

# **TEP Rocky Mountain LLC**

**Garfield County, CO NAD83**

**PA 44-13**

**PA 333-13 - Slot A8**

**OH**

**Plan: Plan #1**

## **Standard Planning Report**

**17 July, 2018**

**N/A**  
Planning Report

<b>Database:</b>	EDM_PROD	<b>Local Co-ordinate Reference:</b>	Well PA 333-13 - Slot A8
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	WELL @ 6594.0ft (Original Well Elev)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	WELL @ 6594.0ft (Original Well Elev)
<b>Site:</b>	PA 44-13	<b>North Reference:</b>	True
<b>Well:</b>	PA 333-13	<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>	PA 44-13			
<b>Site Position:</b>		<b>Northing:</b>	1,623,782.10 ft	<b>Latitude:</b> 39° 31' 14.301 N
<b>From:</b> Map		<b>Easting:</b>	2,311,231.60 ft	<b>Longitude:</b> 107° 56' 30.736 W
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> -1.54 °

<b>Well</b>	PA 333-13 - Slot A8			
<b>Well Position</b>	<b>+N/-S</b>	10.1 ft	<b>Northing:</b>	1,623,792.00 ft
	<b>+E/-W</b>	7.5 ft	<b>Easting:</b>	2,311,239.40 ft
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>	<b>Ground Level:</b> 6,570.0 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	11.43	66.02	53,064.35481323

<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	321.22

<b>Plan Survey Tool Program</b>	<b>Date</b>	7/17/2018		
<b>Depth From (ft)</b>	<b>Depth To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.0	9,664.4 Plan #1 (OH)	SDI MWD	
			SDI MWD - Standard ver 1.0.1	

<b>Plan Sections</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
165.0	0.00	0.00	165.0	0.0	0.0	0.00	0.00	0.00	0.00	
652.3	14.62	321.22	647.1	48.2	-38.7	3.00	3.00	0.00	321.22	
6,229.7	14.62	321.22	6,043.9	1,145.7	-920.4	0.00	0.00	0.00	0.00	
7,204.4	0.00	0.00	7,008.0	1,242.1	-997.8	1.50	-1.50	0.00	180.00	
9,664.4	0.00	0.00	9,468.0	1,242.1	-997.8	0.00	0.00	0.00	0.00	PA 333-13 TD

**N/A**  
Planning Report

<b>Database:</b>	EDM_PROD	<b>Local Co-ordinate Reference:</b>	Well PA 333-13 - Slot A8
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	WELL @ 6594.0ft (Original Well Elev)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	WELL @ 6594.0ft (Original Well Elev)
<b>Site:</b>	PA 44-13	<b>North Reference:</b>	True
<b>Well:</b>	PA 333-13	<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
165.0	0.00	0.00	165.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	1.05	321.22	200.0	0.3	-0.2	0.3	3.00	3.00	0.00
300.0	4.05	321.22	299.9	3.7	-3.0	4.8	3.00	3.00	0.00
400.0	7.05	321.22	399.4	11.3	-9.0	14.4	3.00	3.00	0.00
500.0	10.05	321.22	498.3	22.8	-18.4	29.3	3.00	3.00	0.00
600.0	13.05	321.22	596.2	38.5	-30.9	49.3	3.00	3.00	0.00
652.3	14.62	321.22	647.1	48.2	-38.7	61.8	3.00	3.00	0.00
700.0	14.62	321.22	693.2	57.6	-46.3	73.9	0.00	0.00	0.00
800.0	14.62	321.22	789.9	77.3	-62.1	99.1	0.00	0.00	0.00
900.0	14.62	321.22	886.7	96.9	-77.9	124.4	0.00	0.00	0.00
1,000.0	14.62	321.22	983.5	116.6	-93.7	149.6	0.00	0.00	0.00
1,100.0	14.62	321.22	1,080.2	136.3	-109.5	174.8	0.00	0.00	0.00
<b>9 5/8"</b>									
1,200.0	14.62	321.22	1,177.0	156.0	-125.3	200.1	0.00	0.00	0.00
1,300.0	14.62	321.22	1,273.8	175.7	-141.1	225.3	0.00	0.00	0.00
1,400.0	14.62	321.22	1,370.5	195.3	-156.9	250.6	0.00	0.00	0.00
1,500.0	14.62	321.22	1,467.3	215.0	-172.7	275.8	0.00	0.00	0.00
1,600.0	14.62	321.22	1,564.0	234.7	-188.5	301.0	0.00	0.00	0.00
1,700.0	14.62	321.22	1,660.8	254.4	-204.3	326.3	0.00	0.00	0.00
1,800.0	14.62	321.22	1,757.6	274.0	-220.1	351.5	0.00	0.00	0.00
1,900.0	14.62	321.22	1,854.3	293.7	-236.0	376.8	0.00	0.00	0.00
2,000.0	14.62	321.22	1,951.1	313.4	-251.8	402.0	0.00	0.00	0.00
2,100.0	14.62	321.22	2,047.9	333.1	-267.6	427.2	0.00	0.00	0.00
2,200.0	14.62	321.22	2,144.6	352.8	-283.4	452.5	0.00	0.00	0.00
2,300.0	14.62	321.22	2,241.4	372.4	-299.2	477.7	0.00	0.00	0.00
2,400.0	14.62	321.22	2,338.1	392.1	-315.0	503.0	0.00	0.00	0.00
2,500.0	14.62	321.22	2,434.9	411.8	-330.8	528.2	0.00	0.00	0.00
2,600.0	14.62	321.22	2,531.7	431.5	-346.6	553.4	0.00	0.00	0.00
2,700.0	14.62	321.22	2,628.4	451.1	-362.4	578.7	0.00	0.00	0.00
2,800.0	14.62	321.22	2,725.2	470.8	-378.2	603.9	0.00	0.00	0.00
2,900.0	14.62	321.22	2,822.0	490.5	-394.0	629.2	0.00	0.00	0.00
3,000.0	14.62	321.22	2,918.7	510.2	-409.8	654.4	0.00	0.00	0.00
3,100.0	14.62	321.22	3,015.5	529.9	-425.6	679.6	0.00	0.00	0.00
3,200.0	14.62	321.22	3,112.2	549.5	-441.5	704.9	0.00	0.00	0.00
3,300.0	14.62	321.22	3,209.0	569.2	-457.3	730.1	0.00	0.00	0.00
3,400.0	14.62	321.22	3,305.8	588.9	-473.1	755.4	0.00	0.00	0.00
3,473.6	14.62	321.22	3,377.0	603.4	-484.7	774.0	0.00	0.00	0.00
<b>G SAND</b>									
3,500.0	14.62	321.22	3,402.5	608.6	-488.9	780.6	0.00	0.00	0.00
3,569.7	14.62	321.22	3,470.0	622.3	-499.9	798.2	0.00	0.00	0.00
<b>G SAND BASE</b>									
3,600.0	14.62	321.22	3,499.3	628.2	-504.7	805.9	0.00	0.00	0.00
3,700.0	14.62	321.22	3,596.1	647.9	-520.5	831.1	0.00	0.00	0.00
3,800.0	14.62	321.22	3,692.8	667.6	-536.3	856.3	0.00	0.00	0.00
3,900.0	14.62	321.22	3,789.6	687.3	-552.1	881.6	0.00	0.00	0.00
4,000.0	14.62	321.22	3,886.3	707.0	-567.9	906.8	0.00	0.00	0.00
4,100.0	14.62	321.22	3,983.1	726.6	-583.7	932.1	0.00	0.00	0.00
4,200.0	14.62	321.22	4,079.9	746.3	-599.5	957.3	0.00	0.00	0.00
4,300.0	14.62	321.22	4,176.6	766.0	-615.3	982.5	0.00	0.00	0.00
4,400.0	14.62	321.22	4,273.4	785.7	-631.1	1,007.8	0.00	0.00	0.00
4,500.0	14.62	321.22	4,370.2	805.3	-647.0	1,033.0	0.00	0.00	0.00

**N/A**  
Planning Report

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<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	WELL @ 6594.0ft (Original Well Elev)
<b>Site:</b>	PA 44-13	<b>North Reference:</b>	True
<b>Well:</b>	PA 333-13	<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)
4,600.0	14.62	321.22	4,466.9	825.0	-662.8	1,058.3	0.00	0.00	0.00
4,700.0	14.62	321.22	4,563.7	844.7	-678.6	1,083.5	0.00	0.00	0.00
4,800.0	14.62	321.22	4,660.4	864.4	-694.4	1,108.7	0.00	0.00	0.00
4,900.0	14.62	321.22	4,757.2	884.1	-710.2	1,134.0	0.00	0.00	0.00
5,000.0	14.62	321.22	4,854.0	903.7	-726.0	1,159.2	0.00	0.00	0.00
5,100.0	14.62	321.22	4,950.7	923.4	-741.8	1,184.5	0.00	0.00	0.00
5,200.0	14.62	321.22	5,047.5	943.1	-757.6	1,209.7	0.00	0.00	0.00
5,300.0	14.62	321.22	5,144.3	962.8	-773.4	1,234.9	0.00	0.00	0.00
5,400.0	14.62	321.22	5,241.0	982.4	-789.2	1,260.2	0.00	0.00	0.00
5,500.0	14.62	321.22	5,337.8	1,002.1	-805.0	1,285.4	0.00	0.00	0.00
5,600.0	14.62	321.22	5,434.5	1,021.8	-820.8	1,310.7	0.00	0.00	0.00
5,700.0	14.62	321.22	5,531.3	1,041.5	-836.6	1,335.9	0.00	0.00	0.00
5,800.0	14.62	321.22	5,628.1	1,061.2	-852.5	1,361.1	0.00	0.00	0.00
5,900.0	14.62	321.22	5,724.8	1,080.8	-868.3	1,386.4	0.00	0.00	0.00
5,969.4	14.62	321.22	5,792.0	1,094.5	-879.2	1,403.9	0.00	0.00	0.00
<b>MVRD</b>									
6,000.0	14.62	321.22	5,821.6	1,100.5	-884.1	1,411.6	0.00	0.00	0.00
6,027.3	14.62	321.22	5,848.0	1,105.9	-888.4	1,418.5	0.00	0.00	0.00
<b>WFRK/UMVRD</b>									
6,100.0	14.62	321.22	5,918.4	1,120.2	-899.9	1,436.9	0.00	0.00	0.00
6,200.0	14.62	321.22	6,015.1	1,139.9	-915.7	1,462.1	0.00	0.00	0.00
6,229.7	14.62	321.22	6,043.9	1,145.7	-920.4	1,469.6	0.00	0.00	0.00
6,300.0	13.57	321.22	6,112.0	1,159.1	-931.1	1,486.7	1.50	-1.50	0.00
6,400.0	12.07	321.22	6,209.5	1,176.3	-945.0	1,508.9	1.50	-1.50	0.00
6,500.0	10.57	321.22	6,307.6	1,191.6	-957.3	1,528.5	1.50	-1.50	0.00
6,600.0	9.07	321.22	6,406.1	1,204.9	-968.0	1,545.6	1.50	-1.50	0.00
6,700.0	7.57	321.22	6,505.1	1,216.2	-977.0	1,560.0	1.50	-1.50	0.00
6,800.0	6.07	321.22	6,604.4	1,225.5	-984.4	1,571.9	1.50	-1.50	0.00
6,900.0	4.57	321.22	6,703.9	1,232.7	-990.3	1,581.2	1.50	-1.50	0.00
7,000.0	3.07	321.22	6,803.7	1,237.9	-994.4	1,587.8	1.50	-1.50	0.00
7,100.0	1.57	321.22	6,903.6	1,241.0	-997.0	1,591.9	1.50	-1.50	0.00
7,159.4	0.68	321.22	6,963.0	1,241.9	-997.7	1,593.0	1.50	-1.50	0.00
<b>TOP GAS</b>									
7,200.0	0.07	321.22	7,003.6	1,242.1	-997.8	1,593.3	1.50	-1.50	0.00
7,204.4	0.00	0.00	7,008.0	1,242.1	-997.8	1,593.3	1.50	-1.50	0.00
7,300.0	0.00	0.00	7,103.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
7,400.0	0.00	0.00	7,203.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
7,500.0	0.00	0.00	7,303.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
7,600.0	0.00	0.00	7,403.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
7,700.0	0.00	0.00	7,503.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
7,800.0	0.00	0.00	7,603.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
7,900.0	0.00	0.00	7,703.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
8,000.0	0.00	0.00	7,803.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
8,100.0	0.00	0.00	7,903.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
8,200.0	0.00	0.00	8,003.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
8,300.0	0.00	0.00	8,103.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
8,400.0	0.00	0.00	8,203.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
8,500.0	0.00	0.00	8,303.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
8,600.0	0.00	0.00	8,403.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
8,623.4	0.00	0.00	8,427.0	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
<b>CMEO</b>									
8,700.0	0.00	0.00	8,503.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
8,800.0	0.00	0.00	8,603.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
8,900.0	0.00	0.00	8,703.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00

**N/A**  
Planning Report

<b>Database:</b>	EDM_PROD	<b>Local Co-ordinate Reference:</b>	Well PA 333-13 - Slot A8
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	WELL @ 6594.0ft (Original Well Elev)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	WELL @ 6594.0ft (Original Well Elev)
<b>Site:</b>	PA 44-13	<b>North Reference:</b>	True
<b>Well:</b>	PA 333-13	<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)
9,000.0	0.00	0.00	8,803.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
9,100.0	0.00	0.00	8,903.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
9,200.0	0.00	0.00	9,003.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
9,300.0	0.00	0.00	9,103.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
9,400.0	0.00	0.00	9,203.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
9,500.0	0.00	0.00	9,303.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
9,514.4	0.00	0.00	9,318.0	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
RLNS									
9,600.0	0.00	0.00	9,403.6	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
9,664.4	0.00	0.00	9,468.0	1,242.1	-997.8	1,593.3	0.00	0.00	0.00
PA 333-13 TD									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PA 333-13 TD - plan hits target center - Point	0.00	0.00	9,468.0	1,242.1	-997.8	1,625,060.50	2,310,275.30	39° 31' 26.678 N	107° 56' 43.375 W

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,100.0	1,080.2	9 5/8"	9.625	13.500	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,473.6	3,377.0	G SAND		0.00	
3,569.7	3,470.0	G SAND BASE		0.00	
5,969.4	5,792.0	MVRD		0.00	
6,027.3	5,848.0	WFRK/UMVRD		0.00	
7,159.4	6,963.0	TOP GAS		0.00	
8,623.4	8,427.0	CME0		0.00	
9,514.4	9,318.0	RLNS		0.00	