

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PA 323-23 KMV	5782.00	2739.60	-1438.13	1619233.00	2303363.50	39.5075811	-107.9692976	Circle (Radius: 50.00)
- plan misses target center by 36.82usft at 6646.03usft MD (5786.84 TVD, 2707.29 N, -1421.16 E)								
PA 323-23 PBHL	8416.00	2739.60	-1438.13	1619233.00	2303363.50	39.5075811	-107.9692976	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

PA 31-26 Pad

PA 323-23 - Slot PA 323-23 (A1)

OH

Plan: Plan #3 19Jun2019mmsdi

Standard Planning Report

25 June, 2019



Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 323-23 - Slot PA 323-23 (A1)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL5486' & RKB 24' @ 5510.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL5486' & RKB 24' @ 5510.00usft
Site:	PA 31-26 Pad	North Reference:	True
Well:	PA 323-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 19Jun2019mmsdi		

Project	Garfield County, CO NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site		PA 31-26 Pad			
Site Position:		Northing:	1,616,455.80 usft	Latitude:	39.5000599
From:	Map	Easting:	2,304,726.80 usft	Longitude:	-107.9642007
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.55 °

Well	PA 323-23 - Slot PA 323-23 (A1)					
Well Position	+N/-S	0.00 usft	Northing:	1,616,455.80 usft	Latitude:	39.5000599
	+E/-W	0.00 usft	Easting:	2,304,726.80 usft	Longitude:	-107.9642007
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,486.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	2/26/2018	9.40	65.77	51,650

Design	Plan #3 19Jun2019mmsdi			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	332.30

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,125.11	34.65	332.30	1,065.84	257.13	-134.98	3.50	3.50	0.00	332.30	
4,864.23	34.65	332.30	4,141.65	2,139.64	-1,123.18	0.00	0.00	0.00	0.00	
6,641.14	8.00	332.30	5,782.00	2,706.69	-1,420.85	1.50	-1.50	0.00	180.00	
7,174.48	0.00	0.00	6,313.60	2,739.60	-1,438.13	1.50	-1.50	0.00	180.00	
9,276.88	0.00	0.00	8,416.00	2,739.60	-1,438.13	0.00	0.00	0.00	0.00	PA 323-23 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 323-23 - Slot PA 323-23 (A1)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL5486' & RKB 24' @ 5510.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL5486' & RKB 24' @ 5510.00usft
Site:	PA 31-26 Pad	North Reference:	True
Well:	PA 323-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 19Jun2019mmsdi		

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.50									
200.00	2.28	332.30	199.98	1.14	-0.60	1.29	3.50	3.50	0.00
300.00	5.78	332.30	299.72	7.36	-3.86	8.31	3.50	3.50	0.00
400.00	9.28	332.30	398.84	18.95	-9.95	21.40	3.50	3.50	0.00
500.00	12.78	332.30	496.98	35.88	-18.83	40.52	3.50	3.50	0.00
600.00	16.28	332.30	593.77	58.08	-30.49	65.60	3.50	3.50	0.00
700.00	19.78	332.30	688.85	85.48	-44.87	96.54	3.50	3.50	0.00
800.00	23.28	332.30	781.86	117.96	-61.92	133.22	3.50	3.50	0.00
900.00	26.78	332.30	872.46	155.41	-81.58	175.52	3.50	3.50	0.00
1,000.00	30.28	332.30	960.31	197.68	-103.77	223.26	3.50	3.50	0.00
1,100.00	33.78	332.30	1,045.07	244.63	-128.42	276.28	3.50	3.50	0.00
9 5/8" Casing @ 1100' MD									
1,125.11	34.65	332.30	1,065.84	257.13	-134.98	290.40	3.50	3.50	0.00
Start 3739.12 hold at 1125.11 MD									
1,200.00	34.65	332.30	1,127.44	294.83	-154.77	332.99	0.00	0.00	0.00
1,300.00	34.65	332.30	1,209.70	345.18	-181.20	389.85	0.00	0.00	0.00
1,400.00	34.65	332.30	1,291.96	395.53	-207.63	446.71	0.00	0.00	0.00
1,500.00	34.65	332.30	1,374.22	445.87	-234.06	503.57	0.00	0.00	0.00
1,600.00	34.65	332.30	1,456.49	496.22	-260.49	560.43	0.00	0.00	0.00
1,700.00	34.65	332.30	1,538.75	546.57	-286.91	617.30	0.00	0.00	0.00
1,800.00	34.65	332.30	1,621.01	596.91	-313.34	674.16	0.00	0.00	0.00
1,900.00	34.65	332.30	1,703.27	647.26	-339.77	731.02	0.00	0.00	0.00
2,000.00	34.65	332.30	1,785.53	697.60	-366.20	787.88	0.00	0.00	0.00
2,100.00	34.65	332.30	1,867.79	747.95	-392.63	844.74	0.00	0.00	0.00
2,200.00	34.65	332.30	1,950.05	798.30	-419.06	901.60	0.00	0.00	0.00
2,300.00	34.65	332.30	2,032.31	848.64	-445.49	958.46	0.00	0.00	0.00
2,400.00	34.65	332.30	2,114.57	898.99	-471.92	1,015.33	0.00	0.00	0.00
2,500.00	34.65	332.30	2,196.83	949.34	-498.34	1,072.19	0.00	0.00	0.00
2,600.00	34.65	332.30	2,279.09	999.68	-524.77	1,129.05	0.00	0.00	0.00
2,700.00	34.65	332.30	2,361.35	1,050.03	-551.20	1,185.91	0.00	0.00	0.00
2,714.16	34.65	332.30	2,373.00	1,057.16	-554.95	1,193.96	0.00	0.00	0.00
G SAND TOP									
2,799.26	34.65	332.30	2,443.00	1,100.00	-577.44	1,242.35	0.00	0.00	0.00
G SAND BASE									
2,800.00	34.65	332.30	2,443.61	1,100.38	-577.63	1,242.77	0.00	0.00	0.00
2,900.00	34.65	332.30	2,525.87	1,150.72	-604.06	1,299.63	0.00	0.00	0.00
3,000.00	34.65	332.30	2,608.13	1,201.07	-630.49	1,356.50	0.00	0.00	0.00
3,100.00	34.65	332.30	2,690.39	1,251.41	-656.92	1,413.36	0.00	0.00	0.00
3,200.00	34.65	332.30	2,772.65	1,301.76	-683.35	1,470.22	0.00	0.00	0.00
3,300.00	34.65	332.30	2,854.91	1,352.11	-709.78	1,527.08	0.00	0.00	0.00
3,400.00	34.65	332.30	2,937.17	1,402.45	-736.20	1,583.94	0.00	0.00	0.00
3,500.00	34.65	332.30	3,019.43	1,452.80	-762.63	1,640.80	0.00	0.00	0.00
3,600.00	34.65	332.30	3,101.69	1,503.15	-789.06	1,697.66	0.00	0.00	0.00
3,700.00	34.65	332.30	3,183.95	1,553.49	-815.49	1,754.53	0.00	0.00	0.00
3,800.00	34.65	332.30	3,266.21	1,603.84	-841.92	1,811.39	0.00	0.00	0.00
3,900.00	34.65	332.30	3,348.47	1,654.19	-868.35	1,868.25	0.00	0.00	0.00
4,000.00	34.65	332.30	3,430.73	1,704.53	-894.78	1,925.11	0.00	0.00	0.00
4,100.00	34.65	332.30	3,512.99	1,754.88	-921.21	1,981.97	0.00	0.00	0.00
4,200.00	34.65	332.30	3,595.25	1,805.22	-947.63	2,038.83	0.00	0.00	0.00
4,300.00	34.65	332.30	3,677.51	1,855.57	-974.06	2,095.70	0.00	0.00	0.00
4,400.00	34.65	332.30	3,759.77	1,905.92	-1,000.49	2,152.56	0.00	0.00	0.00

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Company:	TEP Rocky Mountain LLC	TVD Reference:	GL5486' & RKB 24' @ 5510.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL5486' & RKB 24' @ 5510.00usft
Site:	PA 31-26 Pad	North Reference:	True
Well:	PA 323-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 19Jun2019mmsdi		

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)
4,500.00	34.65	332.30	3,842.03	1,956.26	-1,026.92	2,209.42	0.00	0.00	0.00
4,600.00	34.65	332.30	3,924.30	2,006.61	-1,053.35	2,266.28	0.00	0.00	0.00
4,627.60	34.65	332.30	3,947.00	2,020.51	-1,060.64	2,281.97	0.00	0.00	0.00
LOWER WSTC									
4,700.00	34.65	332.30	4,006.56	2,056.96	-1,079.78	2,323.14	0.00	0.00	0.00
4,800.00	34.65	332.30	4,088.82	2,107.30	-1,106.21	2,380.00	0.00	0.00	0.00
4,864.23	34.65	332.30	4,141.65	2,139.64	-1,123.18	2,416.53	0.00	0.00	0.00
Start Drop -1.50									
4,900.00	34.12	332.30	4,171.17	2,157.53	-1,132.57	2,436.73	1.50	-1.50	0.00
5,000.00	32.62	332.30	4,254.69	2,206.22	-1,158.13	2,491.73	1.50	-1.50	0.00
5,100.00	31.12	332.30	4,339.61	2,252.97	-1,182.67	2,544.52	1.50	-1.50	0.00
5,200.00	29.62	332.30	4,425.89	2,297.73	-1,206.17	2,595.07	1.50	-1.50	0.00
5,300.00	28.12	332.30	4,513.46	2,340.47	-1,228.61	2,643.35	1.50	-1.50	0.00
5,400.00	26.62	332.30	4,602.26	2,381.17	-1,249.97	2,689.32	1.50	-1.50	0.00
5,445.43	25.94	332.30	4,643.00	2,398.98	-1,259.32	2,709.43	1.50	-1.50	0.00
OCRK - WRFK/UMVRD									
5,500.00	25.12	332.30	4,692.24	2,419.80	-1,270.25	2,732.94	1.50	-1.50	0.00
5,600.00	23.62	332.30	4,783.33	2,456.33	-1,289.43	2,774.20	1.50	-1.50	0.00
5,700.00	22.12	332.30	4,875.47	2,490.74	-1,307.49	2,813.06	1.50	-1.50	0.00
5,800.00	20.62	332.30	4,968.59	2,523.00	-1,324.42	2,849.49	1.50	-1.50	0.00
5,900.00	19.12	332.30	5,062.64	2,553.09	-1,340.22	2,883.48	1.50	-1.50	0.00
6,000.00	17.62	332.30	5,157.54	2,580.99	-1,354.86	2,914.99	1.50	-1.50	0.00
6,100.00	16.12	332.30	5,253.24	2,606.68	-1,368.35	2,944.00	1.50	-1.50	0.00
6,200.00	14.62	332.30	5,349.66	2,630.14	-1,380.67	2,970.50	1.50	-1.50	0.00
6,300.00	13.12	332.30	5,446.74	2,651.36	-1,391.80	2,994.47	1.50	-1.50	0.00
6,400.00	11.62	332.30	5,544.42	2,670.32	-1,401.76	3,015.88	1.50	-1.50	0.00
6,500.00	10.12	332.30	5,642.62	2,687.01	-1,410.52	3,034.74	1.50	-1.50	0.00
6,600.00	8.62	332.30	5,741.29	2,701.43	-1,418.09	3,051.01	1.50	-1.50	0.00
6,641.14	8.00	332.30	5,782.00	2,706.69	-1,420.85	3,056.96	1.50	-1.50	0.00
Start Drop -1.50 - KMGAS									
6,646.03	7.93	332.30	5,786.84	2,707.29	-1,421.16	3,057.63	1.50	-1.50	0.00
PA 323-23 KMV									
6,700.00	7.12	332.30	5,840.34	2,713.54	-1,424.45	3,064.70	1.50	-1.50	0.00
6,800.00	5.62	332.30	5,939.72	2,723.36	-1,429.60	3,075.79	1.50	-1.50	0.00
6,900.00	4.12	332.30	6,039.36	2,730.88	-1,433.55	3,084.27	1.50	-1.50	0.00
7,000.00	2.62	332.30	6,139.18	2,736.08	-1,436.28	3,090.15	1.50	-1.50	0.00
7,100.00	1.12	332.30	6,239.13	2,738.96	-1,437.79	3,093.40	1.50	-1.50	0.00
7,174.48	0.00	0.00	6,313.60	2,739.60	-1,438.13	3,094.13	1.50	-1.50	0.00
Start 2102.40 hold at 7174.48 MD									
7,200.00	0.00	0.00	6,339.12	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
7,300.00	0.00	0.00	6,439.12	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
7,400.00	0.00	0.00	6,539.12	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
7,500.00	0.00	0.00	6,639.12	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
7,600.00	0.00	0.00	6,739.12	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
7,700.00	0.00	0.00	6,839.12	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
7,800.00	0.00	0.00	6,939.12	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
7,900.00	0.00	0.00	7,039.12	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
8,000.00	0.00	0.00	7,139.12	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
8,100.00	0.00	0.00	7,239.12	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
8,200.00	0.00	0.00	7,339.12	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
8,300.00	0.00	0.00	7,439.12	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
8,400.00	0.00	0.00	7,539.12	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
8,500.00	0.00	0.00	7,639.12	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00

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Site:	PA 31-26 Pad	North Reference:	True
Well:	PA 323-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 19Jun2019mmsdi		

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)
8,600.00	0.00	0.00	7,739.12	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
8,700.00	0.00	0.00	7,839.12	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
8,701.88	0.00	0.00	7,841.00	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
CMEO									
8,800.00	0.00	0.00	7,939.12	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
8,900.00	0.00	0.00	8,039.12	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
9,000.00	0.00	0.00	8,139.12	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
9,048.88	0.00	0.00	8,188.00	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
RLNS									
9,100.00	0.00	0.00	8,239.12	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
9,200.00	0.00	0.00	8,339.12	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
9,276.88	0.00	0.00	8,416.00	2,739.60	-1,438.13	3,094.13	0.00	0.00	0.00
TD at 9276.88 - TD - PA 323-23 PBHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PA 323-23 KMV	0.00	0.00	5,782.00	2,739.60	-1,438.13	1,619,233.40	2,303,363.50	39.5075812	-107.9692976
- plan misses target center by 36.82usft at 6646.03usft MD (5786.84 TVD, 2707.29 N, -1421.16 E)									
- Circle (radius 50.00)									
PA 323-23 PBHL	0.00	0.00	8,416.00	2,739.60	-1,438.13	1,619,233.40	2,303,363.50	39.5075812	-107.9692976
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,100.00	1,045.07	9 5/8" Casing @ 1100' MD	9.62	13.50	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,714.16	2,373.00	G SAND TOP		0.00	0.00
2,799.26	2,443.00	G SAND BASE		0.00	0.00
4,627.60	3,947.00	LOWER WSTC		0.00	0.00
5,445.43	4,643.00	OCRK		0.00	0.00
5,445.43	4,643.00	WRFK/UMVRD		0.00	0.00
6,641.14	5,782.00	KMVGAS		0.00	0.00
8,701.88	7,841.00	CMEO		0.00	0.00
9,048.88	8,188.00	RLNS		0.00	0.00
9,276.88	8,416.00	TD		0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 323-23 - Slot PA 323-23 (A1)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL5486' & RKB 24' @ 5510.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL5486' & RKB 24' @ 5510.00usft
Site:	PA 31-26 Pad	North Reference:	True
Well:	PA 323-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 19Jun2019mmsdi		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
135.00	135.00	0.00	0.00	Start Build 3.50
1,125.11	1,065.84	257.13	-134.98	Start 3739.12 hold at 1125.11 MD
4,864.23	4,141.65	2,139.64	-1,123.18	Start Drop -1.50
6,641.14	5,782.00	2,706.69	-1,420.85	Start Drop -1.50
7,174.48	6,313.60	2,739.60	-1,438.13	Start 2102.40 hold at 7174.48 MD
9,276.88	8,416.00	2,739.60	-1,438.13	TD at 9276.88