

# **TEP Rocky Mountain LLC**

**Garfield County, CO NAD83**

**PA 23-26 Pad**

**PA 334-26 - Slot B10**

**OH**

**Plan: Plan #1**

## **Standard Planning Report**

**10 July, 2017**

**N/A**  
Planning Report

<b>Database:</b>	EDM_PRO	<b>Local Co-ordinate Reference:</b>	Well PA 334-26 - Slot B10
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	WELL @ 5658.0ft (Original Well Elev)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	WELL @ 5658.0ft (Original Well Elev)
<b>Site:</b>	PA 23-26 Pad	<b>North Reference:</b>	True
<b>Well:</b>	PA 334-26	<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		

Site	PA 23-26 Pad					
Site Position:		Northing:	1,614,400.30 ft	Latitude:	39° 29' 39.674 N	
From:	Map	Easting:	2,303,981.10 ft	Longitude:	107° 57' 59.978 W	
Position Uncertainty:		0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.56 °

Well	PA 334-26 - Slot B10, B10					
Well Position	+N/-S	-12.7 ft	Northing:	1,614,389.39 ft	Latitude:	39° 29' 39.548 N
	+E/-W	-67.0 ft	Easting:	2,303,913.74 ft	Longitude:	107° 58' 0.833 W
Position Uncertainty		0.0 ft	Wellhead Elevation:		Ground Level:	5,637.0 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	11.44	65.99	53,054.04455789

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	143.56

<b>Plan Survey Tool Program</b>	<b>Date</b>	7/10/2017			
<b>Depth From (ft)</b>	<b>Depth To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.0	8,500.6 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	
450.0	0.00	0.00	450.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,349.8	18.00	143.56	1,335.1	-112.8	83.3	2.00	2.00	0.00	143.56	
5,342.9	18.00	143.56	5,132.8	-1,105.2	816.1	0.00	0.00	0.00	0.00	
6,542.7	0.00	0.00	6,313.0	-1,255.6	927.1	1.50	-1.50	0.00	180.00	
8,500.7	0.00	0.00	8,271.0	-1,255.6	927.1	0.00	0.00	0.00	0.00	PBHL(PA 334-26)

**N/A**  
Planning Report

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<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	WELL @ 5658.0ft (Original Well Elev)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	WELL @ 5658.0ft (Original Well Elev)
<b>Site:</b>	PA 23-26 Pad	<b>North Reference:</b>	True
<b>Well:</b>	PA 334-26	<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	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
450.0	0.00	0.00	450.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	1.00	143.56	500.0	-0.4	0.3	0.4	2.00	2.00	0.00
600.0	3.00	143.56	599.9	-3.2	2.3	3.9	2.00	2.00	0.00
700.0	5.00	143.56	699.7	-8.8	6.5	10.9	2.00	2.00	0.00
800.0	7.00	143.56	799.1	-17.2	12.7	21.4	2.00	2.00	0.00
900.0	9.00	143.56	898.2	-28.4	21.0	35.3	2.00	2.00	0.00
1,000.0	11.00	143.56	996.6	-42.3	31.3	52.6	2.00	2.00	0.00
1,100.0	13.00	143.56	1,094.4	-59.1	43.6	73.4	2.00	2.00	0.00
9 5/8"									
1,200.0	15.00	143.56	1,191.5	-78.5	58.0	97.6	2.00	2.00	0.00
1,300.0	17.00	143.56	1,287.6	-100.7	74.4	125.2	2.00	2.00	0.00
1,349.8	18.00	143.56	1,335.1	-112.8	83.3	140.2	2.00	2.00	0.00
1,400.0	18.00	143.56	1,382.8	-125.2	92.5	155.7	0.00	0.00	0.00
1,500.0	18.00	143.56	1,477.9	-150.1	110.8	186.6	0.00	0.00	0.00
1,600.0	18.00	143.56	1,573.0	-174.9	129.2	217.5	0.00	0.00	0.00
1,700.0	18.00	143.56	1,668.1	-199.8	147.5	248.4	0.00	0.00	0.00
1,800.0	18.00	143.56	1,763.3	-224.6	165.9	279.2	0.00	0.00	0.00
1,900.0	18.00	143.56	1,858.4	-249.5	184.2	310.1	0.00	0.00	0.00
2,000.0	18.00	143.56	1,953.5	-274.4	202.6	341.0	0.00	0.00	0.00
2,100.0	18.00	143.56	2,048.6	-299.2	220.9	371.9	0.00	0.00	0.00
2,200.0	18.00	143.56	2,143.7	-324.1	239.3	402.8	0.00	0.00	0.00
2,300.0	18.00	143.56	2,238.8	-348.9	257.6	433.7	0.00	0.00	0.00
2,400.0	18.00	143.56	2,333.9	-373.8	276.0	464.6	0.00	0.00	0.00
2,425.3	18.00	143.56	2,358.0	-380.1	280.6	472.5	0.00	0.00	0.00
Wasatch G									
2,488.4	18.00	143.56	2,418.0	-395.8	292.2	491.9	0.00	0.00	0.00
Wasatch G Base									
2,500.0	18.00	143.56	2,429.0	-398.6	294.3	495.5	0.00	0.00	0.00
2,600.0	18.00	143.56	2,524.1	-423.5	312.7	526.4	0.00	0.00	0.00
2,700.0	18.00	143.56	2,619.2	-448.3	331.0	557.3	0.00	0.00	0.00
2,800.0	18.00	143.56	2,714.3	-473.2	349.4	588.2	0.00	0.00	0.00
2,900.0	18.00	143.56	2,809.4	-498.0	367.7	619.1	0.00	0.00	0.00
3,000.0	18.00	143.56	2,904.5	-522.9	386.1	650.0	0.00	0.00	0.00
3,100.0	18.00	143.56	2,999.7	-547.8	404.5	680.9	0.00	0.00	0.00
3,200.0	18.00	143.56	3,094.8	-572.6	422.8	711.8	0.00	0.00	0.00
3,300.0	18.00	143.56	3,189.9	-597.5	441.2	742.7	0.00	0.00	0.00
3,400.0	18.00	143.56	3,285.0	-622.3	459.5	773.6	0.00	0.00	0.00
3,500.0	18.00	143.56	3,380.1	-647.2	477.9	804.5	0.00	0.00	0.00
3,600.0	18.00	143.56	3,475.2	-672.0	496.2	835.4	0.00	0.00	0.00
3,700.0	18.00	143.56	3,570.3	-696.9	514.6	866.3	0.00	0.00	0.00
3,800.0	18.00	143.56	3,665.4	-721.7	532.9	897.2	0.00	0.00	0.00
3,900.0	18.00	143.56	3,760.5	-746.6	551.3	928.1	0.00	0.00	0.00
4,000.0	18.00	143.56	3,855.6	-771.5	569.6	959.0	0.00	0.00	0.00
4,100.0	18.00	143.56	3,950.7	-796.3	588.0	989.9	0.00	0.00	0.00
4,200.0	18.00	143.56	4,045.8	-821.2	606.3	1,020.8	0.00	0.00	0.00
4,300.0	18.00	143.56	4,140.9	-846.0	624.7	1,051.7	0.00	0.00	0.00
4,400.0	18.00	143.56	4,236.1	-870.9	643.0	1,082.6	0.00	0.00	0.00
4,500.0	18.00	143.56	4,331.2	-895.7	661.4	1,113.4	0.00	0.00	0.00

**N/A**  
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<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	WELL @ 5658.0ft (Original Well Elev)
<b>Site:</b>	PA 23-26 Pad	<b>North Reference:</b>	True
<b>Well:</b>	PA 334-26	<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	18.00	143.56	4,426.3	-920.6	679.7	1,144.3	0.00	0.00	0.00
4,700.0	18.00	143.56	4,521.4	-945.4	698.1	1,175.2	0.00	0.00	0.00
4,800.0	18.00	143.56	4,616.5	-970.3	716.4	1,206.1	0.00	0.00	0.00
4,812.1	18.00	143.56	4,628.0	-973.3	718.7	1,209.9	0.00	0.00	0.00
<b>Ohio Creek</b>									
4,900.0	18.00	143.56	4,711.6	-995.2	734.8	1,237.0	0.00	0.00	0.00
5,000.0	18.00	143.56	4,806.7	-1,020.0	753.1	1,267.9	0.00	0.00	0.00
5,001.4	18.00	143.56	4,808.0	-1,020.3	753.4	1,268.4	0.00	0.00	0.00
<b>Upper MVRD</b>									
5,100.0	18.00	143.56	4,901.8	-1,044.9	771.5	1,298.8	0.00	0.00	0.00
5,200.0	18.00	143.56	4,996.9	-1,069.7	789.9	1,329.7	0.00	0.00	0.00
5,300.0	18.00	143.56	5,092.0	-1,094.6	808.2	1,360.6	0.00	0.00	0.00
5,342.9	18.00	143.56	5,132.8	-1,105.2	816.1	1,373.9	0.00	0.00	0.00
5,400.0	17.14	143.56	5,187.3	-1,119.1	826.3	1,391.1	1.50	-1.50	0.00
5,500.0	15.64	143.56	5,283.2	-1,141.8	843.1	1,419.3	1.50	-1.50	0.00
5,600.0	14.14	143.56	5,379.8	-1,162.5	858.3	1,445.0	1.50	-1.50	0.00
5,700.0	12.64	143.56	5,477.1	-1,181.1	872.1	1,468.2	1.50	-1.50	0.00
5,800.0	11.14	143.56	5,575.0	-1,197.7	884.3	1,488.8	1.50	-1.50	0.00
5,900.0	9.64	143.56	5,673.3	-1,212.2	895.0	1,506.8	1.50	-1.50	0.00
6,000.0	8.14	143.56	5,772.1	-1,224.6	904.2	1,522.3	1.50	-1.50	0.00
6,056.4	7.29	143.56	5,828.0	-1,230.7	908.7	1,529.8	1.50	-1.50	0.00
<b>Top of Gas</b>									
6,100.0	6.64	143.56	5,871.3	-1,235.0	911.9	1,535.1	1.50	-1.50	0.00
6,200.0	5.14	143.56	5,970.8	-1,243.2	918.0	1,545.4	1.50	-1.50	0.00
6,300.0	3.64	143.56	6,070.5	-1,249.4	922.5	1,553.1	1.50	-1.50	0.00
6,400.0	2.14	143.56	6,170.3	-1,253.4	925.5	1,558.1	1.50	-1.50	0.00
6,500.0	0.64	143.56	6,270.3	-1,255.4	926.9	1,560.5	1.50	-1.50	0.00
6,542.7	0.00	0.00	6,313.0	-1,255.6	927.1	1,560.8	1.50	-1.50	0.00
6,600.0	0.00	0.00	6,370.3	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
6,700.0	0.00	0.00	6,470.3	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
6,800.0	0.00	0.00	6,570.3	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
6,900.0	0.00	0.00	6,670.3	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
7,000.0	0.00	0.00	6,770.3	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
7,100.0	0.00	0.00	6,870.3	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
7,200.0	0.00	0.00	6,970.3	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
7,300.0	0.00	0.00	7,070.3	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
7,400.0	0.00	0.00	7,170.3	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
7,500.0	0.00	0.00	7,270.3	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
7,600.0	0.00	0.00	7,370.3	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
7,637.7	0.00	0.00	7,408.0	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
<b>Cameo</b>									
7,700.0	0.00	0.00	7,470.3	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
7,800.0	0.00	0.00	7,570.3	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
7,900.0	0.00	0.00	7,670.3	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
8,000.0	0.00	0.00	7,770.3	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
8,100.0	0.00	0.00	7,870.3	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
8,200.0	0.00	0.00	7,970.3	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
8,300.0	0.00	0.00	8,070.3	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
8,347.7	0.00	0.00	8,118.0	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
<b>RLNS</b>									
8,400.0	0.00	0.00	8,170.3	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
8,500.0	0.00	0.00	8,270.3	-1,255.6	927.1	1,560.8	0.00	0.00	0.00
8,500.7	0.00	0.00	8,271.0	-1,255.6	927.1	1,560.8	0.00	0.00	0.00

**N/A**  
Planning Report

<b>Database:</b>	EDM_PRO	<b>Local Co-ordinate Reference:</b>	Well PA 334-26 - Slot B10
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	WELL @ 5658.0ft (Original Well Elev)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	WELL @ 5658.0ft (Original Well Elev)
<b>Site:</b>	PA 23-26 Pad	<b>North Reference:</b>	True
<b>Well:</b>	PA 334-26	<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)
PBHL(PA 334-26)									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL(PA 334-26)	0.00	0.00	8,271.0	-1,255.6	927.1	1,613,109.10	2,304,806.40	39° 29' 27.138 N	107° 57' 49.007 W
- plan hits target center									
- Point									

Casing Points						Casing Diameter (in)	Hole Diameter (in)
Measured Depth (ft)	Vertical Depth (ft)	Name					
1,100.0	1,094.4	9 5/8"				9.625	14.750

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,425.3	2,358.0	Wasatch G		0.00		
2,488.4	2,418.0	Wasatch G Base		0.00		
4,812.1	4,628.0	Ohio Creek		0.00		
5,001.4	4,808.0	Upper MVRD		0.00		
6,056.4	5,828.0	Top of Gas		0.00		
7,637.7	7,408.0	Cameo		0.00		
8,347.7	8,118.0	RLNS		0.00		