

SandRidge Energy  
 Jackson County, Colorado  
 Sec 29, T8N, R80W, 6th PM  
 Patriot 0880 14-32H5  
 Design #1  
 Cyclone #33

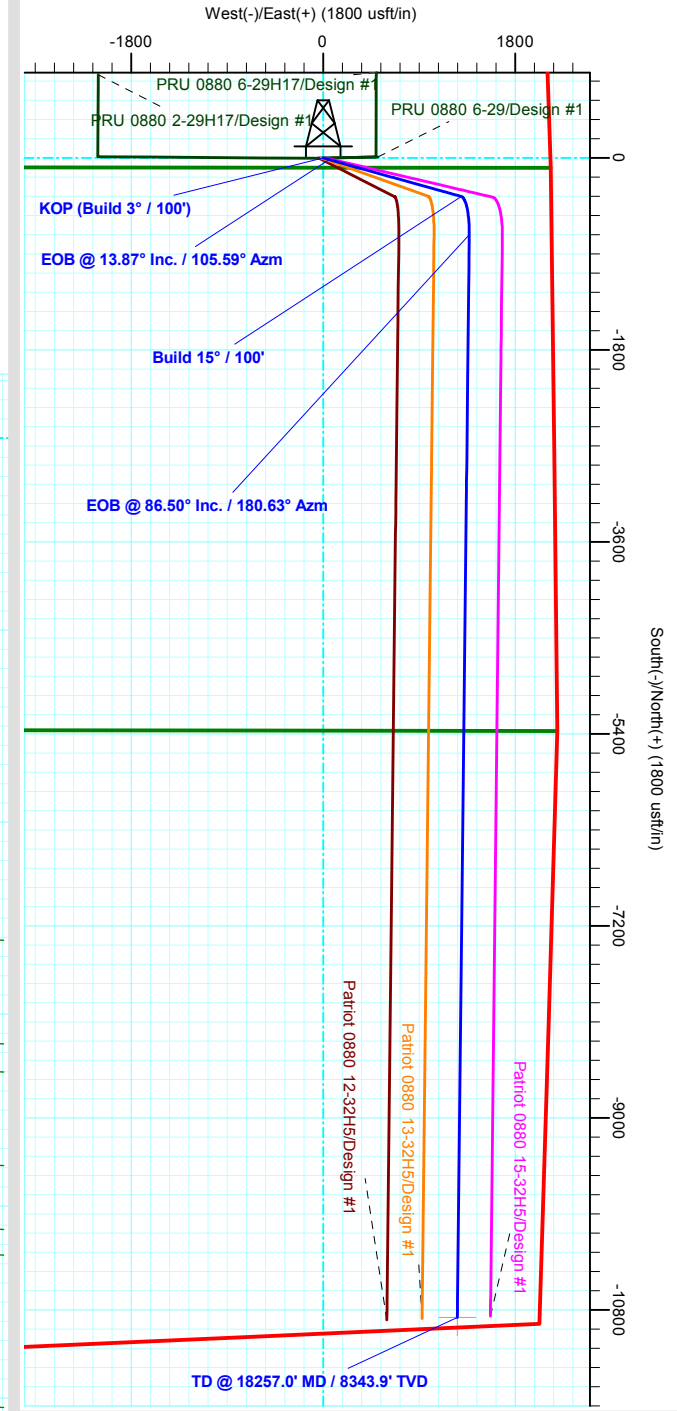
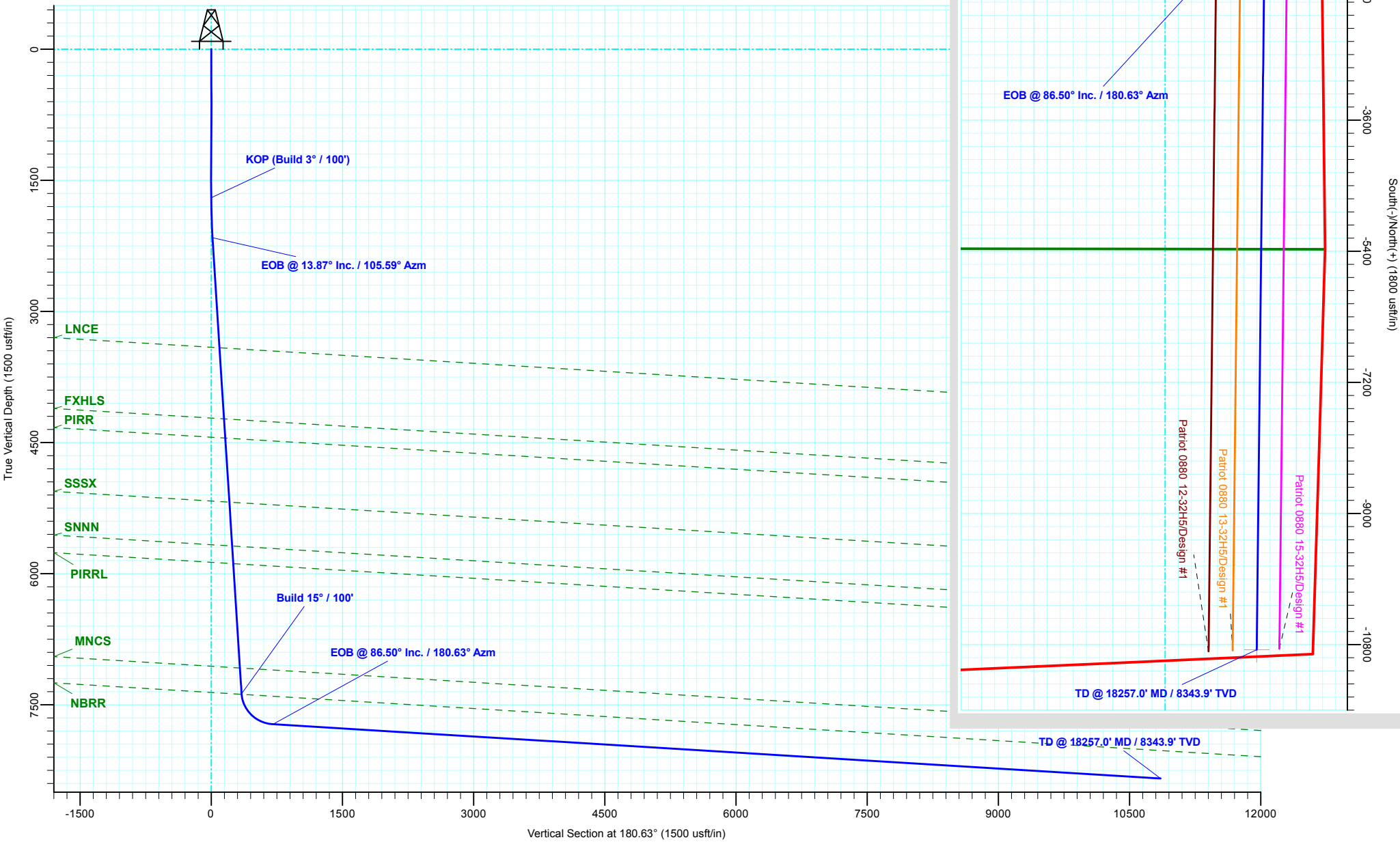


ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
1700.0	0.00	0.00	1700.0	0.0	0.0	0.0	0.0	KOP (Build 3° / 100')
2162.3	13.87	105.59	2157.8	-15.0	53.6	14.4	55.7	EOB @ 13.87° Inc. / 105.59° Azm
7535.3	13.87	105.59	7374.1	-361.0	1294.3	346.8	1343.7	Build 15° / 100'
8088.9	86.50	180.63	7723.1	-720.4	1368.6	705.3	1721.1	EOB @ 86.50° Inc. / 180.63° Azm
18257.0	86.50	180.63	8343.9	-10868.9	1256.9	10854.4	11870.3	TD @ 18257.0' MD / 8343.9' TVD

WELL DETAILS: Patriot 0880 14-32H5

+N/-S	+E/-W	Northing	Easting	8086.1	Latitude	Longitude
0.0	0.0	1473565.55	2751533.33		40° 37' 47.609 N	106° 23' 42.641 W





# **SandRidge Energy**

**Jackson County, Colorado  
Sec 29, T8N, R80W, 6th PM  
Patriot 0880 14-32H5**

**Wellbore #1**

**Plan: Design #1**

## **QES Well Planning Report**

**19 October, 2018**



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Patriot 0880 14-32H5
<b>Company:</b>	SandRidge Energy	<b>TVD Reference:</b>	RKB @ 8112.1usft (Cyclone #33)
<b>Project:</b>	Jackson County, Colorado	<b>MD Reference:</b>	RKB @ 8112.1usft (Cyclone #33)
<b>Site:</b>	Sec 29, T8N, R80W, 6th PM	<b>North Reference:</b>	Grid
<b>Well:</b>	Patriot 0880 14-32H5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

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

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

<b>Well</b>	Patriot 0880 14-32H5					
<b>Well Position</b>	<b>+N/-S</b>	2.7 usft	<b>Northing:</b>	1,473,565.55 usft	<b>Latitude:</b>	40° 37' 47.609 N
	<b>+E/-W</b>	59.9 usft	<b>Easting:</b>	2,751,533.33 usft	<b>Longitude:</b>	106° 23' 42.641 W
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	8,086.1 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	10/19/2018	8.93	66.74	52,153.89456741

<b>Design</b>	Design #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	180.63

<b>Plan Sections</b>										
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	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,162.3	13.87	105.59	2,157.8	-15.0	53.6	3.00	3.00	0.00	105.59	
7,535.3	13.87	105.59	7,374.1	-361.0	1,294.3	0.00	0.00	0.00	0.00	
8,088.9	86.50	180.63	7,723.1	-720.4	1,368.6	15.00	13.12	13.55	76.28	
18,257.0	86.50	180.63	8,343.9	-10,868.9	1,256.9	0.00	0.00	0.00	0.00	PBHL - Patriot 0880

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<b>Project:</b>	Jackson County, Colorado	<b>MD Reference:</b>	RKB @ 8112.1usft (Cyclone #33)
<b>Site:</b>	Sec 29, T8N, R80W, 6th PM	<b>North Reference:</b>	Grid
<b>Well:</b>	Patriot 0880 14-32H5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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
<b>KOP (Build 3° / 100°)</b>									
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	3.00	105.59	1,800.0	-0.7	2.5	0.7	3.00	3.00	0.00
1,900.0	6.00	105.59	1,899.6	-2.8	10.1	2.7	3.00	3.00	0.00
2,000.0	9.00	105.59	1,998.8	-6.3	22.6	6.1	3.00	3.00	0.00
2,100.0	12.00	105.59	2,097.1	-11.2	40.2	10.8	3.00	3.00	0.00
<b>EOB @ 13.87° Inc. / 105.59° Azm</b>									
2,162.3	13.87	105.59	2,157.8	-15.0	53.6	14.4	3.00	3.00	0.00
2,200.0	13.87	105.59	2,194.4	-17.4	62.3	16.7	0.00	0.00	0.00
2,300.0	13.87	105.59	2,291.5	-23.8	85.4	22.9	0.00	0.00	0.00
2,400.0	13.87	105.59	2,388.6	-30.3	108.5	29.1	0.00	0.00	0.00
2,500.0	13.87	105.59	2,485.7	-36.7	131.6	35.3	0.00	0.00	0.00
2,600.0	13.87	105.59	2,582.7	-43.1	154.7	41.4	0.00	0.00	0.00
2,700.0	13.87	105.59	2,679.8	-49.6	177.8	47.6	0.00	0.00	0.00
2,800.0	13.87	105.59	2,776.9	-56.0	200.9	53.8	0.00	0.00	0.00
2,900.0	13.87	105.59	2,874.0	-62.5	224.0	60.0	0.00	0.00	0.00
3,000.0	13.87	105.59	2,971.1	-68.9	247.1	66.2	0.00	0.00	0.00
3,100.0	13.87	105.59	3,068.2	-75.4	270.1	72.4	0.00	0.00	0.00
3,200.0	13.87	105.59	3,165.2	-81.8	293.2	78.6	0.00	0.00	0.00
3,300.0	13.87	105.59	3,262.3	-88.2	316.3	84.7	0.00	0.00	0.00
3,400.0	13.87	105.59	3,359.4	-94.7	339.4	90.9	0.00	0.00	0.00
<b>LNCE</b>									
3,458.1	13.87	105.59	3,415.8	-98.4	352.8	94.5	0.00	0.00	0.00
3,500.0	13.87	105.59	3,456.5	-101.1	362.5	97.1	0.00	0.00	0.00
3,600.0	13.87	105.59	3,553.6	-107.6	385.6	103.3	0.00	0.00	0.00
3,700.0	13.87	105.59	3,650.7	-114.0	408.7	109.5	0.00	0.00	0.00
3,800.0	13.87	105.59	3,747.7	-120.4	431.8	115.7	0.00	0.00	0.00
3,900.0	13.87	105.59	3,844.8	-126.9	454.9	121.9	0.00	0.00	0.00
4,000.0	13.87	105.59	3,941.9	-133.3	478.0	128.1	0.00	0.00	0.00
4,100.0	13.87	105.59	4,039.0	-139.8	501.0	134.2	0.00	0.00	0.00
4,200.0	13.87	105.59	4,136.1	-146.2	524.1	140.4	0.00	0.00	0.00
<b>FXHLS</b>									
4,295.7	13.87	105.59	4,229.0	-152.4	546.2	146.3	0.00	0.00	0.00
4,300.0	13.87	105.59	4,233.2	-152.6	547.2	146.6	0.00	0.00	0.00
4,400.0	13.87	105.59	4,330.3	-159.1	570.3	152.8	0.00	0.00	0.00
4,500.0	13.87	105.59	4,427.3	-165.5	593.4	159.0	0.00	0.00	0.00
<b>PIRR</b>									

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<b>Project:</b>	Jackson County, Colorado	<b>MD Reference:</b>	RKB @ 8112.1usft (Cyclone #33)
<b>Site:</b>	Sec 29, T8N, R80W, 6th PM	<b>North Reference:</b>	Grid
<b>Well:</b>	Patriot 0880 14-32H5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)
4,523.1	13.87	105.59	4,449.8	-167.0	598.8	160.4	0.00	0.00	0.00
4,600.0	13.87	105.59	4,524.4	-172.0	616.5	165.2	0.00	0.00	0.00
4,700.0	13.87	105.59	4,621.5	-178.4	639.6	171.4	0.00	0.00	0.00
4,800.0	13.87	105.59	4,718.6	-184.8	662.7	177.5	0.00	0.00	0.00
4,900.0	13.87	105.59	4,815.7	-191.3	685.8	183.7	0.00	0.00	0.00
5,000.0	13.87	105.59	4,912.8	-197.7	708.9	189.9	0.00	0.00	0.00
5,100.0	13.87	105.59	5,009.8	-204.2	732.0	196.1	0.00	0.00	0.00
5,200.0	13.87	105.59	5,106.9	-210.6	755.0	202.3	0.00	0.00	0.00
<b>SSSX</b>									
5,278.0	13.87	105.59	5,182.7	-215.6	773.1	207.1	0.00	0.00	0.00
5,300.0	13.87	105.59	5,204.0	-217.0	778.1	208.5	0.00	0.00	0.00
5,400.0	13.87	105.59	5,301.1	-223.5	801.2	214.7	0.00	0.00	0.00
5,500.0	13.87	105.59	5,398.2	-229.9	824.3	220.8	0.00	0.00	0.00
5,600.0	13.87	105.59	5,495.3	-236.4	847.4	227.0	0.00	0.00	0.00
5,700.0	13.87	105.59	5,592.4	-242.8	870.5	233.2	0.00	0.00	0.00
<b>SNNN</b>									
5,795.0	13.87	105.59	5,684.6	-248.9	892.4	239.1	0.00	0.00	0.00
5,800.0	13.87	105.59	5,689.4	-249.2	893.6	239.4	0.00	0.00	0.00
5,900.0	13.87	105.59	5,786.5	-255.7	916.7	245.6	0.00	0.00	0.00
6,000.0	13.87	105.59	5,883.6	-262.1	939.8	251.8	0.00	0.00	0.00
<b>PIRRL</b>									
6,001.9	13.87	105.59	5,885.4	-262.2	940.2	251.9	0.00	0.00	0.00
6,100.0	13.87	105.59	5,980.7	-268.6	962.9	258.0	0.00	0.00	0.00
6,200.0	13.87	105.59	6,077.8	-275.0	985.9	264.1	0.00	0.00	0.00
6,300.0	13.87	105.59	6,174.9	-281.4	1,009.0	270.3	0.00	0.00	0.00
6,400.0	13.87	105.59	6,271.9	-287.9	1,032.1	276.5	0.00	0.00	0.00
6,500.0	13.87	105.59	6,369.0	-294.3	1,055.2	282.7	0.00	0.00	0.00
6,600.0	13.87	105.59	6,466.1	-300.8	1,078.3	288.9	0.00	0.00	0.00
6,700.0	13.87	105.59	6,563.2	-307.2	1,101.4	295.1	0.00	0.00	0.00
6,800.0	13.87	105.59	6,660.3	-313.6	1,124.5	301.3	0.00	0.00	0.00
6,900.0	13.87	105.59	6,757.4	-320.1	1,147.6	307.5	0.00	0.00	0.00
7,000.0	13.87	105.59	6,854.4	-326.5	1,170.7	313.6	0.00	0.00	0.00
7,100.0	13.87	105.59	6,951.5	-333.0	1,193.8	319.8	0.00	0.00	0.00
7,200.0	13.87	105.59	7,048.6	-339.4	1,216.8	326.0	0.00	0.00	0.00
<b>MNCS</b>									
7,232.4	13.87	105.59	7,080.1	-341.5	1,224.3	328.0	0.00	0.00	0.00
7,300.0	13.87	105.59	7,145.7	-345.9	1,239.9	332.2	0.00	0.00	0.00
7,400.0	13.87	105.59	7,242.8	-352.3	1,263.0	338.4	0.00	0.00	0.00
7,500.0	13.87	105.59	7,339.9	-358.7	1,286.1	344.6	0.00	0.00	0.00
<b>Build 15° / 100'</b>									
7,535.3	13.87	105.59	7,374.1	-361.0	1,294.3	346.8	0.00	0.00	0.00
<b>NBRR</b>									
7,542.6	14.17	109.96	7,381.2	-361.5	1,296.0	347.3	15.00	4.10	59.58
7,550.0	14.55	114.16	7,388.4	-362.2	1,297.6	347.9	15.00	5.13	56.85
7,575.0	16.32	126.61	7,412.5	-365.6	1,303.3	351.3	15.00	7.09	49.83
7,600.0	18.67	136.36	7,436.3	-370.6	1,308.9	356.2	15.00	9.41	38.98
7,625.0	21.42	143.84	7,459.8	-377.2	1,314.4	362.7	15.00	10.97	29.94
7,650.0	24.42	149.64	7,482.9	-385.3	1,319.7	370.8	15.00	12.00	23.16
7,675.0	27.59	154.20	7,505.3	-395.0	1,324.8	380.4	15.00	12.70	18.25
7,700.0	30.89	157.87	7,527.1	-406.2	1,329.8	391.5	15.00	13.18	14.69
7,725.0	34.27	160.89	7,548.2	-418.8	1,334.5	404.1	15.00	13.52	12.08
7,750.0	37.71	163.43	7,568.4	-432.8	1,339.0	418.0	15.00	13.77	10.14
7,775.0	41.20	165.59	7,587.7	-448.1	1,343.2	433.3	15.00	13.95	8.67

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<b>Site:</b>	Sec 29, T8N, R80W, 6th PM	<b>North Reference:</b>	Grid
<b>Well:</b>	Patriot 0880 14-32H5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)
7,800.0	44.72	167.48	7,606.0	-464.6	1,347.2	449.8	15.00	14.10	7.53
7,825.0	48.27	169.14	7,623.2	-482.4	1,350.8	467.5	15.00	14.20	6.65
7,850.0	51.84	170.63	7,639.3	-501.3	1,354.2	486.3	15.00	14.29	5.95
7,875.0	55.43	171.97	7,654.1	-521.1	1,357.2	506.2	15.00	14.36	5.39
7,900.0	59.04	173.21	7,667.6	-542.0	1,359.9	527.0	15.00	14.41	4.94
7,925.0	62.65	174.36	7,679.8	-563.7	1,362.3	548.7	15.00	14.46	4.58
7,950.0	66.27	175.43	7,690.6	-586.2	1,364.3	571.1	15.00	14.49	4.29
7,975.0	69.90	176.44	7,699.9	-609.3	1,365.9	594.2	15.00	14.52	4.06
8,000.0	73.54	177.41	7,707.8	-633.0	1,367.2	617.9	15.00	14.54	3.88
8,025.0	77.18	178.35	7,714.1	-657.2	1,368.1	642.1	15.00	14.56	3.73
8,050.0	80.82	179.25	7,718.8	-681.7	1,368.6	666.6	15.00	14.57	3.63
8,075.0	84.47	180.14	7,722.0	-706.5	1,368.7	691.4	15.00	14.58	3.55
<b>EOB @ 86.50° Inc. / 180.63° Azm</b>									
8,088.9	86.50	180.63	7,723.1	-720.4	1,368.6	705.3	15.00	14.58	3.52
8,100.0	86.50	180.63	7,723.8	-731.4	1,368.5	716.3	0.00	0.00	0.00
8,200.0	86.50	180.63	7,729.9	-831.2	1,367.4	816.1	0.00	0.00	0.00
8,300.0	86.50	180.63	7,736.0	-931.0	1,366.3	915.9	0.00	0.00	0.00
8,400.0	86.50	180.63	7,742.1	-1,030.8	1,365.2	1,015.8	0.00	0.00	0.00
8,500.0	86.50	180.63	7,748.2	-1,130.6	1,364.1	1,115.6	0.00	0.00	0.00
8,600.0	86.50	180.63	7,754.3	-1,230.4	1,363.0	1,215.4	0.00	0.00	0.00
8,700.0	86.50	180.63	7,760.4	-1,330.3	1,361.9	1,315.2	0.00	0.00	0.00
8,800.0	86.50	180.63	7,766.5	-1,430.1	1,360.8	1,415.0	0.00	0.00	0.00
8,900.0	86.50	180.63	7,772.6	-1,529.9	1,359.7	1,514.8	0.00	0.00	0.00
9,000.0	86.50	180.63	7,778.8	-1,629.7	1,358.6	1,614.6	0.00	0.00	0.00
9,100.0	86.50	180.63	7,784.9	-1,729.5	1,357.5	1,714.5	0.00	0.00	0.00
9,200.0	86.50	180.63	7,791.0	-1,829.3	1,356.4	1,814.3	0.00	0.00	0.00
9,300.0	86.50	180.63	7,797.1	-1,929.1	1,355.3	1,914.1	0.00	0.00	0.00
9,400.0	86.50	180.63	7,803.2	-2,028.9	1,354.2	2,013.9	0.00	0.00	0.00
9,500.0	86.50	180.63	7,809.3	-2,128.7	1,353.1	2,113.7	0.00	0.00	0.00
9,600.0	86.50	180.63	7,815.4	-2,228.5	1,352.0	2,213.5	0.00	0.00	0.00
9,700.0	86.50	180.63	7,821.5	-2,328.3	1,350.9	2,313.3	0.00	0.00	0.00
9,800.0	86.50	180.63	7,827.6	-2,428.1	1,349.8	2,413.1	0.00	0.00	0.00
9,900.0	86.50	180.63	7,833.7	-2,527.9	1,348.7	2,513.0	0.00	0.00	0.00
10,000.0	86.50	180.63	7,839.8	-2,627.8	1,347.6	2,612.8	0.00	0.00	0.00
10,100.0	86.50	180.63	7,845.9	-2,727.6	1,346.5	2,712.6	0.00	0.00	0.00
10,200.0	86.50	180.63	7,852.0	-2,827.4	1,345.4	2,812.4	0.00	0.00	0.00
10,300.0	86.50	180.63	7,858.1	-2,927.2	1,344.3	2,912.2	0.00	0.00	0.00
10,400.0	86.50	180.63	7,864.2	-3,027.0	1,343.2	3,012.0	0.00	0.00	0.00
10,500.0	86.50	180.63	7,870.3	-3,126.8	1,342.1	3,111.8	0.00	0.00	0.00
10,600.0	86.50	180.63	7,876.4	-3,226.6	1,341.0	3,211.7	0.00	0.00	0.00
10,700.0	86.50	180.63	7,882.5	-3,326.4	1,339.9	3,311.5	0.00	0.00	0.00
10,800.0	86.50	180.63	7,888.6	-3,426.2	1,338.8	3,411.3	0.00	0.00	0.00
10,900.0	86.50	180.63	7,894.7	-3,526.0	1,337.7	3,511.1	0.00	0.00	0.00
11,000.0	86.50	180.63	7,900.9	-3,625.8	1,336.7	3,610.9	0.00	0.00	0.00
11,100.0	86.50	180.63	7,907.0	-3,725.6	1,335.6	3,710.7	0.00	0.00	0.00
11,200.0	86.50	180.63	7,913.1	-3,825.4	1,334.5	3,810.5	0.00	0.00	0.00
11,300.0	86.50	180.63	7,919.2	-3,925.2	1,333.4	3,910.4	0.00	0.00	0.00
11,400.0	86.50	180.63	7,925.3	-4,025.1	1,332.3	4,010.2	0.00	0.00	0.00
11,500.0	86.50	180.63	7,931.4	-4,124.9	1,331.2	4,110.0	0.00	0.00	0.00
11,600.0	86.50	180.63	7,937.5	-4,224.7	1,330.1	4,209.8	0.00	0.00	0.00
11,700.0	86.50	180.63	7,943.6	-4,324.5	1,329.0	4,309.6	0.00	0.00	0.00
11,800.0	86.50	180.63	7,949.7	-4,424.3	1,327.9	4,409.4	0.00	0.00	0.00
11,900.0	86.50	180.63	7,955.8	-4,524.1	1,326.8	4,509.2	0.00	0.00	0.00
12,000.0	86.50	180.63	7,961.9	-4,623.9	1,325.7	4,609.0	0.00	0.00	0.00

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Patriot 0880 14-32H5
<b>Company:</b>	SandRidge Energy	<b>TVD Reference:</b>	RKB @ 8112.1usft (Cyclone #33)
<b>Project:</b>	Jackson County, Colorado	<b>MD Reference:</b>	RKB @ 8112.1usft (Cyclone #33)
<b>Site:</b>	Sec 29, T8N, R80W, 6th PM	<b>North Reference:</b>	Grid
<b>Well:</b>	Patriot 0880 14-32H5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)
12,100.0	86.50	180.63	7,968.0	-4,723.7	1,324.6	4,708.9	0.00	0.00	0.00
12,200.0	86.50	180.63	7,974.1	-4,823.5	1,323.5	4,808.7	0.00	0.00	0.00
12,300.0	86.50	180.63	7,980.2	-4,923.3	1,322.4	4,908.5	0.00	0.00	0.00
12,400.0	86.50	180.63	7,986.3	-5,023.1	1,321.3	5,008.3	0.00	0.00	0.00
12,500.0	86.50	180.63	7,992.4	-5,122.9	1,320.2	5,108.1	0.00	0.00	0.00
12,600.0	86.50	180.63	7,998.5	-5,222.7	1,319.1	5,207.9	0.00	0.00	0.00
12,700.0	86.50	180.63	8,004.6	-5,322.6	1,318.0	5,307.7	0.00	0.00	0.00
12,800.0	86.50	180.63	8,010.7	-5,422.4	1,316.9	5,407.6	0.00	0.00	0.00
12,900.0	86.50	180.63	8,016.8	-5,522.2	1,315.8	5,507.4	0.00	0.00	0.00
13,000.0	86.50	180.63	8,022.9	-5,622.0	1,314.7	5,607.2	0.00	0.00	0.00
13,100.0	86.50	180.63	8,029.1	-5,721.8	1,313.6	5,707.0	0.00	0.00	0.00
13,200.0	86.50	180.63	8,035.2	-5,821.6	1,312.5	5,806.8	0.00	0.00	0.00
13,300.0	86.50	180.63	8,041.3	-5,921.4	1,311.4	5,906.6	0.00	0.00	0.00
13,400.0	86.50	180.63	8,047.4	-6,021.2	1,310.3	6,006.4	0.00	0.00	0.00
13,500.0	86.50	180.63	8,053.5	-6,121.0	1,309.2	6,106.2	0.00	0.00	0.00
13,600.0	86.50	180.63	8,059.6	-6,220.8	1,308.1	6,206.1	0.00	0.00	0.00
13,700.0	86.50	180.63	8,065.7	-6,320.6	1,307.0	6,305.9	0.00	0.00	0.00
13,800.0	86.50	180.63	8,071.8	-6,420.4	1,305.9	6,405.7	0.00	0.00	0.00
13,900.0	86.50	180.63	8,077.9	-6,520.2	1,304.8	6,505.5	0.00	0.00	0.00
14,000.0	86.50	180.63	8,084.0	-6,620.0	1,303.7	6,605.3	0.00	0.00	0.00
14,100.0	86.50	180.63	8,090.1	-6,719.9	1,302.6	6,705.1	0.00	0.00	0.00
14,200.0	86.50	180.63	8,096.2	-6,819.7	1,301.5	6,804.9	0.00	0.00	0.00
14,300.0	86.50	180.63	8,102.3	-6,919.5	1,300.4	6,904.8	0.00	0.00	0.00
14,400.0	86.50	180.63	8,108.4	-7,019.3	1,299.3	7,004.6	0.00	0.00	0.00
14,500.0	86.50	180.63	8,114.5	-7,119.1	1,298.2	7,104.4	0.00	0.00	0.00
14,600.0	86.50	180.63	8,120.6	-7,218.9	1,297.1	7,204.2	0.00	0.00	0.00
14,700.0	86.50	180.63	8,126.7	-7,318.7	1,296.0	7,304.0	0.00	0.00	0.00
14,800.0	86.50	180.63	8,132.8	-7,418.5	1,294.9	7,403.8	0.00	0.00	0.00
14,900.0	86.50	180.63	8,138.9	-7,518.3	1,293.8	7,503.6	0.00	0.00	0.00
15,000.0	86.50	180.63	8,145.0	-7,618.1	1,292.7	7,603.5	0.00	0.00	0.00
15,100.0	86.50	180.63	8,151.2	-7,717.9	1,291.6	7,703.3	0.00	0.00	0.00
15,200.0	86.50	180.63	8,157.3	-7,817.7	1,290.5	7,803.1	0.00	0.00	0.00
15,300.0	86.50	180.63	8,163.4	-7,917.5	1,289.4	7,902.9	0.00	0.00	0.00
15,400.0	86.50	180.63	8,169.5	-8,017.4	1,288.3	8,002.7	0.00	0.00	0.00
15,500.0	86.50	180.63	8,175.6	-8,117.2	1,287.2	8,102.5	0.00	0.00	0.00
15,600.0	86.50	180.63	8,181.7	-8,217.0	1,286.1	8,202.3	0.00	0.00	0.00
15,700.0	86.50	180.63	8,187.8	-8,316.8	1,285.0	8,302.1	0.00	0.00	0.00
15,800.0	86.50	180.63	8,193.9	-8,416.6	1,283.9	8,402.0	0.00	0.00	0.00
15,900.0	86.50	180.63	8,200.0	-8,516.4	1,282.8	8,501.8	0.00	0.00	0.00
16,000.0	86.50	180.63	8,206.1	-8,616.2	1,281.7	8,601.6	0.00	0.00	0.00
16,100.0	86.50	180.63	8,212.2	-8,716.0	1,280.6	8,701.4	0.00	0.00	0.00
16,200.0	86.50	180.63	8,218.3	-8,815.8	1,279.5	8,801.2	0.00	0.00	0.00
16,300.0	86.50	180.63	8,224.4	-8,915.6	1,278.4	8,901.0	0.00	0.00	0.00
16,400.0	86.50	180.63	8,230.5	-9,015.4	1,277.3	9,000.8	0.00	0.00	0.00
16,500.0	86.50	180.63	8,236.6	-9,115.2	1,276.2	9,100.7	0.00	0.00	0.00
16,600.0	86.50	180.63	8,242.7	-9,215.0	1,275.1	9,200.5	0.00	0.00	0.00
16,700.0	86.50	180.63	8,248.8	-9,314.9	1,274.0	9,300.3	0.00	0.00	0.00
16,800.0	86.50	180.63	8,254.9	-9,414.7	1,272.9	9,400.1	0.00	0.00	0.00
16,900.0	86.50	180.63	8,261.0	-9,514.5	1,271.8	9,499.9	0.00	0.00	0.00
17,000.0	86.50	180.63	8,267.1	-9,614.3	1,270.7	9,599.7	0.00	0.00	0.00
17,100.0	86.50	180.63	8,273.2	-9,714.1	1,269.6	9,699.5	0.00	0.00	0.00
17,200.0	86.50	180.63	8,279.4	-9,813.9	1,268.5	9,799.3	0.00	0.00	0.00
17,300.0	86.50	180.63	8,285.5	-9,913.7	1,267.4	9,899.2	0.00	0.00	0.00
17,400.0	86.50	180.63	8,291.6	-10,013.5	1,266.3	9,999.0	0.00	0.00	0.00

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Patriot 0880 14-32H5
<b>Company:</b>	SandRidge Energy	<b>TVD Reference:</b>	RKB @ 8112.1usft (Cyclone #33)
<b>Project:</b>	Jackson County, Colorado	<b>MD Reference:</b>	RKB @ 8112.1usft (Cyclone #33)
<b>Site:</b>	Sec 29, T8N, R80W, 6th PM	<b>North Reference:</b>	Grid
<b>Well:</b>	Patriot 0880 14-32H5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)	
17,500.0	86.50	180.63	8,297.7	-10,113.3	1,265.2	10,098.8	0.00	0.00	0.00	
17,600.0	86.50	180.63	8,303.8	-10,213.1	1,264.1	10,198.6	0.00	0.00	0.00	
17,700.0	86.50	180.63	8,309.9	-10,312.9	1,263.0	10,298.4	0.00	0.00	0.00	
17,800.0	86.50	180.63	8,316.0	-10,412.7	1,261.9	10,398.2	0.00	0.00	0.00	
17,900.0	86.50	180.63	8,322.1	-10,512.5	1,260.8	10,498.0	0.00	0.00	0.00	
18,000.0	86.50	180.63	8,328.2	-10,612.3	1,259.7	10,597.9	0.00	0.00	0.00	
18,100.0	86.50	180.63	8,334.3	-10,712.2	1,258.6	10,697.7	0.00	0.00	0.00	
18,200.0	86.50	180.63	8,340.4	-10,812.0	1,257.5	10,797.5	0.00	0.00	0.00	
<b>TD @ 18257.0' MD / 8343.9' TVD</b>										
18,257.0	86.50	180.63	8,343.9	-10,868.9	1,256.9	10,854.4	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	
PBHL - Patriot 0880 1 - hit/miss target - Shape - Point	0.00	360.00	8,343.9	-10,868.9	1,256.9	1,462,696.66	2,752,790.23	40° 36' 0.338 N	106° 23' 24.925 W	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,458.1	3,415.8	LNCE		3.50	180.63	
4,295.7	4,229.0	FXHLS		3.50	180.63	
4,523.1	4,449.8	PIRR		3.50	180.63	
5,278.0	5,182.7	SSSX		3.50	180.63	
5,795.0	5,684.6	SNNN		3.50	180.63	
6,001.9	5,885.4	PIRRL		3.50	180.63	
7,232.4	7,080.1	MNCS		3.50	180.63	
7,542.6	7,381.2	NBRR		3.50	180.63	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment	
1,700.0	1,700.0	0.0	0.0	KOP (Build 3° / 100')	
2,162.3	2,157.8	-15.0	53.6	EOB @ 13.87° Inc. / 105.59° Azm	
7,535.3	7,374.1	-361.0	1,294.3	Build 15° / 100'	
8,088.9	7,723.1	-720.4	1,368.6	EOB @ 86.50° Inc. / 180.63° Azm	
18,257.0	8,343.9	-10,868.9	1,256.9	TD @ 18257.0' MD / 8343.9' TVD	