



D90 ENERGY LLC

D90 Energy, LLC

Jackson County, Colorado
Sec 32, T7N, R80W, 6th PM
SU Spicer 0680 3-5H17

Wellbore #1

Plan: Prelim #1

KLX Well Planning Report

12 August, 2021



D90 Energy, LLC
Jackson County, Colorado
Sec 32, T7N, R80W, 6th PM
SU Spicer 0680 3-5H17
Prelim #1
26' kb

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
2600.0	0.00	0.00	2600.0	0.0	0.0	0.0	0.0	Build 2°/100'
3600.1	20.00	163.04	3579.9	-165.3	50.4	164.1	172.8	EOB @ 20.00° Inc. / 163.04° Azm
4518.7	20.00	163.04	4443.1	-465.8	142.1	462.6	487.0	Drop 2°/100'
5518.8	0.00	0.00	5423.0	-631.1	192.5	626.8	659.8	EOD @ Vert.
6342.8	0.00	0.00	6247.0	-631.1	192.5	626.8	659.8	Build 10°/100'
7242.8	90.00	192.20	6820.0	-1191.1	71.4	1189.3	1232.8	EOB @ 90.00° Inc. / 192.20° Azm
9744.1	90.00	192.20	6820.0	-3636.0	-457.2	3645.0	3734.1	Turn 2°/100'
10292.0	90.00	181.24	6820.0	-4179.3	-521.2	4189.6	4282.0	EOT @ 90.00° Inc. / 181.24° Azm
20627.3	90.00	181.24	6820.0	-14512.1	-745.2	14524.8	14617.3	TD @ 20627.3' MD / 6820.0' TVD

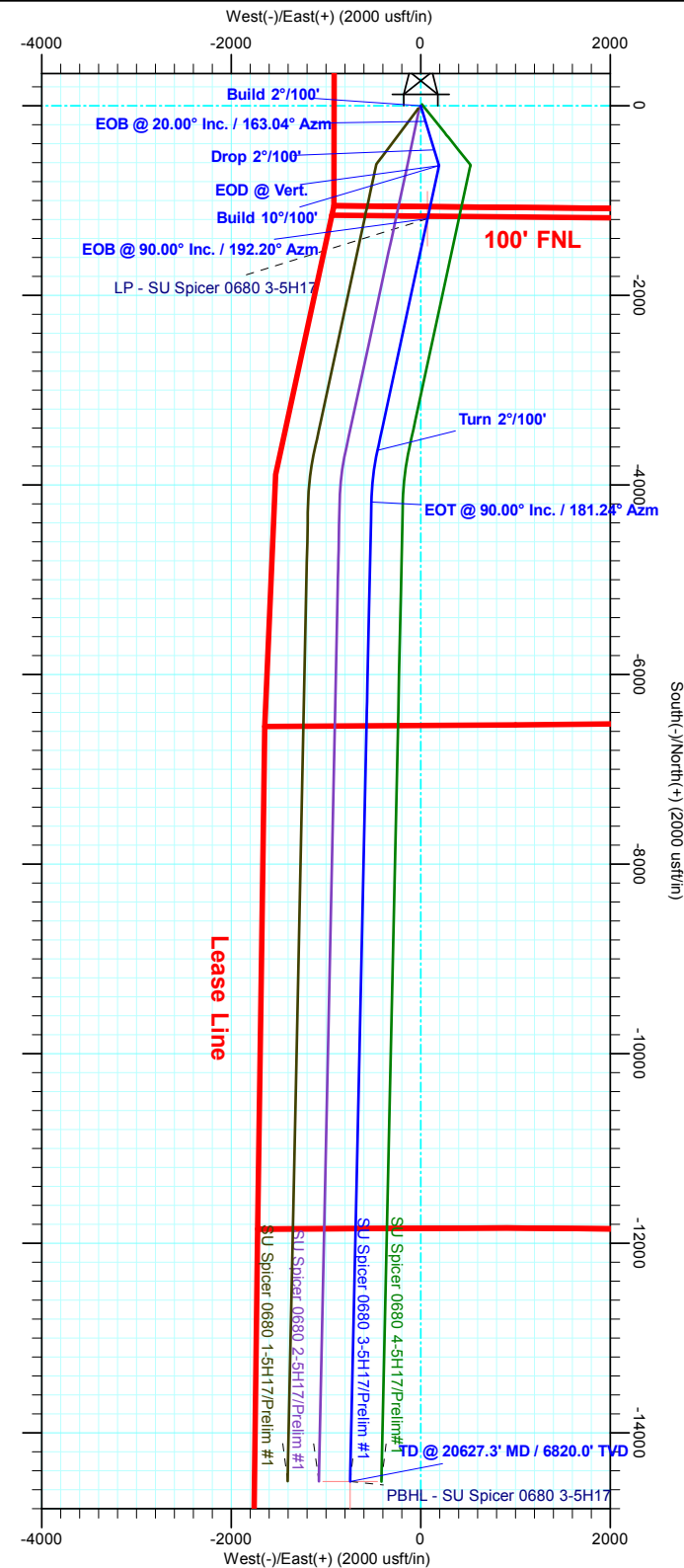
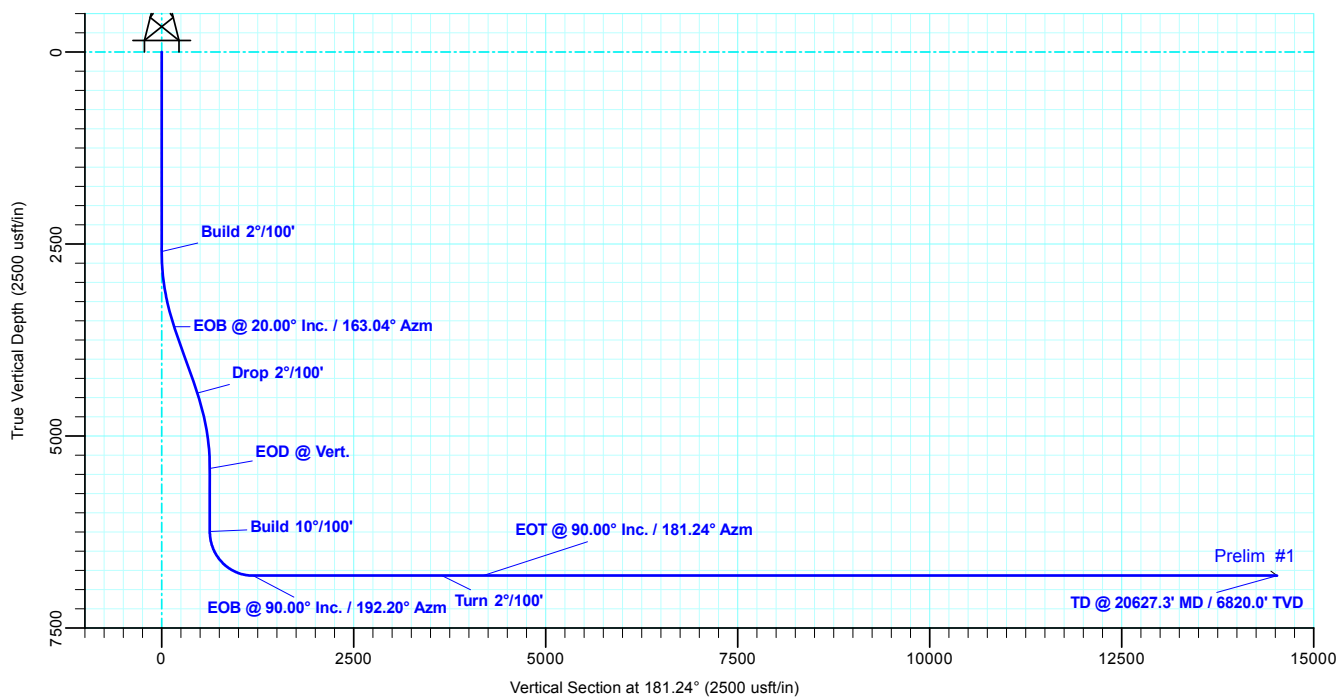
PROJECT DETAILS: Jackson County, Colorado

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 Spicer 0680 3-5H17

		8212.8			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1437021.53	2748748.95	40.529509	-106.403867

D90 ENERGY LLC





Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SU Spicer 0680 3-5H17
Company:	D90 Energy, LLC	TVD Reference:	RKB @ 8238.8usft (26' kb)
Project:	Jackson County, Colorado	MD Reference:	RKB @ 8238.8usft (26' kb)
Site:	Sec 32, T7N, R80W, 6th PM	North Reference:	Grid
Well:	SU Spicer 0680 3-5H17	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Prelim #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 32, T7N, R80W, 6th PM		
Site Position:		Northing:	1,437,036.34 usft
From:	Map	Easting:	2,748,762.37 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	40.529551
		Longitude:	-106.403820
		Grid Convergence:	-0.58 °

Well	SU Spicer 0680 3-5H17		
Well Position	+N/-S	-14.8 usft	Northing: 1,437,021.53 usft
	+E/-W	-13.4 usft	Easting: 2,748,748.95 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	Latitude: 40.529510
			Longitude: -106.403867
			Ground Level: 8,212.8 usft

Wellbore	Wellbore #1		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2021	8/12/2021	8.58	66.50	51,816.00000000

Design	Prelim #1		
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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	181.24

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	
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,600.1	20.00	163.04	3,579.9	-165.3	50.4	2.00	2.00	0.00	163.04	
4,518.7	20.00	163.04	4,443.1	-465.8	142.1	0.00	0.00	0.00	0.00	
5,518.8	0.00	360.00	5,423.0	-631.1	192.5	2.00	-2.00	0.00	180.00	
6,342.8	0.00	360.00	6,247.0	-631.1	192.5	0.00	0.00	0.00	360.00	
7,242.8	90.00	192.20	6,820.0	-1,191.1	71.4	10.00	10.00	0.00	192.20	
9,744.1	90.00	192.20	6,820.0	-3,636.0	-457.2	0.00	0.00	0.00	0.00	
10,292.0	90.00	181.24	6,820.0	-4,179.3	-521.2	2.00	0.00	-2.00	-90.00	
20,627.3	90.00	181.24	6,820.0	-14,512.1	-745.2	0.00	0.00	0.00	0.00	PBHL - SU Spicer C

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Well:	SU Spicer 0680 3-5H17	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Prelim #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
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Build 2°/100'									
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	2.00	163.04	2,700.0	-1.7	0.5	1.7	2.00	2.00	0.00
2,800.0	4.00	163.04	2,799.8	-6.7	2.0	6.6	2.00	2.00	0.00
2,900.0	6.00	163.04	2,899.5	-15.0	4.6	14.9	2.00	2.00	0.00
3,000.0	8.00	163.04	2,998.7	-26.7	8.1	26.5	2.00	2.00	0.00
3,100.0	10.00	163.04	3,097.5	-41.6	12.7	41.3	2.00	2.00	0.00
3,200.0	12.00	163.04	3,195.6	-59.9	18.3	59.5	2.00	2.00	0.00
3,300.0	14.00	163.04	3,293.1	-81.4	24.8	80.8	2.00	2.00	0.00
3,400.0	16.00	163.04	3,389.6	-106.1	32.4	105.4	2.00	2.00	0.00
3,500.0	18.00	163.04	3,485.3	-134.1	40.9	133.2	2.00	2.00	0.00
EOB @ 20.00° Inc. / 163.04° Azm									
3,600.1	20.00	163.04	3,579.9	-165.3	50.4	164.1	2.00	2.00	0.00
3,700.0	20.00	163.04	3,673.8	-198.0	60.4	196.6	0.00	0.00	0.00
3,800.0	20.00	163.04	3,767.8	-230.7	70.4	229.1	0.00	0.00	0.00
3,900.0	20.00	163.04	3,861.7	-263.4	80.3	261.6	0.00	0.00	0.00
4,000.0	20.00	163.04	3,955.7	-296.1	90.3	294.1	0.00	0.00	0.00
4,100.0	20.00	163.04	4,049.7	-328.8	100.3	326.6	0.00	0.00	0.00
4,200.0	20.00	163.04	4,143.6	-361.6	110.3	359.1	0.00	0.00	0.00
4,300.0	20.00	163.04	4,237.6	-394.3	120.3	391.6	0.00	0.00	0.00
4,400.0	20.00	163.04	4,331.6	-427.0	130.2	424.1	0.00	0.00	0.00
4,500.0	20.00	163.04	4,425.5	-459.7	140.2	456.6	0.00	0.00	0.00
Drop 2°/100'									
4,518.7	20.00	163.04	4,443.1	-465.8	142.1	462.6	0.00	0.00	0.00
4,600.0	18.38	163.04	4,519.9	-491.4	149.9	488.0	2.00	-2.00	0.00
4,700.0	16.38	163.04	4,615.3	-519.9	158.6	516.4	2.00	-2.00	0.00
4,800.0	14.38	163.04	4,711.7	-545.3	166.3	541.6	2.00	-2.00	0.00

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Wellbore:	Wellbore #1		
Design:	Prelim #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)
4,900.0	12.38	163.04	4,809.0	-567.4	173.1	563.5	2.00	-2.00	0.00
5,000.0	10.38	163.04	4,907.0	-586.3	178.8	582.3	2.00	-2.00	0.00
5,100.0	8.38	163.04	5,005.7	-601.9	183.6	597.8	2.00	-2.00	0.00
5,200.0	6.38	163.04	5,104.9	-614.2	187.3	610.0	2.00	-2.00	0.00
5,300.0	4.38	163.04	5,204.4	-623.1	190.1	618.9	2.00	-2.00	0.00
5,400.0	2.38	163.04	5,304.2	-628.7	191.8	624.4	2.00	-2.00	0.00
5,500.0	0.38	163.04	5,404.2	-631.0	192.5	626.7	2.00	-2.00	0.00
EOD @ Vert.									
5,518.8	0.00	0.00	5,423.0	-631.1	192.5	626.8	2.00	-2.00	0.00
5,600.0	0.00	0.00	5,504.2	-631.1	192.5	626.8	0.00	0.00	0.00
5,700.0	0.00	0.00	5,604.2	-631.1	192.5	626.8	0.00	0.00	0.00
5,800.0	0.00	0.00	5,704.2	-631.1	192.5	626.8	0.00	0.00	0.00
5,900.0	0.00	0.00	5,804.2	-631.1	192.5	626.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,904.2	-631.1	192.5	626.8	0.00	0.00	0.00
6,100.0	0.00	0.00	6,004.2	-631.1	192.5	626.8	0.00	0.00	0.00
6,200.0	0.00	0.00	6,104.2	-631.1	192.5	626.8	0.00	0.00	0.00
6,300.0	0.00	0.00	6,204.2	-631.1	192.5	626.8	0.00	0.00	0.00
Build 10°/100'									
6,342.8	0.00	0.00	6,247.0	-631.1	192.5	626.8	0.00	0.00	0.00
6,350.0	0.72	192.20	6,254.2	-631.1	192.5	626.8	10.00	10.00	0.00
6,400.0	5.72	192.20	6,304.1	-633.9	191.9	629.6	10.00	10.00	0.00
6,450.0	10.72	192.20	6,353.6	-640.9	190.4	636.6	10.00	10.00	0.00
6,500.0	15.72	192.20	6,402.2	-652.0	188.0	647.8	10.00	10.00	0.00
6,550.0	20.72	192.20	6,449.7	-667.3	184.7	663.2	10.00	10.00	0.00
6,600.0	25.72	192.20	6,495.7	-686.6	180.5	682.5	10.00	10.00	0.00
6,650.0	30.72	192.20	6,539.7	-709.7	175.5	705.7	10.00	10.00	0.00
6,700.0	35.72	192.20	6,581.5	-736.5	169.7	732.6	10.00	10.00	0.00
6,750.0	40.72	192.20	6,620.8	-766.7	163.2	763.0	10.00	10.00	0.00
6,800.0	45.72	192.20	6,657.2	-800.1	156.0	796.6	10.00	10.00	0.00
6,850.0	50.72	192.20	6,690.5	-836.6	148.1	833.2	10.00	10.00	0.00
6,900.0	55.72	192.20	6,720.4	-875.7	139.6	872.5	10.00	10.00	0.00
6,950.0	60.72	192.20	6,746.8	-917.2	130.6	914.2	10.00	10.00	0.00
7,000.0	65.72	192.20	6,769.3	-960.9	121.2	958.0	10.00	10.00	0.00
7,050.0	70.72	192.20	6,787.8	-1,006.2	111.4	1,003.6	10.00	10.00	0.00
7,100.0	75.72	192.20	6,802.3	-1,053.0	101.3	1,050.6	10.00	10.00	0.00
7,150.0	80.72	192.20	6,812.5	-1,100.8	90.9	1,098.6	10.00	10.00	0.00
7,200.0	85.72	192.20	6,818.4	-1,149.3	80.5	1,147.3	10.00	10.00	0.00
EOB @ 90.00° Inc. / 192.20° Azm									
7,242.8	90.00	192.20	6,820.0	-1,191.1	71.4	1,189.3	10.00	10.00	0.00
7,300.0	90.00	192.20	6,820.0	-1,247.0	59.3	1,245.5	0.00	0.00	0.00
7,400.0	90.00	192.20	6,820.0	-1,344.8	38.2	1,343.6	0.00	0.00	0.00
7,500.0	90.00	192.20	6,820.0	-1,442.5	17.1	1,441.8	0.00	0.00	0.00
7,600.0	90.00	192.20	6,820.0	-1,540.3	-4.1	1,540.0	0.00	0.00	0.00
7,700.0	90.00	192.20	6,820.0	-1,638.0	-25.2	1,638.2	0.00	0.00	0.00
7,800.0	90.00	192.20	6,820.0	-1,735.7	-46.3	1,736.3	0.00	0.00	0.00
7,900.0	90.00	192.20	6,820.0	-1,833.5	-67.5	1,834.5	0.00	0.00	0.00
8,000.0	90.00	192.20	6,820.0	-1,931.2	-88.6	1,932.7	0.00	0.00	0.00
8,100.0	90.00	192.20	6,820.0	-2,029.0	-109.7	2,030.9	0.00	0.00	0.00
8,200.0	90.00	192.20	6,820.0	-2,126.7	-130.9	2,129.0	0.00	0.00	0.00
8,300.0	90.00	192.20	6,820.0	-2,224.5	-152.0	2,227.2	0.00	0.00	0.00
8,400.0	90.00	192.20	6,820.0	-2,322.2	-173.1	2,325.4	0.00	0.00	0.00
8,500.0	90.00	192.20	6,820.0	-2,419.9	-194.3	2,423.6	0.00	0.00	0.00
8,600.0	90.00	192.20	6,820.0	-2,517.7	-215.4	2,521.8	0.00	0.00	0.00

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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)
8,700.0	90.00	192.20	6,820.0	-2,615.4	-236.5	2,619.9	0.00	0.00	0.00
8,800.0	90.00	192.20	6,820.0	-2,713.2	-257.7	2,718.1	0.00	0.00	0.00
8,900.0	90.00	192.20	6,820.0	-2,810.9	-278.8	2,816.3	0.00	0.00	0.00
9,000.0	90.00	192.20	6,820.0	-2,908.6	-299.9	2,914.5	0.00	0.00	0.00
9,100.0	90.00	192.20	6,820.0	-3,006.4	-321.1	3,012.6	0.00	0.00	0.00
9,200.0	90.00	192.20	6,820.0	-3,104.1	-342.2	3,110.8	0.00	0.00	0.00
9,300.0	90.00	192.20	6,820.0	-3,201.9	-363.3	3,209.0	0.00	0.00	0.00
9,400.0	90.00	192.20	6,820.0	-3,299.6	-384.5	3,307.2	0.00	0.00	0.00
9,500.0	90.00	192.20	6,820.0	-3,397.4	-405.6	3,405.3	0.00	0.00	0.00
9,600.0	90.00	192.20	6,820.0	-3,495.1	-426.7	3,503.5	0.00	0.00	0.00
9,700.0	90.00	192.20	6,820.0	-3,592.8	-447.8	3,601.7	0.00	0.00	0.00
Turn 2°/100'									
9,744.1	90.00	192.20	6,820.0	-3,636.0	-457.2	3,645.0	0.00	0.00	0.00
9,800.0	90.00	191.08	6,820.0	-3,690.7	-468.4	3,700.0	2.00	0.00	-2.00
9,900.0	90.00	189.08	6,820.0	-3,789.1	-486.0	3,798.8	2.00	0.00	-2.00
10,000.0	90.00	187.08	6,820.0	-3,888.1	-500.0	3,898.1	2.00	0.00	-2.00
10,100.0	90.00	185.08	6,820.0	-3,987.6	-510.6	3,997.7	2.00	0.00	-2.00
10,200.0	90.00	183.08	6,820.0	-4,087.3	-517.7	4,097.6	2.00	0.00	-2.00
EOT @ 90.00° Inc. / 181.24° Azm									
10,292.0	90.00	181.24	6,820.0	-4,179.3	-521.2	4,189.6	2.00	0.00	-2.00
10,300.0	90.00	181.24	6,820.0	-4,187.2	-521.4	4,197.5	0.00	0.00	0.00
10,400.0	90.00	181.24	6,820.0	-4,287.2	-523.5	4,297.5	0.00	0.00	0.00
10,500.0	90.00	181.24	6,820.0	-4,387.2	-525.7	4,397.5	0.00	0.00	0.00
10,600.0	90.00	181.24	6,820.0	-4,487.2	-527.9	4,497.5	0.00	0.00	0.00
10,700.0	90.00	181.24	6,820.0	-4,587.1	-530.0	4,597.5	0.00	0.00	0.00
10,800.0	90.00	181.24	6,820.0	-4,687.1	-532.2	4,697.5	0.00	0.00	0.00
10,900.0	90.00	181.24	6,820.0	-4,787.1	-534.4	4,797.5	0.00	0.00	0.00
11,000.0	90.00	181.24	6,820.0	-4,887.1	-536.5	4,897.5	0.00	0.00	0.00
11,100.0	90.00	181.24	6,820.0	-4,987.1	-538.7	4,997.5	0.00	0.00	0.00
11,200.0	90.00	181.24	6,820.0	-5,087.0	-540.9	5,097.5	0.00	0.00	0.00
11,300.0	90.00	181.24	6,820.0	-5,187.0	-543.0	5,197.5	0.00	0.00	0.00
11,400.0	90.00	181.24	6,820.0	-5,287.0	-545.2	5,297.5	0.00	0.00	0.00
11,500.0	90.00	181.24	6,820.0	-5,387.0	-547.4	5,397.5	0.00	0.00	0.00
11,600.0	90.00	181.24	6,820.0	-5,486.9	-549.5	5,497.5	0.00	0.00	0.00
11,700.0	90.00	181.24	6,820.0	-5,586.9	-551.7	5,597.5	0.00	0.00	0.00
11,800.0	90.00	181.24	6,820.0	-5,686.9	-553.9	5,697.5	0.00	0.00	0.00
11,900.0	90.00	181.24	6,820.0	-5,786.9	-556.0	5,797.5	0.00	0.00	0.00
12,000.0	90.00	181.24	6,820.0	-5,886.8	-558.2	5,897.5	0.00	0.00	0.00
12,100.0	90.00	181.24	6,820.0	-5,986.8	-560.4	5,997.5	0.00	0.00	0.00
12,200.0	90.00	181.24	6,820.0	-6,086.8	-562.5	6,097.5	0.00	0.00	0.00
12,300.0	90.00	181.24	6,820.0	-6,186.8	-564.7	6,197.5	0.00	0.00	0.00
12,400.0	90.00	181.24	6,820.0	-6,286.8	-566.9	6,297.5	0.00	0.00	0.00
12,500.0	90.00	181.24	6,820.0	-6,386.7	-569.0	6,397.5	0.00	0.00	0.00
12,600.0	90.00	181.24	6,820.0	-6,486.7	-571.2	6,497.5	0.00	0.00	0.00
12,700.0	90.00	181.24	6,820.0	-6,586.7	-573.4	6,597.5	0.00	0.00	0.00
12,800.0	90.00	181.24	6,820.0	-6,686.7	-575.5	6,697.5	0.00	0.00	0.00
12,900.0	90.00	181.24	6,820.0	-6,786.6	-577.7	6,797.5	0.00	0.00	0.00
13,000.0	90.00	181.24	6,820.0	-6,886.6	-579.9	6,897.5	0.00	0.00	0.00
13,100.0	90.00	181.24	6,820.0	-6,986.6	-582.0	6,997.5	0.00	0.00	0.00
13,200.0	90.00	181.24	6,820.0	-7,086.6	-584.2	7,097.5	0.00	0.00	0.00
13,300.0	90.00	181.24	6,820.0	-7,186.5	-586.4	7,197.5	0.00	0.00	0.00
13,400.0	90.00	181.24	6,820.0	-7,286.5	-588.6	7,297.5	0.00	0.00	0.00
13,500.0	90.00	181.24	6,820.0	-7,386.5	-590.7	7,397.5	0.00	0.00	0.00
13,600.0	90.00	181.24	6,820.0	-7,486.5	-592.9	7,497.5	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SU Spicer 0680 3-5H17
Company:	D90 Energy, LLC	TVD Reference:	RKB @ 8238.8usft (26' kb)
Project:	Jackson County, Colorado	MD Reference:	RKB @ 8238.8usft (26' kb)
Site:	Sec 32, T7N, R80W, 6th PM	North Reference:	Grid
Well:	SU Spicer 0680 3-5H17	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Prelim #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)
13,700.0	90.00	181.24	6,820.0	-7,586.4	-595.1	7,597.5	0.00	0.00	0.00
13,800.0	90.00	181.24	6,820.0	-7,686.4	-597.2	7,697.5	0.00	0.00	0.00
13,900.0	90.00	181.24	6,820.0	-7,786.4	-599.4	7,797.5	0.00	0.00	0.00
14,000.0	90.00	181.24	6,820.0	-7,886.4	-601.6	7,897.5	0.00	0.00	0.00
14,100.0	90.00	181.24	6,820.0	-7,986.4	-603.7	7,997.5	0.00	0.00	0.00
14,200.0	90.00	181.24	6,820.0	-8,086.3	-605.9	8,097.5	0.00	0.00	0.00
14,300.0	90.00	181.24	6,820.0	-8,186.3	-608.1	8,197.5	0.00	0.00	0.00
14,400.0	90.00	181.24	6,820.0	-8,286.3	-610.2	8,297.5	0.00	0.00	0.00
14,500.0	90.00	181.24	6,820.0	-8,386.3	-612.4	8,397.5	0.00	0.00	0.00
14,600.0	90.00	181.24	6,820.0	-8,486.2	-614.6	8,497.5	0.00	0.00	0.00
14,700.0	90.00	181.24	6,820.0	-8,586.2	-616.7	8,597.5	0.00	0.00	0.00
14,800.0	90.00	181.24	6,820.0	-8,686.2	-618.9	8,697.5	0.00	0.00	0.00
14,900.0	90.00	181.24	6,820.0	-8,786.2	-621.1	8,797.5	0.00	0.00	0.00
15,000.0	90.00	181.24	6,820.0	-8,886.1	-623.2	8,897.5	0.00	0.00	0.00
15,100.0	90.00	181.24	6,820.0	-8,986.1	-625.4	8,997.5	0.00	0.00	0.00
15,200.0	90.00	181.24	6,820.0	-9,086.1	-627.6	9,097.5	0.00	0.00	0.00
15,300.0	90.00	181.24	6,820.0	-9,186.1	-629.7	9,197.5	0.00	0.00	0.00
15,400.0	90.00	181.24	6,820.0	-9,286.0	-631.9	9,297.5	0.00	0.00	0.00
15,500.0	90.00	181.24	6,820.0	-9,386.0	-634.1	9,397.5	0.00	0.00	0.00
15,600.0	90.00	181.24	6,820.0	-9,486.0	-636.2	9,497.5	0.00	0.00	0.00
15,700.0	90.00	181.24	6,820.0	-9,586.0	-638.4	9,597.5	0.00	0.00	0.00
15,800.0	90.00	181.24	6,820.0	-9,686.0	-640.6	9,697.5	0.00	0.00	0.00
15,900.0	90.00	181.24	6,820.0	-9,785.9	-642.7	9,797.5	0.00	0.00	0.00
16,000.0	90.00	181.24	6,820.0	-9,885.9	-644.9	9,897.5	0.00	0.00	0.00
16,100.0	90.00	181.24	6,820.0	-9,985.9	-647.1	9,997.5	0.00	0.00	0.00
16,200.0	90.00	181.24	6,820.0	-10,085.9	-649.2	10,097.5	0.00	0.00	0.00
16,300.0	90.00	181.24	6,820.0	-10,185.8	-651.4	10,197.5	0.00	0.00	0.00
16,400.0	90.00	181.24	6,820.0	-10,285.8	-653.6	10,297.5	0.00	0.00	0.00
16,500.0	90.00	181.24	6,820.0	-10,385.8	-655.7	10,397.5	0.00	0.00	0.00
16,600.0	90.00	181.24	6,820.0	-10,485.8	-657.9	10,497.5	0.00	0.00	0.00
16,700.0	90.00	181.24	6,820.0	-10,585.7	-660.1	10,597.5	0.00	0.00	0.00
16,800.0	90.00	181.24	6,820.0	-10,685.7	-662.2	10,697.5	0.00	0.00	0.00
16,900.0	90.00	181.24	6,820.0	-10,785.7	-664.4	10,797.5	0.00	0.00	0.00
17,000.0	90.00	181.24	6,820.0	-10,885.7	-666.6	10,897.5	0.00	0.00	0.00
17,100.0	90.00	181.24	6,820.0	-10,985.6	-668.7	10,997.5	0.00	0.00	0.00
17,200.0	90.00	181.24	6,820.0	-11,085.6	-670.9	11,097.5	0.00	0.00	0.00
17,300.0	90.00	181.24	6,820.0	-11,185.6	-673.1	11,197.5	0.00	0.00	0.00
17,400.0	90.00	181.24	6,820.0	-11,285.6	-675.2	11,297.5	0.00	0.00	0.00
17,500.0	90.00	181.24	6,820.0	-11,385.6	-677.4	11,397.5	0.00	0.00	0.00
17,600.0	90.00	181.24	6,820.0	-11,485.5	-679.6	11,497.5	0.00	0.00	0.00
17,700.0	90.00	181.24	6,820.0	-11,585.5	-681.7	11,597.5	0.00	0.00	0.00
17,800.0	90.00	181.24	6,820.0	-11,685.5	-683.9	11,697.5	0.00	0.00	0.00
17,900.0	90.00	181.24	6,820.0	-11,785.5	-686.1	11,797.5	0.00	0.00	0.00
18,000.0	90.00	181.24	6,820.0	-11,885.4	-688.2	11,897.5	0.00	0.00	0.00
18,100.0	90.00	181.24	6,820.0	-11,985.4	-690.4	11,997.5	0.00	0.00	0.00
18,200.0	90.00	181.24	6,820.0	-12,085.4	-692.6	12,097.5	0.00	0.00	0.00
18,300.0	90.00	181.24	6,820.0	-12,185.4	-694.7	12,197.5	0.00	0.00	0.00
18,400.0	90.00	181.24	6,820.0	-12,285.3	-696.9	12,297.5	0.00	0.00	0.00
18,500.0	90.00	181.24	6,820.0	-12,385.3	-699.1	12,397.5	0.00	0.00	0.00
18,600.0	90.00	181.24	6,820.0	-12,485.3	-701.2	12,497.5	0.00	0.00	0.00
18,700.0	90.00	181.24	6,820.0	-12,585.3	-703.4	12,597.5	0.00	0.00	0.00
18,800.0	90.00	181.24	6,820.0	-12,685.2	-705.6	12,697.5	0.00	0.00	0.00
18,900.0	90.00	181.24	6,820.0	-12,785.2	-707.7	12,797.5	0.00	0.00	0.00
19,000.0	90.00	181.24	6,820.0	-12,885.2	-709.9	12,897.5	0.00	0.00	0.00



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SU Spicer 0680 3-5H17
Company:	D90 Energy, LLC	TVD Reference:	RKB @ 8238.8usft (26' kb)
Project:	Jackson County, Colorado	MD Reference:	RKB @ 8238.8usft (26' kb)
Site:	Sec 32, T7N, R80W, 6th PM	North Reference:	Grid
Well:	SU Spicer 0680 3-5H17	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Prelim #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)
19,100.0	90.00	181.24	6,820.0	-12,985.2	-712.1	12,997.5	0.00	0.00	0.00
19,200.0	90.00	181.24	6,820.0	-13,085.2	-714.2	13,097.5	0.00	0.00	0.00
19,300.0	90.00	181.24	6,820.0	-13,185.1	-716.4	13,197.5	0.00	0.00	0.00
19,400.0	90.00	181.24	6,820.0	-13,285.1	-718.6	13,297.5	0.00	0.00	0.00
19,500.0	90.00	181.24	6,820.0	-13,385.1	-720.7	13,397.5	0.00	0.00	0.00
19,600.0	90.00	181.24	6,820.0	-13,485.1	-722.9	13,497.5	0.00	0.00	0.00
19,700.0	90.00	181.24	6,820.0	-13,585.0	-725.1	13,597.5	0.00	0.00	0.00
19,800.0	90.00	181.24	6,820.0	-13,685.0	-727.2	13,697.5	0.00	0.00	0.00
19,900.0	90.00	181.24	6,820.0	-13,785.0	-729.4	13,797.5	0.00	0.00	0.00
20,000.0	90.00	181.24	6,820.0	-13,885.0	-731.6	13,897.5	0.00	0.00	0.00
20,100.0	90.00	181.24	6,820.0	-13,984.9	-733.7	13,997.5	0.00	0.00	0.00
20,200.0	90.00	181.24	6,820.0	-14,084.9	-735.9	14,097.5	0.00	0.00	0.00
20,300.0	90.00	181.24	6,820.0	-14,184.9	-738.1	14,197.5	0.00	0.00	0.00
20,400.0	90.00	181.24	6,820.0	-14,284.9	-740.2	14,297.5	0.00	0.00	0.00
20,500.0	90.00	181.24	6,820.0	-14,384.8	-742.4	14,397.5	0.00	0.00	0.00
20,600.0	90.00	181.24	6,820.0	-14,484.8	-744.6	14,497.5	0.00	0.00	0.00
TD @ 20627.3' MD / 6820.0' TVD									
20,627.3	90.00	181.24	6,820.0	-14,512.1	-745.2	14,524.8	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									
LP - SU Spicer 0680 3	0.00	360.00	6,820.0	-1,191.1	71.4	1,435,830.42	2,748,820.32	40.526242	-106.403567
- plan misses target center by 0.1usft at 7242.8usft MD (6820.0 TVD, -1191.1 N, 71.4 E)									
- Point									
PBHL - SU Spicer 0680 3	0.00	360.00	6,820.0	-14,512.1	-745.2	1,422,509.41	2,748,003.78	40.489656	-106.406014
- plan hits target center									
- Point									

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,600.0	2,600.0	0.0	0.0	Build 2°/100'
3,600.1	3,579.9	-165.3	50.4	EOB @ 20.00° Inc. / 163.04° Azm
4,518.7	4,443.1	-465.8	142.1	Drop 2°/100'
5,518.8	5,423.0	-631.1	192.5	EOD @ Vert.
6,342.8	6,247.0	-631.1	192.5	Build 10°/100'
7,242.8	6,820.0	-1,191.1	71.4	EOB @ 90.00° Inc. / 192.20° Azm
9,744.1	6,820.0	-3,636.0	-457.2	Turn 2°/100'
10,292.0	6,820.0	-4,179.3	-521.2	EOT @ 90.00° Inc. / 181.24° Azm
20,627.3	6,820.0	-14,512.1	-745.2	TD @ 20627.3' MD / 6820.0' TVD