

Company Name: SandRidge Energy
SU 0680 6-I <
Jackson County, Colorado
Rig:
Created By: Shane Robbins
Date: 7/19/2018

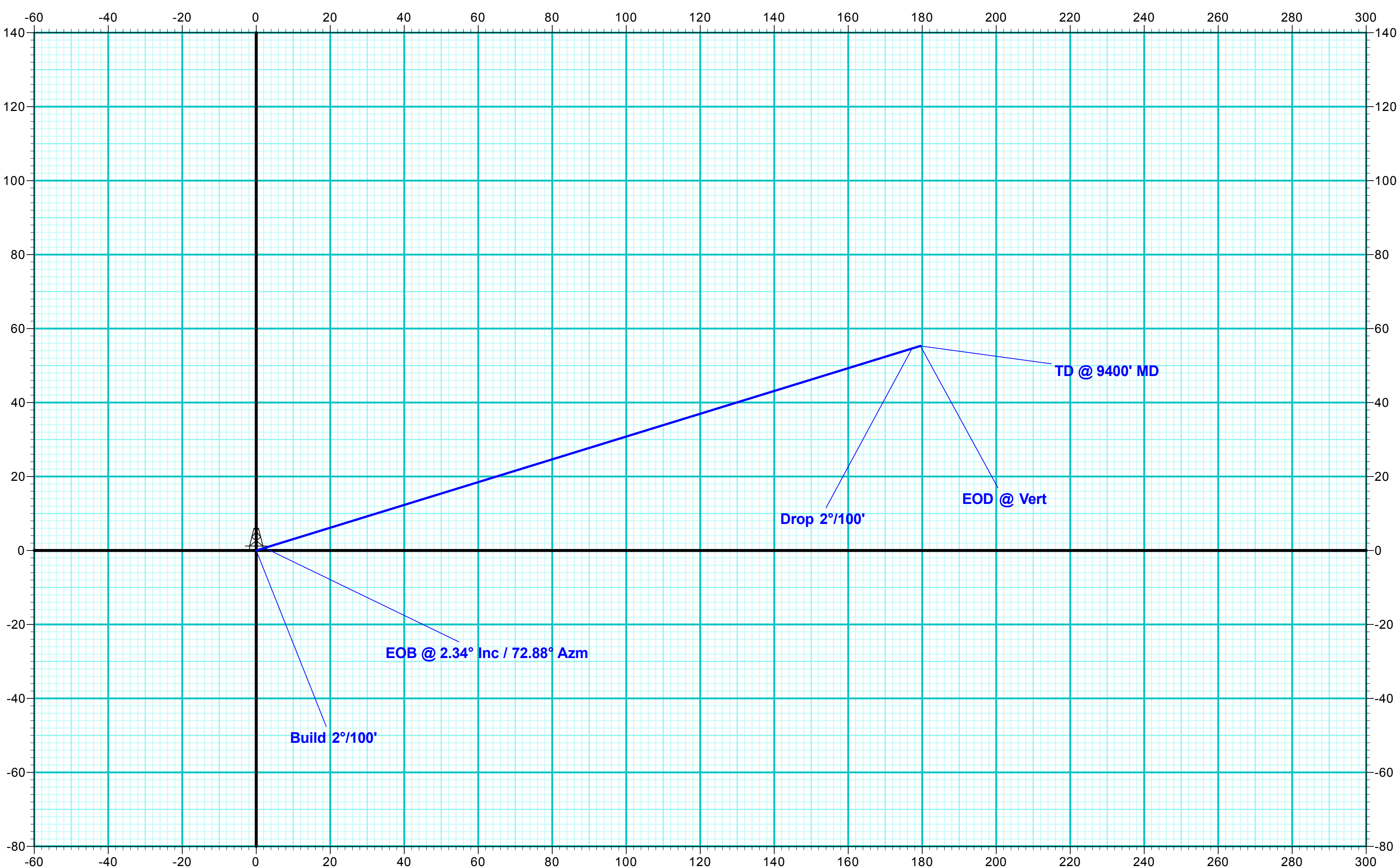
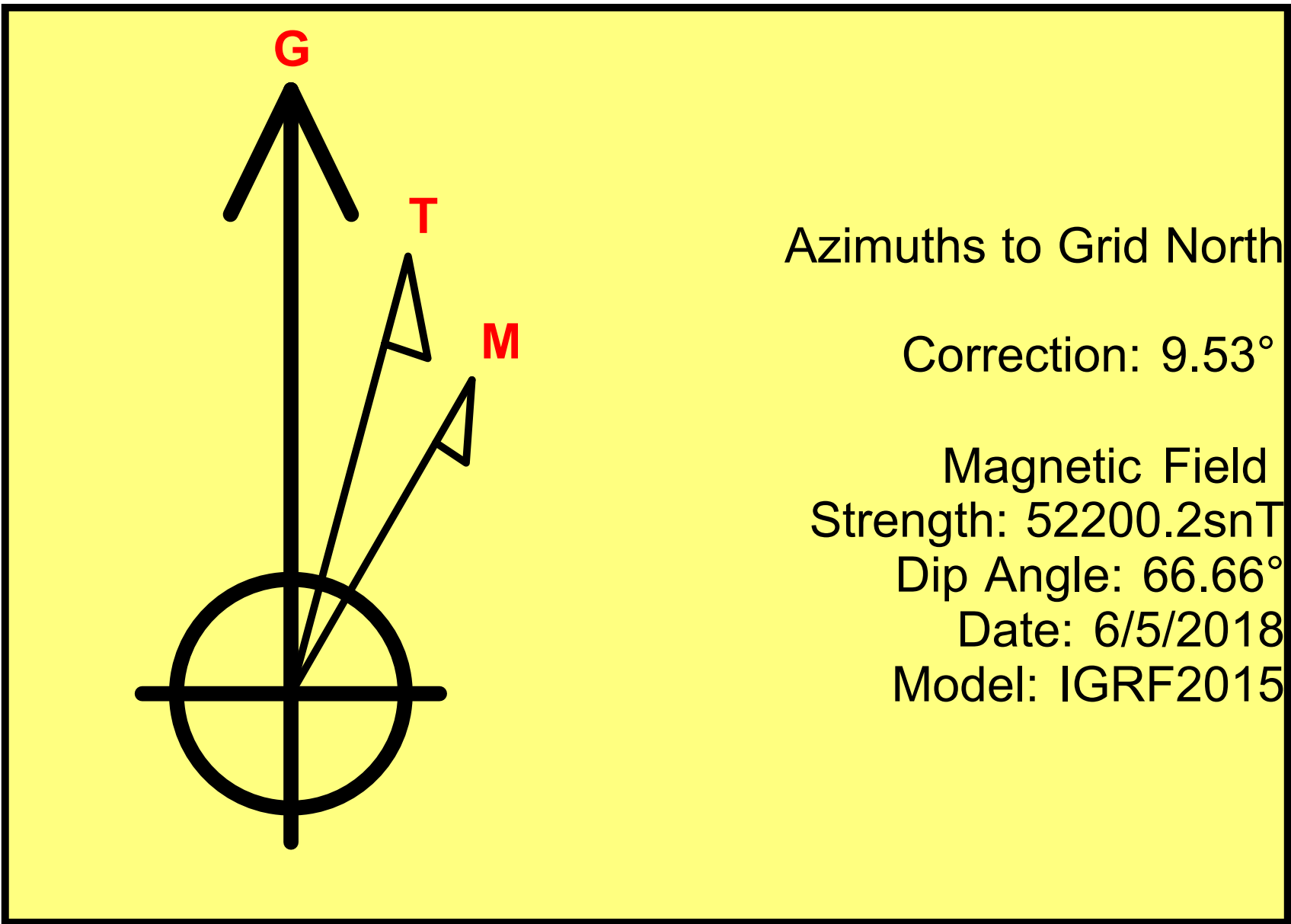
SU 0680 6-I P
Jackson County, Colorado
Q180*** & RM-180***
Design #1

SandRidge Energy



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

WELL DETAILS: SU 0680 6-4H						
			8264.0			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.0	0.0	1429869.80	2754181.17	40° 30' 36.107 N	106° 23' 2.650 W	



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	2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0	Build 2"/100'
3	2617.0	2.34	72.88	2617.0	0.7	2.3	2.00	72.88	2.4	EOB @ 2.34" Inc / 72.88° Azm
4	7101.0	2.34	72.88	7097.2	54.6	177.2	0.00	0.00	185.5	Drop 2"/100'
5	7218.0	0.00	0.00	7214.2	55.3	179.5	2.00	180.00	187.9	EOD @ Vert
6	9400.0	0.00	0.00	9396.2	55.3	179.5	0.00	0.00	187.9	TD @ 9400' MD

Vertical Section at 72.88° (200 usft/in)

SandRidge Energy

**Jackson County, Colorado
Sec 9, T6N, R80W, 6th PM
SU 0680 6-4H**

Wellbore #1

Plan: Design #1

QES Well Planning Report

19 July, 2018



Well Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SU 0680 6-9P
Company:	SandRidge Energy	TVD Reference:	WELL @ 8289.0usft
Project:	Jackson County, Colorado	MD Reference:	WELL @ 8289.0usft
Site:	Sec 9, T6N, R80W, 6th PM	North Reference:	Grid
Well:	SU 0680 6-4H	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 9, T6N, R80W, 6th PM			
Site Position:		Northing:	1,429,883.61 usft	Latitude:	40° 30' 36.243 N
From:	Map	Easting:	2,754,175.30 usft	Longitude:	106° 23' 2.728 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.57 °

Well	SU 0680 6-4H					
Well Position	+N/-S	-13.8 usft	Northing:	1,429,869.80 usft	Latitude:	40° 30' 36.107 N
	+E/-W	5.9 usft	Easting:	2,754,181.17 usft	Longitude:	106° 23' 2.650 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	8,264.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	6/5/2018	8.96	66.66	52,200.19051499

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	72.88

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	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,617.0	2.34	72.88	2,617.0	0.7	2.3	2.00	2.00	0.00	72.88	
7,101.0	2.34	72.88	7,097.2	54.6	177.2	0.00	0.00	0.00	0.00	
7,218.0	0.00	0.00	7,214.2	55.3	179.5	2.00	-2.00	0.00	180.00	
9,400.0	0.00	0.00	9,396.2	55.3	179.5	0.00	0.00	0.00	0.00	

Well Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SU 0680 6-9P
Company:	SandRidge Energy	TVD Reference:	WELL @ 8289.0usft
Project:	Jackson County, Colorado	MD Reference:	WELL @ 8289.0usft
Site:	Sec 9, T6N, R80W, 6th PM	North Reference:	Grid
Well:	SU 0680 6-4H	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
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
Build 2°/100'									
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	2.00	72.88	2,600.0	0.5	1.7	1.7	2.00	2.00	0.00
EOB @ 2.34° Inc / 72.88° Azm									
2,617.0	2.34	72.88	2,617.0	0.7	2.3	2.4	2.00	2.00	0.00
2,700.0	2.34	72.88	2,699.9	1.7	5.5	5.8	0.00	0.00	0.00
2,800.0	2.34	72.88	2,799.8	2.9	9.4	9.9	0.00	0.00	0.00
2,900.0	2.34	72.88	2,899.7	4.1	13.3	13.9	0.00	0.00	0.00
3,000.0	2.34	72.88	2,999.6	5.3	17.2	18.0	0.00	0.00	0.00
3,100.0	2.34	72.88	3,099.6	6.5	21.1	22.1	0.00	0.00	0.00
3,200.0	2.34	72.88	3,199.5	7.7	25.0	26.2	0.00	0.00	0.00
3,300.0	2.34	72.88	3,299.4	8.9	28.9	30.3	0.00	0.00	0.00
3,400.0	2.34	72.88	3,399.3	10.1	32.8	34.4	0.00	0.00	0.00
3,500.0	2.34	72.88	3,499.2	11.3	36.7	38.4	0.00	0.00	0.00
3,600.0	2.34	72.88	3,599.1	12.5	40.6	42.5	0.00	0.00	0.00
3,700.0	2.34	72.88	3,699.1	13.7	44.5	46.6	0.00	0.00	0.00
3,800.0	2.34	72.88	3,799.0	14.9	48.4	50.7	0.00	0.00	0.00
3,900.0	2.34	72.88	3,898.9	16.1	52.3	54.8	0.00	0.00	0.00
4,000.0	2.34	72.88	3,998.8	17.3	56.2	58.9	0.00	0.00	0.00
4,100.0	2.34	72.88	4,098.7	18.5	60.1	62.9	0.00	0.00	0.00
4,200.0	2.34	72.88	4,198.6	19.7	64.1	67.0	0.00	0.00	0.00
4,300.0	2.34	72.88	4,298.6	20.9	68.0	71.1	0.00	0.00	0.00
4,400.0	2.34	72.88	4,398.5	22.1	71.9	75.2	0.00	0.00	0.00
4,500.0	2.34	72.88	4,498.4	23.3	75.8	79.3	0.00	0.00	0.00
4,600.0	2.34	72.88	4,598.3	24.5	79.7	83.4	0.00	0.00	0.00
4,700.0	2.34	72.88	4,698.2	25.7	83.6	87.4	0.00	0.00	0.00
4,800.0	2.34	72.88	4,798.1	26.9	87.5	91.5	0.00	0.00	0.00
4,900.0	2.34	72.88	4,898.1	28.1	91.4	95.6	0.00	0.00	0.00
5,000.0	2.34	72.88	4,998.0	29.3	95.3	99.7	0.00	0.00	0.00

Well Planning Report



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Company:	SandRidge Energy	TVD Reference:	WELL @ 8289.0usft
Project:	Jackson County, Colorado	MD Reference:	WELL @ 8289.0usft
Site:	Sec 9, T6N, R80W, 6th PM	North Reference:	Grid
Well:	SU 0680 6-4H	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)
5,100.0	2.34	72.88	5,097.9	30.5	99.2	103.8	0.00	0.00	0.00
5,200.0	2.34	72.88	5,197.8	31.7	103.1	107.9	0.00	0.00	0.00
5,300.0	2.34	72.88	5,297.7	33.0	107.0	111.9	0.00	0.00	0.00
5,400.0	2.34	72.88	5,397.6	34.2	110.9	116.0	0.00	0.00	0.00
5,500.0	2.34	72.88	5,497.6	35.4	114.8	120.1	0.00	0.00	0.00
5,600.0	2.34	72.88	5,597.5	36.6	118.7	124.2	0.00	0.00	0.00
5,700.0	2.34	72.88	5,697.4	37.8	122.6	128.3	0.00	0.00	0.00
5,800.0	2.34	72.88	5,797.3	39.0	126.5	132.3	0.00	0.00	0.00
5,900.0	2.34	72.88	5,897.2	40.2	130.4	136.4	0.00	0.00	0.00
6,000.0	2.34	72.88	5,997.1	41.4	134.3	140.5	0.00	0.00	0.00
6,100.0	2.34	72.88	6,097.1	42.6	138.2	144.6	0.00	0.00	0.00
6,200.0	2.34	72.88	6,197.0	43.8	142.1	148.7	0.00	0.00	0.00
6,300.0	2.34	72.88	6,296.9	45.0	146.0	152.8	0.00	0.00	0.00
6,400.0	2.34	72.88	6,396.8	46.2	149.9	156.8	0.00	0.00	0.00
6,500.0	2.34	72.88	6,496.7	47.4	153.8	160.9	0.00	0.00	0.00
6,600.0	2.34	72.88	6,596.6	48.6	157.7	165.0	0.00	0.00	0.00
6,700.0	2.34	72.88	6,696.6	49.8	161.6	169.1	0.00	0.00	0.00
6,800.0	2.34	72.88	6,796.5	51.0	165.5	173.2	0.00	0.00	0.00
6,900.0	2.34	72.88	6,896.4	52.2	169.4	177.3	0.00	0.00	0.00
7,000.0	2.34	72.88	6,996.3	53.4	173.3	181.3	0.00	0.00	0.00
Drop 2°/100'									
7,101.0	2.34	72.88	7,097.2	54.6	177.2	185.5	0.00	0.00	0.00
7,200.0	0.36	72.88	7,196.2	55.3	179.5	187.8	2.00	-2.00	0.00
EOD @ Vert									
7,218.0	0.00	0.00	7,214.2	55.3	179.5	187.9	2.00	-2.00	0.00
7,300.0	0.00	0.00	7,296.2	55.3	179.5	187.9	0.00	0.00	0.00
7,400.0	0.00	0.00	7,396.2	55.3	179.5	187.9	0.00	0.00	0.00
7,500.0	0.00	0.00	7,496.2	55.3	179.5	187.9	0.00	0.00	0.00
7,600.0	0.00	0.00	7,596.2	55.3	179.5	187.9	0.00	0.00	0.00
7,700.0	0.00	0.00	7,696.2	55.3	179.5	187.9	0.00	0.00	0.00
7,800.0	0.00	0.00	7,796.2	55.3	179.5	187.9	0.00	0.00	0.00
7,900.0	0.00	0.00	7,896.2	55.3	179.5	187.9	0.00	0.00	0.00
8,000.0	0.00	0.00	7,996.2	55.3	179.5	187.9	0.00	0.00	0.00
8,100.0	0.00	0.00	8,096.2	55.3	179.5	187.9	0.00	0.00	0.00
8,200.0	0.00	0.00	8,196.2	55.3	179.5	187.9	0.00	0.00	0.00
8,300.0	0.00	0.00	8,296.2	55.3	179.5	187.9	0.00	0.00	0.00
8,400.0	0.00	0.00	8,396.2	55.3	179.5	187.9	0.00	0.00	0.00
8,500.0	0.00	0.00	8,496.2	55.3	179.5	187.9	0.00	0.00	0.00
8,600.0	0.00	0.00	8,596.2	55.3	179.5	187.9	0.00	0.00	0.00
8,700.0	0.00	0.00	8,696.2	55.3	179.5	187.9	0.00	0.00	0.00
8,800.0	0.00	0.00	8,796.2	55.3	179.5	187.9	0.00	0.00	0.00
8,900.0	0.00	0.00	8,896.2	55.3	179.5	187.9	0.00	0.00	0.00
9,000.0	0.00	0.00	8,996.2	55.3	179.5	187.9	0.00	0.00	0.00
9,100.0	0.00	0.00	9,096.2	55.3	179.5	187.9	0.00	0.00	0.00
9,200.0	0.00	0.00	9,196.2	55.3	179.5	187.9	0.00	0.00	0.00
9,300.0	0.00	0.00	9,296.2	55.3	179.5	187.9	0.00	0.00	0.00
TD @ 9400' MD									
9,400.0	0.00	0.00	9,396.2	55.3	179.5	187.9	0.00	0.00	0.00

Well Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SU 0680 6-9P
Company:	SandRidge Energy	TVD Reference:	WELL @ 8289.0usft
Project:	Jackson County, Colorado	MD Reference:	WELL @ 8289.0usft
Site:	Sec 9, T6N, R80W, 6th PM	North Reference:	Grid
Well:	SU 0680 6-4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL 6-4H - plan misses target center by 5883.8usft at 7600.8usft MD (7597.0 TVD, 55.3 N, 179.5 E) - Point	0.00	0.00	7,597.0	5,934.7	407.2	1,435,804.49	2,754,588.33	40° 31' 34.790 N	106° 22' 58.144 W
LP 6-4H - plan misses target center by 579.6usft at 7665.8usft MD (7662.0 TVD, 55.3 N, 179.5 E) - Point	0.00	0.00	7,662.0	633.5	220.2	1,430,503.27	2,754,401.34	40° 30' 42.388 N	106° 22' 59.882 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,500.0	2,500.0	0.0	0.0	Build 2°/100'
2,617.0	2,617.0	0.7	2.3	EOB @ 2.34° Inc / 72.88° Azm
7,101.0	7,097.2	54.6	177.2	Drop 2°/100'
7,218.0	7,214.2	55.3	179.5	EOD @ Vert
9,400.0	9,396.2	55.3	179.5	TD @ 9400' MD