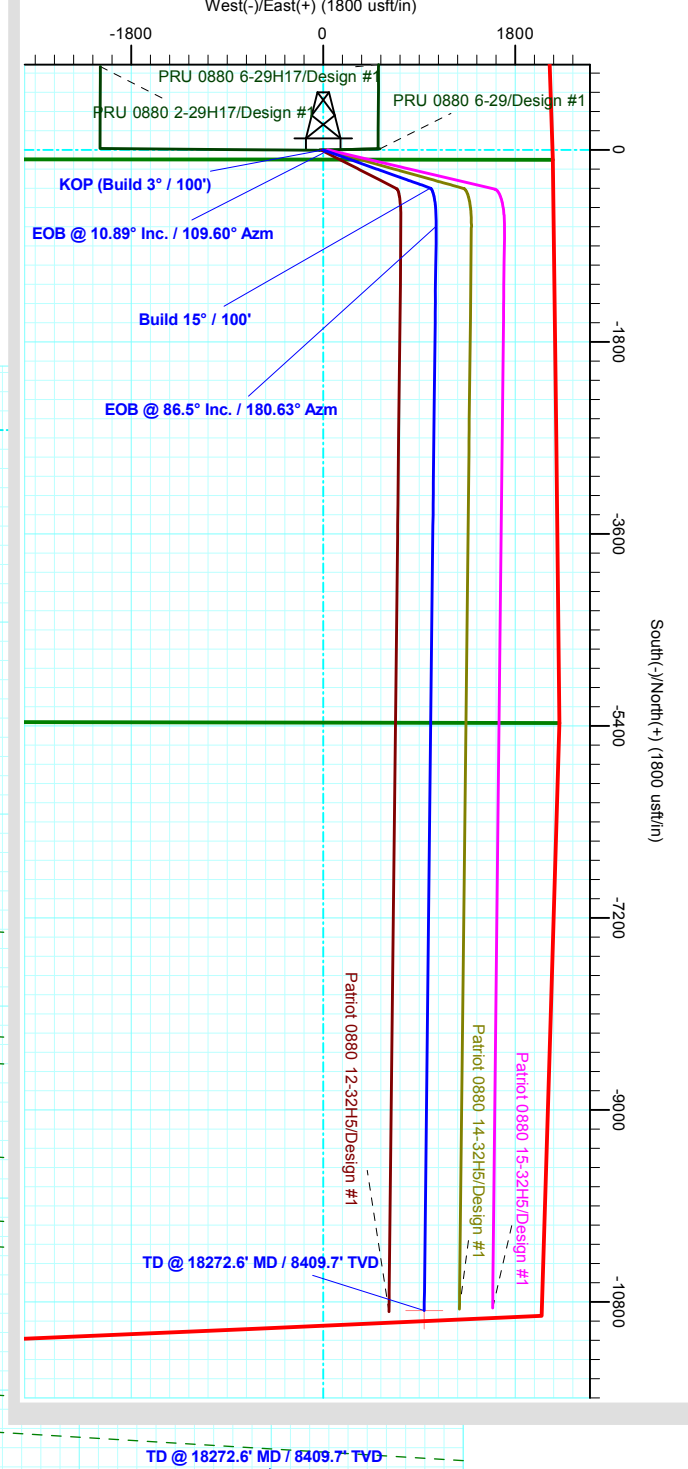
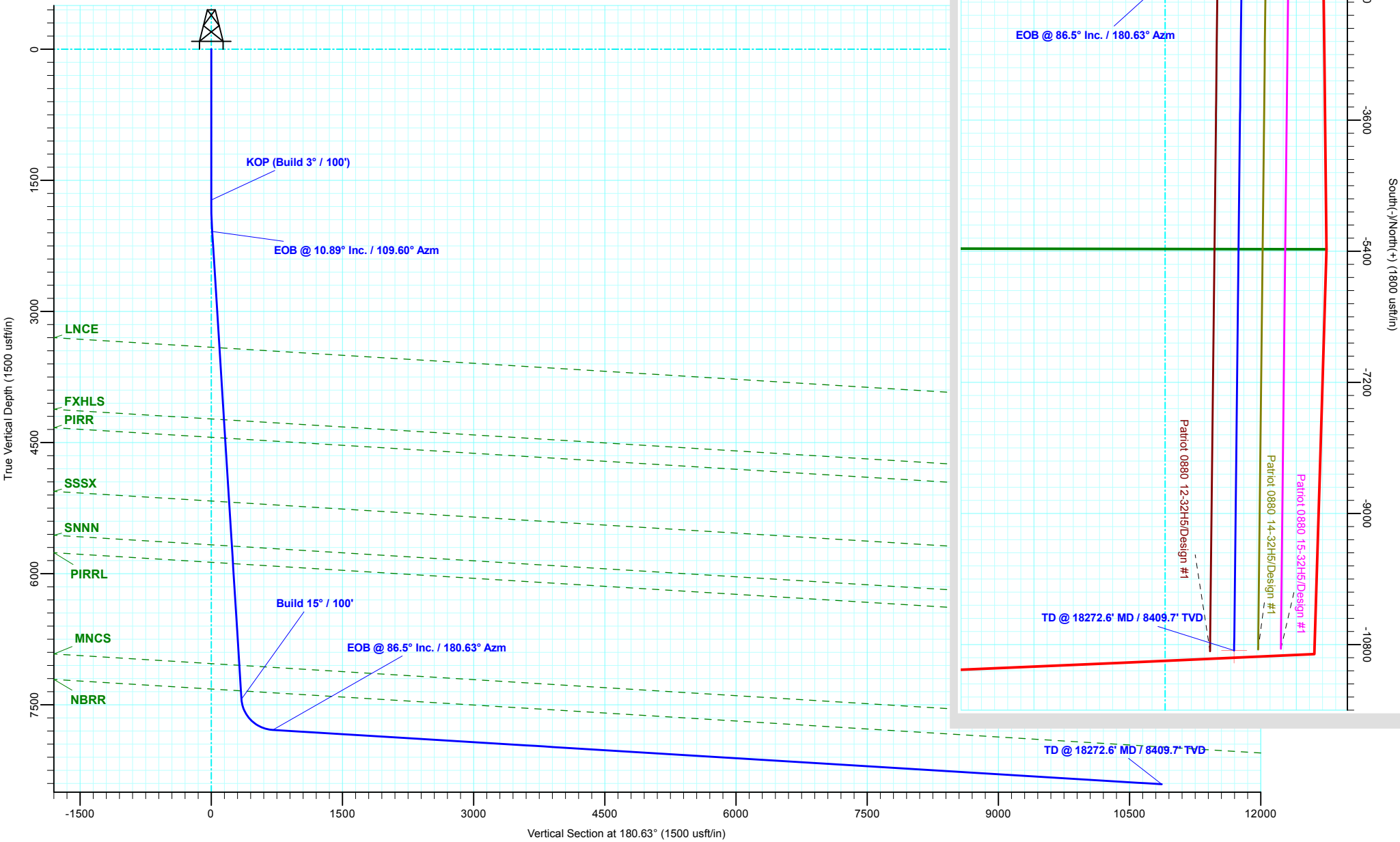


SandRidge Energy
Jackson County, Colorado
Sec 29, T8N, R80W, 6th PM
Patriot 0880 13-32H5
Design #1
Cyclone #33



ANNOTATIONS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation	
1725.0	0.00	0.00	1725.0	0.0	0.0	0.0	0.0	KOP (Build 3° / 100')	
2088.1	10.89	109.60	2085.9	-11.5	32.4	11.2	34.4	EOB @ 10.89° Inc. / 109.60° Azm	
7535.7	10.89	109.60	7435.3	-356.8	1002.1	345.7	1063.8	Build 15° / 100'	
8089.2	86.50	180.63	7788.1	-715.7	1058.6	704.0	1434.2	EOB @ 86.5° Inc. / 180.63° Azm	
18272.6	86.50	180.63	8409.7	-10879.5	946.3	10868.4	11598.6	TD @ 18272.6' MD / 8409.7' TVD	

WELL DETAILS: Patriot 0880 13-32H5							
+N/-S	+E/-W	Northing	Easting	8086.1	Latitude	Longitude	
0.0	0.0	1473564.63	2751513.36		40° 37' 47.597 N	106° 23' 42.900 W	





SandRidge Energy

**Jackson County, Colorado
Sec 29, T8N, R80W, 6th PM
Patriot 0880 13-32H5**

Wellbore #1

Plan: Design #1

QES Well Planning Report

19 October, 2018



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Patriot 0880 13-32H5
Company:	SandRidge Energy	TVD Reference:	RKB @ 8112.1usft (Cyclone #33)
Project:	Jackson County, Colorado	MD Reference:	RKB @ 8112.1usft (Cyclone #33)
Site:	Sec 29, T8N, R80W, 6th PM	North Reference:	Grid
Well:	Patriot 0880 13-32H5	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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 29, T8N, R80W, 6th PM				
Site Position:		Northing:	1,473,562.81 usft	Latitude:	40° 37' 47.575 N
From:	Map	Easting:	2,751,473.40 usft	Longitude:	106° 23' 43.418 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.58 °

Well	Patriot 0880 13-32H5					
Well Position	+N/-S	1.8 usft	Northing:	1,473,564.63 usft	Latitude:	40° 37' 47.597 N
	+E/-W	40.0 usft	Easting:	2,751,513.36 usft	Longitude:	106° 23' 42.900 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	8,086.1 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/19/2018	8.93	66.74	52,153.88476105

Design	Design #1			
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	180.63

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	
1,725.0	0.00	0.00	1,725.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,088.1	10.89	109.60	2,085.9	-11.5	32.4	3.00	3.00	0.00	109.60	
7,535.7	10.89	109.60	7,435.3	-356.8	1,002.1	0.00	0.00	0.00	0.00	
8,089.2	86.50	180.63	7,788.1	-715.7	1,058.6	15.00	13.66	12.83	71.98	
18,272.6	86.50	180.63	8,409.7	-10,879.5	946.3	0.00	0.00	0.00	0.00	PBHL - Patriot 0880

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Patriot 0880 13-32H5
Company:	SandRidge Energy	TVD Reference:	RKB @ 8112.1usft (Cyclone #33)
Project:	Jackson County, Colorado	MD Reference:	RKB @ 8112.1usft (Cyclone #33)
Site:	Sec 29, T8N, R80W, 6th PM	North Reference:	Grid
Well:	Patriot 0880 13-32H5	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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
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	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP (Build 3° / 100')									
1,725.0	0.00	0.00	1,725.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	2.25	109.60	1,800.0	-0.5	1.4	0.5	3.00	3.00	0.00
1,900.0	5.25	109.60	1,899.8	-2.7	7.5	2.6	3.00	3.00	0.00
2,000.0	8.25	109.60	1,999.1	-6.6	18.6	6.4	3.00	3.00	0.00
EOB @ 10.89° Inc. / 109.60° Azm									
2,088.1	10.89	109.60	2,085.9	-11.5	32.4	11.2	3.00	3.00	0.00
2,100.0	10.89	109.60	2,097.6	-12.3	34.5	11.9	0.00	0.00	0.00
2,200.0	10.89	109.60	2,195.8	-18.6	52.3	18.1	0.00	0.00	0.00
2,300.0	10.89	109.60	2,294.0	-25.0	70.1	24.2	0.00	0.00	0.00
2,400.0	10.89	109.60	2,392.2	-31.3	87.9	30.3	0.00	0.00	0.00
2,500.0	10.89	109.60	2,490.4	-37.6	105.7	36.5	0.00	0.00	0.00
2,600.0	10.89	109.60	2,588.6	-44.0	123.5	42.6	0.00	0.00	0.00
2,700.0	10.89	109.60	2,686.8	-50.3	141.3	48.8	0.00	0.00	0.00
2,800.0	10.89	109.60	2,785.0	-56.7	159.1	54.9	0.00	0.00	0.00
2,900.0	10.89	109.60	2,883.2	-63.0	176.9	61.0	0.00	0.00	0.00
3,000.0	10.89	109.60	2,981.4	-69.3	194.7	67.2	0.00	0.00	0.00
3,100.0	10.89	109.60	3,079.6	-75.7	212.5	73.3	0.00	0.00	0.00
3,200.0	10.89	109.60	3,177.8	-82.0	230.3	79.5	0.00	0.00	0.00
3,300.0	10.89	109.60	3,276.0	-88.3	248.1	85.6	0.00	0.00	0.00
3,400.0	10.89	109.60	3,374.2	-94.7	266.0	91.7	0.00	0.00	0.00
LNCE									
3,441.4	10.89	109.60	3,414.9	-97.3	273.3	94.3	0.00	0.00	0.00
3,500.0	10.89	109.60	3,472.4	-101.0	283.8	97.9	0.00	0.00	0.00
3,600.0	10.89	109.60	3,570.6	-107.4	301.6	104.0	0.00	0.00	0.00
3,700.0	10.89	109.60	3,668.8	-113.7	319.4	110.2	0.00	0.00	0.00
3,800.0	10.89	109.60	3,767.0	-120.0	337.2	116.3	0.00	0.00	0.00
3,900.0	10.89	109.60	3,865.2	-126.4	355.0	122.4	0.00	0.00	0.00
4,000.0	10.89	109.60	3,963.4	-132.7	372.8	128.6	0.00	0.00	0.00
4,100.0	10.89	109.60	4,061.6	-139.0	390.6	134.7	0.00	0.00	0.00
4,200.0	10.89	109.60	4,159.8	-145.4	408.4	140.9	0.00	0.00	0.00
FXHLS									
4,279.2	10.89	109.60	4,237.5	-150.4	422.5	145.7	0.00	0.00	0.00
4,300.0	10.89	109.60	4,258.0	-151.7	426.2	147.0	0.00	0.00	0.00
4,400.0	10.89	109.60	4,356.2	-158.1	444.0	153.1	0.00	0.00	0.00
PIRR									

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Patriot 0880 13-32H5
Company:	SandRidge Energy	TVD Reference:	RKB @ 8112.1usft (Cyclone #33)
Project:	Jackson County, Colorado	MD Reference:	RKB @ 8112.1usft (Cyclone #33)
Site:	Sec 29, T8N, R80W, 6th PM	North Reference:	Grid
Well:	Patriot 0880 13-32H5	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
4,493.7	10.89	109.60	4,448.2	-164.0	460.6	158.9	0.00	0.00	0.00
4,500.0	10.89	109.60	4,454.4	-164.4	461.8	159.3	0.00	0.00	0.00
4,600.0	10.89	109.60	4,552.6	-170.7	479.6	165.4	0.00	0.00	0.00
4,700.0	10.89	109.60	4,650.8	-177.1	497.4	171.6	0.00	0.00	0.00
4,800.0	10.89	109.60	4,749.0	-183.4	515.2	177.7	0.00	0.00	0.00
4,900.0	10.89	109.60	4,847.2	-189.7	533.0	183.8	0.00	0.00	0.00
5,000.0	10.89	109.60	4,945.4	-196.1	550.8	190.0	0.00	0.00	0.00
5,100.0	10.89	109.60	5,043.6	-202.4	568.6	196.1	0.00	0.00	0.00
5,200.0	10.89	109.60	5,141.8	-208.8	586.4	202.3	0.00	0.00	0.00
SSSX									
5,239.6	10.89	109.60	5,180.6	-211.3	593.4	204.7	0.00	0.00	0.00
5,300.0	10.89	109.60	5,240.0	-215.1	604.2	208.4	0.00	0.00	0.00
5,400.0	10.89	109.60	5,338.2	-221.4	622.0	214.5	0.00	0.00	0.00
5,500.0	10.89	109.60	5,436.4	-227.8	639.8	220.7	0.00	0.00	0.00
5,600.0	10.89	109.60	5,534.6	-234.1	657.6	226.8	0.00	0.00	0.00
5,700.0	10.89	109.60	5,632.8	-240.5	675.4	233.0	0.00	0.00	0.00
SNNN									
5,750.4	10.89	109.60	5,682.2	-243.6	684.3	236.1	0.00	0.00	0.00
5,800.0	10.89	109.60	5,730.9	-246.8	693.2	239.1	0.00	0.00	0.00
5,900.0	10.89	109.60	5,829.1	-253.1	711.0	245.3	0.00	0.00	0.00
PIRRL									
5,954.7	10.89	109.60	5,882.9	-256.6	720.7	248.6	0.00	0.00	0.00
6,000.0	10.89	109.60	5,927.3	-259.5	728.8	251.4	0.00	0.00	0.00
6,100.0	10.89	109.60	6,025.5	-265.8	746.6	257.5	0.00	0.00	0.00
6,200.0	10.89	109.60	6,123.7	-272.1	764.4	263.7	0.00	0.00	0.00
6,300.0	10.89	109.60	6,221.9	-278.5	782.2	269.8	0.00	0.00	0.00
6,400.0	10.89	109.60	6,320.1	-284.8	800.0	276.0	0.00	0.00	0.00
6,500.0	10.89	109.60	6,418.3	-291.2	817.8	282.1	0.00	0.00	0.00
6,600.0	10.89	109.60	6,516.5	-297.5	835.6	288.2	0.00	0.00	0.00
6,700.0	10.89	109.60	6,614.7	-303.8	853.4	294.4	0.00	0.00	0.00
6,800.0	10.89	109.60	6,712.9	-310.2	871.2	300.5	0.00	0.00	0.00
6,900.0	10.89	109.60	6,811.1	-316.5	889.0	306.7	0.00	0.00	0.00
7,000.0	10.89	109.60	6,909.3	-322.8	906.8	312.8	0.00	0.00	0.00
7,100.0	10.89	109.60	7,007.5	-329.2	924.6	318.9	0.00	0.00	0.00
MNCS									
7,139.8	10.89	109.60	7,046.6	-331.7	931.7	321.4	0.00	0.00	0.00
7,200.0	10.89	109.60	7,105.7	-335.5	942.4	325.1	0.00	0.00	0.00
7,300.0	10.89	109.60	7,203.9	-341.9	960.2	331.2	0.00	0.00	0.00
7,400.0	10.89	109.60	7,302.1	-348.2	978.0	337.4	0.00	0.00	0.00
NBRR									
7,436.1	10.89	109.60	7,337.6	-350.5	984.4	339.6	0.00	0.00	0.00
7,500.0	10.89	109.60	7,400.3	-354.5	995.8	343.5	0.00	0.00	0.00
Build 15° / 100'									
7,535.7	10.89	109.60	7,435.3	-356.8	1,002.1	345.7	0.00	0.00	0.00
7,550.0	11.73	119.70	7,449.4	-358.0	1,004.7	346.8	15.00	5.88	70.49
7,575.0	13.89	133.63	7,473.8	-361.3	1,009.1	350.1	15.00	8.61	55.74
7,600.0	16.61	143.50	7,497.9	-366.2	1,013.4	355.0	15.00	10.88	39.47
7,625.0	19.66	150.52	7,521.7	-372.8	1,017.6	361.5	15.00	12.22	28.09
7,650.0	22.91	155.67	7,545.0	-380.9	1,021.6	369.6	15.00	13.02	20.59
7,675.0	26.29	159.58	7,567.7	-390.5	1,025.6	379.1	15.00	13.52	15.63
7,700.0	29.76	162.64	7,589.8	-401.6	1,029.4	390.2	15.00	13.85	12.26
7,725.0	33.28	165.11	7,611.1	-414.2	1,033.0	402.7	15.00	14.08	9.89
7,750.0	36.84	167.16	7,631.5	-428.1	1,036.4	416.6	15.00	14.25	8.19

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Patriot 0880 13-32H5
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Project:	Jackson County, Colorado	MD Reference:	RKB @ 8112.1usft (Cyclone #33)
Site:	Sec 29, T8N, R80W, 6th PM	North Reference:	Grid
Well:	Patriot 0880 13-32H5	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
7,775.0	40.43	168.89	7,651.1	-443.4	1,039.6	431.9	15.00	14.36	6.93
7,800.0	44.04	170.39	7,669.6	-459.9	1,042.6	448.4	15.00	14.45	5.97
7,825.0	47.67	171.70	7,687.0	-477.6	1,045.4	466.0	15.00	14.52	5.24
7,850.0	51.32	172.86	7,703.2	-496.5	1,048.0	484.8	15.00	14.57	4.67
7,875.0	54.97	173.92	7,718.2	-516.3	1,050.3	504.7	15.00	14.62	4.21
7,900.0	58.64	174.88	7,731.9	-537.1	1,052.3	525.5	15.00	14.65	3.85
7,925.0	62.30	175.77	7,744.2	-558.8	1,054.1	547.1	15.00	14.68	3.56
7,950.0	65.98	176.60	7,755.1	-581.3	1,055.6	569.6	15.00	14.70	3.33
7,975.0	69.66	177.39	7,764.5	-604.4	1,056.8	592.7	15.00	14.71	3.15
8,000.0	73.34	178.14	7,772.5	-628.1	1,057.7	616.3	15.00	14.73	3.00
8,025.0	77.02	178.86	7,778.9	-652.2	1,058.3	640.5	15.00	14.74	2.89
8,050.0	80.71	179.56	7,783.7	-676.7	1,058.7	665.0	15.00	14.75	2.80
8,075.0	84.40	180.25	7,786.9	-701.5	1,058.7	689.8	15.00	14.75	2.74
EOB @ 86.5° Inc. / 180.63° Azm									
8,089.2	86.50	180.63	7,788.1	-715.7	1,058.6	704.0	15.00	14.75	2.71
8,100.0	86.50	180.63	7,788.7	-726.5	1,058.5	714.7	0.00	0.00	0.00
8,200.0	86.50	180.63	7,794.8	-826.3	1,057.4	814.5	0.00	0.00	0.00
8,300.0	86.50	180.63	7,800.9	-926.1	1,056.3	914.3	0.00	0.00	0.00
8,400.0	86.50	180.63	7,807.0	-1,025.9	1,055.2	1,014.2	0.00	0.00	0.00
8,500.0	86.50	180.63	7,813.1	-1,125.7	1,054.1	1,114.0	0.00	0.00	0.00
8,600.0	86.50	180.63	7,819.2	-1,225.5	1,053.0	1,213.8	0.00	0.00	0.00
8,700.0	86.50	180.63	7,825.3	-1,325.3	1,051.9	1,313.6	0.00	0.00	0.00
8,800.0	86.50	180.63	7,831.4	-1,425.1	1,050.8	1,413.4	0.00	0.00	0.00
8,900.0	86.50	180.63	7,837.6	-1,524.9	1,049.7	1,513.2	0.00	0.00	0.00
9,000.0	86.50	180.63	7,843.7	-1,624.7	1,048.6	1,613.0	0.00	0.00	0.00
9,100.0	86.50	180.63	7,849.8	-1,724.5	1,047.5	1,712.9	0.00	0.00	0.00
9,200.0	86.50	180.63	7,855.9	-1,824.3	1,046.4	1,812.7	0.00	0.00	0.00
9,300.0	86.50	180.63	7,862.0	-1,924.1	1,045.2	1,912.5	0.00	0.00	0.00
9,400.0	86.50	180.63	7,868.1	-2,024.0	1,044.1	2,012.3	0.00	0.00	0.00
9,500.0	86.50	180.63	7,874.2	-2,123.8	1,043.0	2,112.1	0.00	0.00	0.00
9,600.0	86.50	180.63	7,880.3	-2,223.6	1,041.9	2,211.9	0.00	0.00	0.00
9,700.0	86.50	180.63	7,886.4	-2,323.4	1,040.8	2,311.7	0.00	0.00	0.00
9,800.0	86.50	180.63	7,892.5	-2,423.2	1,039.7	2,411.5	0.00	0.00	0.00
9,900.0	86.50	180.63	7,898.6	-2,523.0	1,038.6	2,511.4	0.00	0.00	0.00
10,000.0	86.50	180.63	7,904.7	-2,622.8	1,037.5	2,611.2	0.00	0.00	0.00
10,100.0	86.50	180.63	7,910.8	-2,722.6	1,036.4	2,711.0	0.00	0.00	0.00
10,200.0	86.50	180.63	7,916.9	-2,822.4	1,035.3	2,810.8	0.00	0.00	0.00
10,300.0	86.50	180.63	7,923.0	-2,922.2	1,034.2	2,910.6	0.00	0.00	0.00
10,400.0	86.50	180.63	7,929.1	-3,022.0	1,033.1	3,010.4	0.00	0.00	0.00
10,500.0	86.50	180.63	7,935.2	-3,121.8	1,032.0	3,110.2	0.00	0.00	0.00
10,600.0	86.50	180.63	7,941.3	-3,221.6	1,030.9	3,210.1	0.00	0.00	0.00
10,700.0	86.50	180.63	7,947.4	-3,321.5	1,029.8	3,309.9	0.00	0.00	0.00
10,800.0	86.50	180.63	7,953.5	-3,421.3	1,028.7	3,409.7	0.00	0.00	0.00
10,900.0	86.50	180.63	7,959.7	-3,521.1	1,027.6	3,509.5	0.00	0.00	0.00
11,000.0	86.50	180.63	7,965.8	-3,620.9	1,026.5	3,609.3	0.00	0.00	0.00
11,100.0	86.50	180.63	7,971.9	-3,720.7	1,025.4	3,709.1	0.00	0.00	0.00
11,200.0	86.50	180.63	7,978.0	-3,820.5	1,024.3	3,808.9	0.00	0.00	0.00
11,300.0	86.50	180.63	7,984.1	-3,920.3	1,023.2	3,908.7	0.00	0.00	0.00
11,400.0	86.50	180.63	7,990.2	-4,020.1	1,022.1	4,008.6	0.00	0.00	0.00
11,500.0	86.50	180.63	7,996.3	-4,119.9	1,021.0	4,108.4	0.00	0.00	0.00
11,600.0	86.50	180.63	8,002.4	-4,219.7	1,019.9	4,208.2	0.00	0.00	0.00
11,700.0	86.50	180.63	8,008.5	-4,319.5	1,018.8	4,308.0	0.00	0.00	0.00
11,800.0	86.50	180.63	8,014.6	-4,419.3	1,017.7	4,407.8	0.00	0.00	0.00
11,900.0	86.50	180.63	8,020.7	-4,519.1	1,016.6	4,507.6	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Patriot 0880 13-32H5
Company:	SandRidge Energy	TVD Reference:	RKB @ 8112.1usft (Cyclone #33)
Project:	Jackson County, Colorado	MD Reference:	RKB @ 8112.1usft (Cyclone #33)
Site:	Sec 29, T8N, R80W, 6th PM	North Reference:	Grid
Well:	Patriot 0880 13-32H5	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
12,000.0	86.50	180.63	8,026.8	-4,618.9	1,015.5	4,607.4	0.00	0.00	0.00
12,100.0	86.50	180.63	8,032.9	-4,718.8	1,014.4	4,707.3	0.00	0.00	0.00
12,200.0	86.50	180.63	8,039.0	-4,818.6	1,013.3	4,807.1	0.00	0.00	0.00
12,300.0	86.50	180.63	8,045.1	-4,918.4	1,012.2	4,906.9	0.00	0.00	0.00
12,400.0	86.50	180.63	8,051.2	-5,018.2	1,011.0	5,006.7	0.00	0.00	0.00
12,500.0	86.50	180.63	8,057.3	-5,118.0	1,009.9	5,106.5	0.00	0.00	0.00
12,600.0	86.50	180.63	8,063.4	-5,217.8	1,008.8	5,206.3	0.00	0.00	0.00
12,700.0	86.50	180.63	8,069.5	-5,317.6	1,007.7	5,306.1	0.00	0.00	0.00
12,800.0	86.50	180.63	8,075.6	-5,417.4	1,006.6	5,406.0	0.00	0.00	0.00
12,900.0	86.50	180.63	8,081.7	-5,517.2	1,005.5	5,505.8	0.00	0.00	0.00
13,000.0	86.50	180.63	8,087.9	-5,617.0	1,004.4	5,605.6	0.00	0.00	0.00
13,100.0	86.50	180.63	8,094.0	-5,716.8	1,003.3	5,705.4	0.00	0.00	0.00
13,200.0	86.50	180.63	8,100.1	-5,816.6	1,002.2	5,805.2	0.00	0.00	0.00
13,300.0	86.50	180.63	8,106.2	-5,916.4	1,001.1	5,905.0	0.00	0.00	0.00
13,400.0	86.50	180.63	8,112.3	-6,016.3	1,000.0	6,004.8	0.00	0.00	0.00
13,500.0	86.50	180.63	8,118.4	-6,116.1	998.9	6,104.6	0.00	0.00	0.00
13,600.0	86.50	180.63	8,124.5	-6,215.9	997.8	6,204.5	0.00	0.00	0.00
13,700.0	86.50	180.63	8,130.6	-6,315.7	996.7	6,304.3	0.00	0.00	0.00
13,800.0	86.50	180.63	8,136.7	-6,415.5	995.6	6,404.1	0.00	0.00	0.00
13,900.0	86.50	180.63	8,142.8	-6,515.3	994.5	6,503.9	0.00	0.00	0.00
14,000.0	86.50	180.63	8,148.9	-6,615.1	993.4	6,603.7	0.00	0.00	0.00
14,100.0	86.50	180.63	8,155.0	-6,714.9	992.3	6,703.5	0.00	0.00	0.00
14,200.0	86.50	180.63	8,161.1	-6,814.7	991.2	6,803.3	0.00	0.00	0.00
14,300.0	86.50	180.63	8,167.2	-6,914.5	990.1	6,903.2	0.00	0.00	0.00
14,400.0	86.50	180.63	8,173.3	-7,014.3	989.0	7,003.0	0.00	0.00	0.00
14,500.0	86.50	180.63	8,179.4	-7,114.1	987.9	7,102.8	0.00	0.00	0.00
14,600.0	86.50	180.63	8,185.5	-7,213.9	986.8	7,202.6	0.00	0.00	0.00
14,700.0	86.50	180.63	8,191.6	-7,313.7	985.7	7,302.4	0.00	0.00	0.00
14,800.0	86.50	180.63	8,197.7	-7,413.6	984.6	7,402.2	0.00	0.00	0.00
14,900.0	86.50	180.63	8,203.8	-7,513.4	983.5	7,502.0	0.00	0.00	0.00
15,000.0	86.50	180.63	8,209.9	-7,613.2	982.4	7,601.8	0.00	0.00	0.00
15,100.0	86.50	180.63	8,216.1	-7,713.0	981.3	7,701.7	0.00	0.00	0.00
15,200.0	86.50	180.63	8,222.2	-7,812.8	980.2	7,801.5	0.00	0.00	0.00
15,300.0	86.50	180.63	8,228.3	-7,912.6	979.1	7,901.3	0.00	0.00	0.00
15,400.0	86.50	180.63	8,234.4	-8,012.4	978.0	8,001.1	0.00	0.00	0.00
15,500.0	86.50	180.63	8,240.5	-8,112.2	976.8	8,100.9	0.00	0.00	0.00
15,600.0	86.50	180.63	8,246.6	-8,212.0	975.7	8,200.7	0.00	0.00	0.00
15,700.0	86.50	180.63	8,252.7	-8,311.8	974.6	8,300.5	0.00	0.00	0.00
15,800.0	86.50	180.63	8,258.8	-8,411.6	973.5	8,400.4	0.00	0.00	0.00
15,900.0	86.50	180.63	8,264.9	-8,511.4	972.4	8,500.2	0.00	0.00	0.00
16,000.0	86.50	180.63	8,271.0	-8,611.2	971.3	8,600.0	0.00	0.00	0.00
16,100.0	86.50	180.63	8,277.1	-8,711.1	970.2	8,699.8	0.00	0.00	0.00
16,200.0	86.50	180.63	8,283.2	-8,810.9	969.1	8,799.6	0.00	0.00	0.00
16,300.0	86.50	180.63	8,289.3	-8,910.7	968.0	8,899.4	0.00	0.00	0.00
16,400.0	86.50	180.63	8,295.4	-9,010.5	966.9	8,999.2	0.00	0.00	0.00
16,500.0	86.50	180.63	8,301.5	-9,110.3	965.8	9,099.0	0.00	0.00	0.00
16,600.0	86.50	180.63	8,307.6	-9,210.1	964.7	9,198.9	0.00	0.00	0.00
16,700.0	86.50	180.63	8,313.7	-9,309.9	963.6	9,298.7	0.00	0.00	0.00
16,800.0	86.50	180.63	8,319.8	-9,409.7	962.5	9,398.5	0.00	0.00	0.00
16,900.0	86.50	180.63	8,325.9	-9,509.5	961.4	9,498.3	0.00	0.00	0.00
17,000.0	86.50	180.63	8,332.0	-9,609.3	960.3	9,598.1	0.00	0.00	0.00
17,100.0	86.50	180.63	8,338.2	-9,709.1	959.2	9,697.9	0.00	0.00	0.00
17,200.0	86.50	180.63	8,344.3	-9,808.9	958.1	9,797.7	0.00	0.00	0.00
17,300.0	86.50	180.63	8,350.4	-9,908.7	957.0	9,897.6	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Patriot 0880 13-32H5
Company:	SandRidge Energy	TVD Reference:	RKB @ 8112.1usft (Cyclone #33)
Project:	Jackson County, Colorado	MD Reference:	RKB @ 8112.1usft (Cyclone #33)
Site:	Sec 29, T8N, R80W, 6th PM	North Reference:	Grid
Well:	Patriot 0880 13-32H5	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
17,400.0	86.50	180.63	8,356.5	-10,008.5	955.9	9,997.4	0.00	0.00	0.00
17,500.0	86.50	180.63	8,362.6	-10,108.4	954.8	10,097.2	0.00	0.00	0.00
17,600.0	86.50	180.63	8,368.7	-10,208.2	953.7	10,197.0	0.00	0.00	0.00
17,700.0	86.50	180.63	8,374.8	-10,308.0	952.6	10,296.8	0.00	0.00	0.00
17,800.0	86.50	180.63	8,380.9	-10,407.8	951.5	10,396.6	0.00	0.00	0.00
17,900.0	86.50	180.63	8,387.0	-10,507.6	950.4	10,496.4	0.00	0.00	0.00
18,000.0	86.50	180.63	8,393.1	-10,607.4	949.3	10,596.3	0.00	0.00	0.00
18,100.0	86.50	180.63	8,399.2	-10,707.2	948.2	10,696.1	0.00	0.00	0.00
18,200.0	86.50	180.63	8,405.3	-10,807.0	947.1	10,795.9	0.00	0.00	0.00
TD @ 18272.6' MD / 8409.7' TVD									
18,272.6	86.50	180.63	8,409.7	-10,879.5	946.3	10,868.4	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL - Patriot 0880 1	0.00	0.00	8,409.7	-10,879.5	946.3	1,462,685.12	2,752,459.62	40° 36' 0.191 N	106° 23' 29.209 W
- plan hits target center									
- Point									

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,441.4	3,414.9	LNCE		3.50	183.63
4,279.2	4,237.5	FXHLS		3.50	183.63
4,493.7	4,448.2	PIRR		3.50	183.63
5,239.6	5,180.6	SSSX		3.50	183.63
5,750.4	5,682.2	SNNN		3.50	183.63
5,954.7	5,882.9	PIRRL		3.50	183.63
7,139.8	7,046.6	MNCS		3.50	183.63
7,436.1	7,337.6	NBRR		3.50	183.63

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,725.0	1,725.0	0.0	0.0	KOP (Build 3° / 100')
2,088.1	2,085.9	-11.5	32.4	EOB @ 10.89° Inc. / 109.60° Azm
7,535.7	7,435.3	-356.8	1,002.1	Build 15° / 100'
8,089.2	7,788.1	-715.7	1,058.6	EOB @ 86.5° Inc. / 180.63° Azm
18,272.6	8,409.7	-10,879.5	946.3	TD @ 18272.6' MD / 8409.7' TVD