

TEP Rocky Mountain LLC

Garfield County, CO NAD83

TR 1-24-597 Pad

TR 21-24-597 - Slot B13

OH

Plan: Plan #1

Standard Planning Report

10 June, 2017

N/A
Planning Report

Database:	EDM_PRO	Local Co-ordinate Reference:	Well TR 21-24-597 - Slot B13
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 8533.0ft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 8533.0ft (Original Well Elev)
Site:	TR 1-24-597 Pad	North Reference:	True
Well:	TR 21-24-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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	TR 1-24-597 Pad				
Site Position:	Northing:	1,655,274.70 ft	Latitude:	39° 36' 2.738 N	
From: Map	Easting:	2,230,578.20 ft	Longitude:	108° 13' 51.597 W	
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.72 °

Well	TR 21-24-597 - Slot B13, B13					
Well Position	+N/-S	0.0 ft	Northing:	1,655,274.70 ft	Latitude:	39° 36' 2.738 N
	+E/-W	0.0 ft	Easting:	2,230,578.20 ft	Longitude:	108° 13' 51.597 W
Position Uncertainty	0.0 ft	Wellhead Elevation:		Ground Level:	8,509.0 ft	

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2000	12/31/2004	11.57	66.03	53,050.71612218

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	28.23

Plan Survey Tool Program	Date	6/10/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	10,888.9 Plan #1 (OH)	SDI MWD	
			SDI MWD - Standard ver 1.0.1	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	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	
180.0	0.00	0.00	180.0	0.0	0.0	0.00	0.00	0.00	0.00	
846.6	20.00	28.23	833.1	101.5	54.5	3.00	3.00	0.00	28.23	
6,182.9	20.00	28.23	5,847.7	1,709.4	917.6	0.00	0.00	0.00	0.00	
7,516.1	0.00	0.00	7,154.0	1,912.3	1,026.5	1.50	-1.50	0.00	180.00	
10,889.1	0.00	0.00	10,527.0	1,912.3	1,026.5	0.00	0.00	0.00	0.00	PBHL (TR 21-24-597)

N/A
Planning Report

Database:	EDM_PRO	Local Co-ordinate Reference:	Well TR 21-24-597 - Slot B13
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 8533.0ft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 8533.0ft (Original Well Elev)
Site:	TR 1-24-597 Pad	North Reference:	True
Well:	TR 21-24-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	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
180.0	0.00	0.00	180.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.60	28.23	200.0	0.1	0.0	0.1	3.00	3.00	0.00
300.0	3.60	28.23	299.9	3.3	1.8	3.8	3.00	3.00	0.00
400.0	6.60	28.23	399.5	11.2	6.0	12.7	3.00	3.00	0.00
500.0	9.60	28.23	498.5	23.6	12.6	26.7	3.00	3.00	0.00
600.0	12.60	28.23	596.6	40.5	21.8	46.0	3.00	3.00	0.00
700.0	15.60	28.23	693.6	62.0	33.3	70.4	3.00	3.00	0.00
800.0	18.60	28.23	789.2	87.9	47.2	99.8	3.00	3.00	0.00
846.6	20.00	28.23	833.1	101.5	54.5	115.2	3.00	3.00	0.00
900.0	20.00	28.23	883.3	117.6	63.1	133.4	0.00	0.00	0.00
1,000.0	20.00	28.23	977.3	147.7	79.3	167.6	0.00	0.00	0.00
1,100.0	20.00	28.23	1,071.3	177.8	95.4	201.8	0.00	0.00	0.00
1,200.0	20.00	28.23	1,165.2	207.9	111.6	236.0	0.00	0.00	0.00
1,300.0	20.00	28.23	1,259.2	238.1	127.8	270.2	0.00	0.00	0.00
1,400.0	20.00	28.23	1,353.2	268.2	144.0	304.4	0.00	0.00	0.00
1,500.0	20.00	28.23	1,447.2	298.3	160.1	338.6	0.00	0.00	0.00
1,600.0	20.00	28.23	1,541.1	328.5	176.3	372.8	0.00	0.00	0.00
1,700.0	20.00	28.23	1,635.1	358.6	192.5	407.0	0.00	0.00	0.00
1,800.0	20.00	28.23	1,729.1	388.7	208.7	441.2	0.00	0.00	0.00
1,900.0	20.00	28.23	1,823.0	418.9	224.8	475.4	0.00	0.00	0.00
2,000.0	20.00	28.23	1,917.0	449.0	241.0	509.6	0.00	0.00	0.00
2,100.0	20.00	28.23	2,011.0	479.1	257.2	543.8	0.00	0.00	0.00
2,200.0	20.00	28.23	2,104.9	509.3	273.4	578.0	0.00	0.00	0.00
2,300.0	20.00	28.23	2,198.9	539.4	289.5	612.2	0.00	0.00	0.00
2,400.0	20.00	28.23	2,292.9	569.5	305.7	646.4	0.00	0.00	0.00
2,500.0	20.00	28.23	2,386.9	599.7	321.9	680.6	0.00	0.00	0.00
2,600.0	20.00	28.23	2,480.8	629.8	338.1	714.8	0.00	0.00	0.00
2,700.0	20.00	28.23	2,574.8	659.9	354.2	749.0	0.00	0.00	0.00
2,800.0	20.00	28.23	2,668.8	690.1	370.4	783.2	0.00	0.00	0.00
2,900.0	20.00	28.23	2,762.7	720.2	386.6	817.4	0.00	0.00	0.00
3,000.0	20.00	28.23	2,856.7	750.3	402.8	851.6	0.00	0.00	0.00
3,100.0	20.00	28.23	2,950.7	780.5	418.9	885.8	0.00	0.00	0.00
3,132.3	20.00	28.23	2,981.0	790.2	424.1	896.8	0.00	0.00	0.00
Wasatch									
3,200.0	20.00	28.23	3,044.7	810.6	435.1	920.0	0.00	0.00	0.00
3,300.0	20.00	28.23	3,138.6	840.7	451.3	954.2	0.00	0.00	0.00
3,382.0	20.00	28.23	3,215.7	865.4	464.5	982.2	0.00	0.00	0.00
9 5/8"									
3,400.0	20.00	28.23	3,232.6	870.9	467.5	988.4	0.00	0.00	0.00
3,500.0	20.00	28.23	3,326.6	901.0	483.6	1,022.6	0.00	0.00	0.00
3,600.0	20.00	28.23	3,420.5	931.1	499.8	1,056.8	0.00	0.00	0.00
3,700.0	20.00	28.23	3,514.5	961.2	516.0	1,091.0	0.00	0.00	0.00
3,800.0	20.00	28.23	3,608.5	991.4	532.1	1,125.2	0.00	0.00	0.00
3,900.0	20.00	28.23	3,702.4	1,021.5	548.3	1,159.4	0.00	0.00	0.00
4,000.0	20.00	28.23	3,796.4	1,051.6	564.5	1,193.6	0.00	0.00	0.00
4,100.0	20.00	28.23	3,890.4	1,081.8	580.7	1,227.8	0.00	0.00	0.00
4,200.0	20.00	28.23	3,984.4	1,111.9	596.8	1,262.0	0.00	0.00	0.00
4,300.0	20.00	28.23	4,078.3	1,142.0	613.0	1,296.2	0.00	0.00	0.00
4,400.0	20.00	28.23	4,172.3	1,172.2	629.2	1,330.4	0.00	0.00	0.00
4,500.0	20.00	28.23	4,266.3	1,202.3	645.4	1,364.6	0.00	0.00	0.00
4,600.0	20.00	28.23	4,360.2	1,232.4	661.5	1,398.8	0.00	0.00	0.00

N/A
Planning Report

Database:	EDM_PRO	Local Co-ordinate Reference:	Well TR 21-24-597 - Slot B13
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 8533.0ft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 8533.0ft (Original Well Elev)
Site:	TR 1-24-597 Pad	North Reference:	True
Well:	TR 21-24-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,700.0	20.00	28.23	4,454.2	1,262.6	677.7	1,433.0	0.00	0.00	0.00	
4,800.0	20.00	28.23	4,548.2	1,292.7	693.9	1,467.2	0.00	0.00	0.00	
4,900.0	20.00	28.23	4,642.2	1,322.8	710.1	1,501.4	0.00	0.00	0.00	
5,000.0	20.00	28.23	4,736.1	1,353.0	726.2	1,535.6	0.00	0.00	0.00	
5,100.0	20.00	28.23	4,830.1	1,383.1	742.4	1,569.8	0.00	0.00	0.00	
5,106.3	20.00	28.23	4,836.0	1,385.0	743.4	1,571.9	0.00	0.00	0.00	
Top of "G" Sand										
5,134.0	20.00	28.23	4,862.0	1,393.3	747.9	1,581.4	0.00	0.00	0.00	
Base of "G" Sand										
5,200.0	20.00	28.23	4,924.1	1,413.2	758.6	1,603.9	0.00	0.00	0.00	
5,300.0	20.00	28.23	5,018.0	1,443.4	774.8	1,638.1	0.00	0.00	0.00	
5,361.7	20.00	28.23	5,076.0	1,461.9	784.7	1,659.2	0.00	0.00	0.00	
Fort Union										
5,400.0	20.00	28.23	5,112.0	1,473.5	790.9	1,672.3	0.00	0.00	0.00	
5,500.0	20.00	28.23	5,206.0	1,503.6	807.1	1,706.5	0.00	0.00	0.00	
5,600.0	20.00	28.23	5,299.9	1,533.8	823.3	1,740.7	0.00	0.00	0.00	
5,700.0	20.00	28.23	5,393.9	1,563.9	839.5	1,774.9	0.00	0.00	0.00	
5,800.0	20.00	28.23	5,487.9	1,594.0	855.6	1,809.1	0.00	0.00	0.00	
5,900.0	20.00	28.23	5,581.9	1,624.1	871.8	1,843.3	0.00	0.00	0.00	
6,000.0	20.00	28.23	5,675.8	1,654.3	888.0	1,877.5	0.00	0.00	0.00	
6,100.0	20.00	28.23	5,769.8	1,684.4	904.2	1,911.7	0.00	0.00	0.00	
6,182.9	20.00	28.23	5,847.7	1,709.4	917.6	1,940.1	0.00	0.00	0.00	
6,200.0	19.74	28.23	5,863.8	1,714.5	920.3	1,945.9	1.50	-1.50	0.00	
6,300.0	18.24	28.23	5,958.3	1,743.2	935.7	1,978.4	1.50	-1.50	0.00	
6,400.0	16.74	28.23	6,053.7	1,769.7	949.9	2,008.5	1.50	-1.50	0.00	
6,500.0	15.24	28.23	6,149.8	1,793.9	962.9	2,036.0	1.50	-1.50	0.00	
6,600.0	13.74	28.23	6,246.7	1,816.0	974.8	2,061.1	1.50	-1.50	0.00	
6,654.8	12.92	28.23	6,300.0	1,827.1	980.8	2,073.7	1.50	-1.50	0.00	
Ohio Creek										
6,700.0	12.24	28.23	6,344.1	1,835.8	985.4	2,083.5	1.50	-1.50	0.00	
6,800.0	10.74	28.23	6,442.1	1,853.3	994.8	2,103.5	1.50	-1.50	0.00	
6,900.0	9.24	28.23	6,540.6	1,868.6	1,003.0	2,120.8	1.50	-1.50	0.00	
6,919.7	8.95	28.23	6,560.0	1,871.4	1,004.5	2,123.9	1.50	-1.50	0.00	
Mesaverde										
7,000.0	7.74	28.23	6,639.5	1,881.6	1,010.0	2,135.6	1.50	-1.50	0.00	
7,100.0	6.24	28.23	6,738.7	1,892.4	1,015.8	2,147.8	1.50	-1.50	0.00	
7,200.0	4.74	28.23	6,838.3	1,900.8	1,020.3	2,157.3	1.50	-1.50	0.00	
7,300.0	3.24	28.23	6,938.0	1,906.9	1,023.6	2,164.3	1.50	-1.50	0.00	
7,400.0	1.74	28.23	7,037.9	1,910.8	1,025.7	2,168.6	1.50	-1.50	0.00	
7,500.0	0.24	28.23	7,137.9	1,912.3	1,026.5	2,170.4	1.50	-1.50	0.00	
7,516.1	0.00	0.00	7,154.0	1,912.3	1,026.5	2,170.4	1.50	-1.50	0.00	
7,600.0	0.00	0.00	7,237.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,337.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,437.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
7,900.0	0.00	0.00	7,537.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,637.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
8,043.1	0.00	0.00	7,681.0	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
Top of Gas										
8,100.0	0.00	0.00	7,737.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
8,200.0	0.00	0.00	7,837.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
8,300.0	0.00	0.00	7,937.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
8,400.0	0.00	0.00	8,037.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
8,500.0	0.00	0.00	8,137.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	

N/A
Planning Report

Database:	EDM_PRO	Local Co-ordinate Reference:	Well TR 21-24-597 - Slot B13
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 8533.0ft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 8533.0ft (Original Well Elev)
Site:	TR 1-24-597 Pad	North Reference:	True
Well:	TR 21-24-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,600.0	0.00	0.00	8,237.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
8,700.0	0.00	0.00	8,337.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
8,800.0	0.00	0.00	8,437.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
8,900.0	0.00	0.00	8,537.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
9,000.0	0.00	0.00	8,637.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
9,100.0	0.00	0.00	8,737.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
9,200.0	0.00	0.00	8,837.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
9,300.0	0.00	0.00	8,937.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
9,400.0	0.00	0.00	9,037.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
9,500.0	0.00	0.00	9,137.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
9,600.0	0.00	0.00	9,237.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
9,700.0	0.00	0.00	9,337.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
9,706.1	0.00	0.00	9,344.0	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
Cameo										
9,800.0	0.00	0.00	9,437.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
9,900.0	0.00	0.00	9,537.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
10,000.0	0.00	0.00	9,637.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
10,007.1	0.00	0.00	9,645.0	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
RLNS										
10,100.0	0.00	0.00	9,737.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
10,197.1	0.00	0.00	9,835.0	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
Cozette										
10,200.0	0.00	0.00	9,837.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
10,300.0	0.00	0.00	9,937.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
10,400.0	0.00	0.00	10,037.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
10,426.1	0.00	0.00	10,064.0	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
Corcoran										
10,500.0	0.00	0.00	10,137.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
10,589.1	0.00	0.00	10,227.0	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
Sego										
10,600.0	0.00	0.00	10,237.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
10,700.0	0.00	0.00	10,337.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
10,800.0	0.00	0.00	10,437.9	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
10,889.1	0.00	0.00	10,527.0	1,912.3	1,026.5	2,170.4	0.00	0.00	0.00	
PBHL (TR 21-24-597)										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
PBHL (TR 21-24-597)	0.00	0.00	10,527.0	1,912.3	1,026.5	1,657,155.30	2,231,661.70	39° 36' 21.637 N	108° 13' 38.482 W	
- hit/miss target										
- Shape										
- plan hits target center										
- Circle (radius 50.0)										

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)		
3,382.0	3,215.7	9 5/8"	9.625	14.750		

N/A
Planning Report

Database:	EDM_PRO	Local Co-ordinate Reference:	Well TR 21-24-597 - Slot B13
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 8533.0ft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 8533.0ft (Original Well Elev)
Site:	TR 1-24-597 Pad	North Reference:	True
Well:	TR 21-24-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,132.3	2,981.0	Wasatch		0.00		
5,106.3	4,836.0	Top of "G" Sand		0.00		
5,134.0	4,862.0	Base of "G" Sand		0.00		
5,361.7	5,076.0	Fort Union		0.00		
6,654.8	6,300.0	Ohio Creek		0.00		
6,919.7	6,560.0	Mesaverde		0.00		
8,043.1	7,681.0	Top of Gas		0.00		
9,706.1	9,344.0	Cameo		0.00		
10,007.1	9,645.0	RLNS		0.00		
10,197.1	9,835.0	Cozzette		0.00		
10,426.1	10,064.0	Corcoran		0.00		
10,589.1	10,227.0	Sego		0.00		