.0	94.00	180.00	8,180.3	-6,708.6	1,802.3	6,739.1	0.00	0.00	0.00
14,300.0	94.00	180.00	8,173.3	-6,808.4	1,802.3	6,838.8	0.00	0.00	0.00
14,400.0	94.00	180.00	8,166.4	-6,908.1	1,802.3	6,938.5	0.00	0.00	0.00
14,500.0	94.00	180.00	8,159.4	-7,007.9	1,802.3	7,038.3	0.00	0.00	0.00
14,600.0	94.00	180.00	8,152.4	-7,107.6	1,802.3	7,138.0	0.00	0.00	0.00
14,700.0	94.00	180.00	8,145.4	-7,207.4	1,802.3	7,237.8	0.00	0.00	0.00
14,800.0	94.00	180.00	8,138.5	-7,307.2	1,802.3	7,337.5	0.00	0.00	0.00
14,900.0	94.00	180.00	8,131.5	-7,406.9	1,802.3	7,437.2	0.00	0.00	0.00
15,000.0	94.00	180.00	8,124.5	-7,506.7	1,802.3	7,537.0	0.00	0.00	0.00
15,100.0	94.00	180.00	8,117.5	-7,606.4	1,802.3	7,636.7	0.00	0.00	0.00
15,200.0	94.00	180.00	8,110.5	-7,706.2	1,802.3	7,736.5	0.00	0.00	0.00
15,300.0	94.00	180.00	8,103.6	-7,805.9	1,802.3	7,836.2	0.00	0.00	0.00
15,400.0	94.00	180.00	8,096.6	-7,905.7	1,802.3	7,935.9	0.00	0.00	0.00
15,500.0	94.00	180.00	8,089.6	-8,005.5	1,802.3	8,035.7	0.00	0.00	0.00
15,600.0	94.00	180.00	8,082.6	-8,105.2	1,802.3	8,135.4	0.00	0.00	0.00
15,700.0	94.00	180.00	8,075.7	-8,205.0	1,802.3	8,235.2	0.00	0.00	0.00
15,800.0	94.00	180.00	8,068.7	-8,304.7	1,802.3	8,334.9	0.00	0.00	0.00
15,900.0	94.00	180.00	8,061.7	-8,404.5	1,802.3	8,434.7	0.00	0.00	0.00
16,000.0	94.00	180.00	8,054.7	-8,504.2	1,802.3	8,534.4	0.00	0.00	0.00
16,100.0	94.00	180.00	8,047.8	-8,604.0	1,802.3	8,634.1	0.00	0.00	0.00
16,200.0	94.00	180.00	8,040.8	-8,703.7	1,802.3	8,733.9	0.00	0.00	0.00
16,300.0	94.00	180.00	8,033.8	-8,803.5	1,802.3	8,833.6	0.00	0.00	0.00
16,400.0	94.00	180.00	8,026.8	-8,903.3	1,802.3	8,933.4	0.00	0.00	0.00
16,500.0	94.00	180.00	8,019.9	-9,003.0	1,802.3	9,033.1	0.00	0.00	0.00
16,600.0	94.00	180.00	8,012.9	-9,102.8	1,802.3	9,132.8	0.00	0.00	0.00
16,700.0	94.00	180.00	8,005.9	-9,202.5	1,802.3	9,232.6	0.00	0.00	0.00
16,800.0	94.00	180.00	7,998.9	-9,302.3	1,802.3	9,332.3	0.00	0.00	0.00
16,900.0	94.00	180.00	7,992.0	-9,402.0	1,802.3	9,432.1	0.00	0.00	0.00
17,000.0	94.00	180.00	7,985.0	-9,501.8	1,802.3	9,531.8	0.00	0.00	0.00
17,100.0	94.00	180.00	7,978.0	-9,601.6	1,802.3	9,631.5	0.00	0.00	0.00
17,200.0	94.00	180.00	7,971.0	-9,701.3	1,802.3	9,731.3	0.00	0.00	0.00
17,300.0	94.00	180.00	7,964.1	-9,801.1	1,802.3	9,831.0	0.00	0.00	0.00
17,400.0	94.00	180.00	7,957.1	-9,900.8	1,802.3	9,930.8	0.00	0.00	0.00
17,500.0	94.00	180.00	7,950.1	-10,000.6	1,802.3	10,030.5	0.00	0.00	0.00
TD @ 17590.0' MD / 7943.8' TVD									
17,590.0	94.00	180.00	7,943.8	-10,090.4	1,802.3	10,120.3	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SU 0680 12-9H16
Company:	SandRidge Energy	TVD Reference:	RKB @ 8285.0usft (Cyclone #33)
Project:	Jackson County, Colorado	MD Reference:	RKB @ 8285.0usft (Cyclone #33)
Site:	Sec 9, T6N, R80W, 6th PM	North Reference:	Grid
Well:	SU 0680 12-9H16	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

Design Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- Shape									
PBHL - SU 0680 12-9	90.00	360.00	7,943.8	-10,090.4	1,802.3	1,419,797.85	2,755,975.64	40° 28' 56.759 N	106° 22' 38.129 W
- plan hits target center									
- Rectangle (sides W100.0 H0.0 D10,090.4)									
LP - SU 0680 12-9H16	0.00	0.00	8,165.0	-476.4	1,633.7	1,429,411.84	2,755,807.01	40° 30' 31.742 N	106° 22' 41.543 W
- plan misses target center by 692.7usft at 8161.7usft MD (7540.0 TVD, -725.2 N, 1799.1 E)									
- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,645.0	3,540.0	Shannon		0.00	
5,936.3	5,660.0	Sussex		0.00	
6,815.1	6,500.0	Lower Pierce		0.00	
8,161.7	7,540.0	Mancos		0.00	
9,860.0	7,783.0	Niobrara		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,500.0	1,500.0	0.0	0.0	KOP (Build 2° / 100')
2,615.0	2,587.1	0.0	214.3	EOB @ 22.30° Inc. / 90.00° Azm
6,200.0	5,903.9	0.0	1,574.6	Drop 2.92° / 100'
6,792.5	6,477.5	0.0	1,713.9	EOD @ 5.00° Inc. / Build 5° / 100'
8,453.0	7,611.5	-1,006.7	1,802.3	EOB @ 83.00° Inc. / 180.00° Azm
11,500.0	7,982.9	-4,031.0	1,802.3	Drop 2° / 100'
11,650.0	8,005.0	-4,179.4	1,802.3	EOD @ 80.00° Inc.
12,700.0	8,187.4	-5,213.4	1,802.3	Build 1.75° / 100'
13,500.0	8,229.1	-6,010.3	1,802.3	EOB @ 94.00° Inc. / 180.00° Azm
14,000.0	8,194.3	-6,509.1	1,802.3	Hold
17,590.0	7,943.8	-10,090.4	1,802.3	TD @ 17590.0' MD / 7943.8' TVD