

# **TEP Rocky Mountain LLC**

**Garfield County, CO NAD83**

**TR 1-24-597 Pad**

**TR 22-24-597 - Slot A10**

**OH**

**Plan: Plan #1**

## **Standard Planning Report**

**10 June, 2017**

**N/A**  
Planning Report

<b>Database:</b>	EDM_PRO	<b>Local Co-ordinate Reference:</b>	Well TR 22-24-597 - Slot A10
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	WELL @ 8533.0ft (Original Well Elev)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	WELL @ 8533.0ft (Original Well Elev)
<b>Site:</b>	TR 1-24-597 Pad	<b>North Reference:</b>	True
<b>Well:</b>	TR 22-24-597	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

<b>Project</b>	Garfield County, CO NAD83		
<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 Central Zone		

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

<b>Well</b>	TR 22-24-597 - Slot A10					
<b>Well Position</b>	<b>+N/-S</b>	-23.9 ft	<b>Northing:</b>	1,655,251.00 ft	<b>Latitude:</b>	39° 36' 2.501 N
	<b>+E/-W</b>	-6.0 ft	<b>Easting:</b>	2,230,571.50 ft	<b>Longitude:</b>	108° 13' 51.674 W
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	8,509.0 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2000	12/31/2004	11.57	66.03	53,050.67722444

<b>Design</b>	Plan #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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	57.78

<b>Plan Survey Tool Program</b>	<b>Date</b>	6/10/2017		
<b>Depth From (ft)</b>	<b>Depth To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.0	10,634.2 Plan #1 (OH)	SDI MWD	
			SDI MWD - Standard ver 1.0.1	

<b>Plan Sections</b>										
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	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
779.9	12.00	57.78	776.4	26.7	42.4	2.50	2.50	0.00	57.78	
6,042.5	12.00	57.78	5,924.0	609.9	967.8	0.00	0.00	0.00	0.00	
6,842.3	0.00	0.00	6,718.0	654.4	1,038.4	1.50	-1.50	0.00	180.00	
10,634.3	0.00	0.00	10,510.0	654.4	1,038.4	0.00	0.00	0.00	0.00	PBHL (TR 22-24-597)

**N/A**  
**Planning Report**

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<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	WELL @ 8533.0ft (Original Well Elev)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	WELL @ 8533.0ft (Original Well Elev)
<b>Site:</b>	TR 1-24-597 Pad	<b>North Reference:</b>	True
<b>Well:</b>	TR 22-24-597	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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
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	2.50	57.78	400.0	1.2	1.8	2.2	2.50	2.50	0.00
500.0	5.00	57.78	499.7	4.6	7.4	8.7	2.50	2.50	0.00
600.0	7.50	57.78	599.1	10.5	16.6	19.6	2.50	2.50	0.00
700.0	10.00	57.78	698.0	18.6	29.5	34.8	2.50	2.50	0.00
779.9	12.00	57.78	776.4	26.7	42.4	50.1	2.50	2.50	0.00
800.0	12.00	57.78	796.1	28.9	45.9	54.2	0.00	0.00	0.00
900.0	12.00	57.78	893.9	40.0	63.5	75.0	0.00	0.00	0.00
1,000.0	12.00	57.78	991.7	51.1	81.1	95.8	0.00	0.00	0.00
1,100.0	12.00	57.78	1,089.5	62.2	98.6	116.6	0.00	0.00	0.00
1,200.0	12.00	57.78	1,187.3	73.2	116.2	137.4	0.00	0.00	0.00
1,300.0	12.00	57.78	1,285.1	84.3	133.8	158.2	0.00	0.00	0.00
1,400.0	12.00	57.78	1,383.0	95.4	151.4	179.0	0.00	0.00	0.00
1,500.0	12.00	57.78	1,480.8	106.5	169.0	199.7	0.00	0.00	0.00
1,600.0	12.00	57.78	1,578.6	117.6	186.6	220.5	0.00	0.00	0.00
1,700.0	12.00	57.78	1,676.4	128.7	204.2	241.3	0.00	0.00	0.00
1,800.0	12.00	57.78	1,774.2	139.7	221.7	262.1	0.00	0.00	0.00
1,900.0	12.00	57.78	1,872.0	150.8	239.3	282.9	0.00	0.00	0.00
2,000.0	12.00	57.78	1,969.9	161.9	256.9	303.7	0.00	0.00	0.00
2,100.0	12.00	57.78	2,067.7	173.0	274.5	324.5	0.00	0.00	0.00
2,200.0	12.00	57.78	2,165.5	184.1	292.1	345.3	0.00	0.00	0.00
2,300.0	12.00	57.78	2,263.3	195.2	309.7	366.0	0.00	0.00	0.00
2,400.0	12.00	57.78	2,361.1	206.2	327.3	386.8	0.00	0.00	0.00
2,500.0	12.00	57.78	2,458.9	217.3	344.8	407.6	0.00	0.00	0.00
2,600.0	12.00	57.78	2,556.7	228.4	362.4	428.4	0.00	0.00	0.00
2,700.0	12.00	57.78	2,654.6	239.5	380.0	449.2	0.00	0.00	0.00
2,800.0	12.00	57.78	2,752.4	250.6	397.6	470.0	0.00	0.00	0.00
2,900.0	12.00	57.78	2,850.2	261.7	415.2	490.8	0.00	0.00	0.00
3,000.0	12.00	57.78	2,948.0	272.7	432.8	511.5	0.00	0.00	0.00
3,016.3	12.00	57.78	2,964.0	274.5	435.6	514.9	0.00	0.00	0.00
<b>Wasatch</b>									
3,100.0	12.00	57.78	3,045.8	283.8	450.4	532.3	0.00	0.00	0.00
3,200.0	12.00	57.78	3,143.6	294.9	467.9	553.1	0.00	0.00	0.00
3,266.0	12.00	57.78	3,208.2	302.2	479.6	566.8	0.00	0.00	0.00
<b>9 5/8"</b>									
3,300.0	12.00	57.78	3,241.5	306.0	485.5	573.9	0.00	0.00	0.00
3,400.0	12.00	57.78	3,339.3	317.1	503.1	594.7	0.00	0.00	0.00
3,500.0	12.00	57.78	3,437.1	328.2	520.7	615.5	0.00	0.00	0.00
3,600.0	12.00	57.78	3,534.9	339.2	538.3	636.3	0.00	0.00	0.00
3,700.0	12.00	57.78	3,632.7	350.3	555.9	657.1	0.00	0.00	0.00
3,800.0	12.00	57.78	3,730.5	361.4	573.5	677.8	0.00	0.00	0.00
3,900.0	12.00	57.78	3,828.3	372.5	591.0	698.6	0.00	0.00	0.00
4,000.0	12.00	57.78	3,926.2	383.6	608.6	719.4	0.00	0.00	0.00
4,100.0	12.00	57.78	4,024.0	394.6	626.2	740.2	0.00	0.00	0.00
4,200.0	12.00	57.78	4,121.8	405.7	643.8	761.0	0.00	0.00	0.00
4,300.0	12.00	57.78	4,219.6	416.8	661.4	781.8	0.00	0.00	0.00
4,400.0	12.00	57.78	4,317.4	427.9	679.0	802.6	0.00	0.00	0.00
4,500.0	12.00	57.78	4,415.2	439.0	696.6	823.3	0.00	0.00	0.00
4,600.0	12.00	57.78	4,513.1	450.1	714.1	844.1	0.00	0.00	0.00
4,700.0	12.00	57.78	4,610.9	461.1	731.7	864.9	0.00	0.00	0.00

N/A  
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<b>Site:</b>	TR 1-24-597 Pad	<b>North Reference:</b>	True
<b>Well:</b>	TR 22-24-597	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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)	
4,800.0	12.00	57.78	4,708.7	472.2	749.3	885.7	0.00	0.00	0.00	
4,900.0	12.00	57.78	4,806.5	483.3	766.9	906.5	0.00	0.00	0.00	
4,912.8	12.00	57.78	4,819.0	484.7	769.2	909.1	0.00	0.00	0.00	
<b>Top of "G" Sand</b>										
4,939.4	12.00	57.78	4,845.0	487.7	773.8	914.7	0.00	0.00	0.00	
<b>Base of "G" Sand</b>										
5,000.0	12.00	57.78	4,904.3	494.4	784.5	927.3	0.00	0.00	0.00	
5,100.0	12.00	57.78	5,002.1	505.5	802.1	948.1	0.00	0.00	0.00	
5,158.1	12.00	57.78	5,059.0	511.9	812.3	960.1	0.00	0.00	0.00	
<b>Fort Union</b>										
5,200.0	12.00	57.78	5,100.0	516.6	819.7	968.9	0.00	0.00	0.00	
5,300.0	12.00	57.78	5,197.8	527.6	837.2	989.6	0.00	0.00	0.00	
5,400.0	12.00	57.78	5,295.6	538.7	854.8	1,010.4	0.00	0.00	0.00	
5,500.0	12.00	57.78	5,393.4	549.8	872.4	1,031.2	0.00	0.00	0.00	
5,600.0	12.00	57.78	5,491.2	560.9	890.0	1,052.0	0.00	0.00	0.00	
5,700.0	12.00	57.78	5,589.0	572.0	907.6	1,072.8	0.00	0.00	0.00	
5,800.0	12.00	57.78	5,686.8	583.1	925.2	1,093.6	0.00	0.00	0.00	
5,900.0	12.00	57.78	5,784.7	594.1	942.8	1,114.4	0.00	0.00	0.00	
6,000.0	12.00	57.78	5,882.5	605.2	960.3	1,135.1	0.00	0.00	0.00	
6,042.5	12.00	57.78	5,924.0	609.9	967.8	1,144.0	0.00	0.00	0.00	
6,100.0	11.13	57.78	5,980.4	616.1	977.6	1,155.5	1.50	-1.50	0.00	
6,200.0	9.63	57.78	6,078.7	625.7	992.8	1,173.5	1.50	-1.50	0.00	
6,300.0	8.13	57.78	6,177.5	633.9	1,005.9	1,189.0	1.50	-1.50	0.00	
6,400.0	6.63	57.78	6,276.7	640.8	1,016.8	1,201.8	1.50	-1.50	0.00	
6,406.3	6.54	57.78	6,283.0	641.2	1,017.4	1,202.6	1.50	-1.50	0.00	
<b>Ohio Creek</b>										
6,500.0	5.13	57.78	6,376.2	646.2	1,025.4	1,212.1	1.50	-1.50	0.00	
6,600.0	3.63	57.78	6,475.9	650.3	1,031.9	1,219.7	1.50	-1.50	0.00	
6,667.2	2.63	57.78	6,543.0	652.3	1,035.0	1,223.4	1.50	-1.50	0.00	
<b>Mesaverde</b>										
6,700.0	2.13	57.78	6,575.8	653.0	1,036.2	1,224.8	1.50	-1.50	0.00	
6,800.0	0.63	57.78	6,675.7	654.3	1,038.2	1,227.2	1.50	-1.50	0.00	
6,842.3	0.00	0.00	6,718.0	654.4	1,038.4	1,227.4	1.50	-1.50	0.00	
6,900.0	0.00	0.00	6,775.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,875.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
7,100.0	0.00	0.00	6,975.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
7,200.0	0.00	0.00	7,075.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
7,300.0	0.00	0.00	7,175.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
7,400.0	0.00	0.00	7,275.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
7,500.0	0.00	0.00	7,375.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,475.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,575.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
7,788.3	0.00	0.00	7,664.0	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
<b>Top of Gas</b>										
7,800.0	0.00	0.00	7,675.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
7,900.0	0.00	0.00	7,775.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,875.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
8,100.0	0.00	0.00	7,975.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
8,200.0	0.00	0.00	8,075.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
8,300.0	0.00	0.00	8,175.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
8,400.0	0.00	0.00	8,275.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
8,500.0	0.00	0.00	8,375.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
8,600.0	0.00	0.00	8,475.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	

**N/A**  
Planning Report

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<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	WELL @ 8533.0ft (Original Well Elev)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	WELL @ 8533.0ft (Original Well Elev)
<b>Site:</b>	TR 1-24-597 Pad	<b>North Reference:</b>	True
<b>Well:</b>	TR 22-24-597	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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)	
8,700.0	0.00	0.00	8,575.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
8,800.0	0.00	0.00	8,675.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
8,900.0	0.00	0.00	8,775.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
9,000.0	0.00	0.00	8,875.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
9,100.0	0.00	0.00	8,975.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
9,200.0	0.00	0.00	9,075.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
9,300.0	0.00	0.00	9,175.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
9,400.0	0.00	0.00	9,275.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
9,451.3	0.00	0.00	9,327.0	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
<b>Cameo</b>										
9,500.0	0.00	0.00	9,375.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
9,600.0	0.00	0.00	9,475.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
9,700.0	0.00	0.00	9,575.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
9,752.3	0.00	0.00	9,628.0	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
<b>RLNS</b>										
9,800.0	0.00	0.00	9,675.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
9,900.0	0.00	0.00	9,775.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
9,942.3	0.00	0.00	9,818.0	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
<b>Cozzette</b>										
10,000.0	0.00	0.00	9,875.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
10,100.0	0.00	0.00	9,975.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
10,171.3	0.00	0.00	10,047.0	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
<b>Corcoran</b>										
10,200.0	0.00	0.00	10,075.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
10,300.0	0.00	0.00	10,175.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
10,334.3	0.00	0.00	10,210.0	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
<b>Sego</b>										
10,400.0	0.00	0.00	10,275.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
10,500.0	0.00	0.00	10,375.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
10,600.0	0.00	0.00	10,475.7	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
10,634.3	0.00	0.00	10,510.0	654.4	1,038.4	1,227.4	0.00	0.00	0.00	
<b>PBHL (TR 22-24-597)</b>										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
PBHL (TR 22-24-597)	0.00	0.00	10,510.0	654.4	1,038.4	1,655,873.90	2,231,629.10	39° 36' 8.969 N	108° 13' 38.407 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)	
3,266.0	3,208.2	9 5/8"	9.625	14.750	

**N/A**  
**Planning Report**

<b>Database:</b>	EDM_PRO	<b>Local Co-ordinate Reference:</b>	Well TR 22-24-597 - Slot A10
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	WELL @ 8533.0ft (Original Well Elev)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	WELL @ 8533.0ft (Original Well Elev)
<b>Site:</b>	TR 1-24-597 Pad	<b>North Reference:</b>	True
<b>Well:</b>	TR 22-24-597	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

<b>Formations</b>						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,016.3	2,964.0	Wasatch		0.00		
4,912.8	4,819.0	Top of "G" Sand		0.00		
4,939.4	4,845.0	Base of "G" Sand		0.00		
5,158.1	5,059.0	Fort Union		0.00		
6,406.3	6,283.0	Ohio Creek		0.00		
6,667.2	6,543.0	Mesaverde		0.00		
7,788.3	7,664.0	Top of Gas		0.00		
9,451.3	9,327.0	Cameo		0.00		
9,752.3	9,628.0	RLNS		0.00		
9,942.3	9,818.0	Cozzette		0.00		
10,171.3	10,047.0	Corcoran		0.00		
10,334.3	10,210.0	Sego		0.00		