

# **TEP Rocky Mountain LLC**

**Garfield County, CO NAD83**

**PA 23-26 Pad**

**PA 534-26 - Slot B9**

**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 534-26 - Slot B9
<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 534-26	<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 534-26 - Slot B9, A9					
Well Position	+N/-S	-12.4 ft	Northing:	1,614,389.49 ft	Latitude:	39° 29' 39.551 N
	+E/-W	-59.5 ft	Easting:	2,303,921.24 ft	Longitude:	107° 58' 0.737 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	53,054.04882076

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	142.93

<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	8,776.2 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	
180.0	0.00	0.00	180.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,113.5	28.00	142.93	1,076.8	-178.4	134.8	3.00	3.00	0.00	142.93	
4,831.6	28.00	142.93	4,359.5	-1,571.3	1,187.2	0.00	0.00	0.00	0.00	
6,698.5	0.00	0.00	6,153.0	-1,928.2	1,456.8	1.50	-1.50	0.00	180.00	
8,776.5	0.00	0.00	8,231.0	-1,928.2	1,456.8	0.00	0.00	0.00	0.00	PBHL(PA 534-26)

**N/A**  
Planning Report

<b>Database:</b>	EDM_PRO	<b>Local Co-ordinate Reference:</b>	Well PA 534-26 - Slot B9
<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 534-26	<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
180.0	0.00	0.00	180.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.60	142.93	200.0	-0.1	0.1	0.1	3.00	3.00	0.00
300.0	3.60	142.93	299.9	-3.0	2.3	3.8	3.00	3.00	0.00
400.0	6.60	142.93	399.5	-10.1	7.6	12.7	3.00	3.00	0.00
500.0	9.60	142.93	498.5	-21.3	16.1	26.7	3.00	3.00	0.00
600.0	12.60	142.93	596.6	-36.7	27.7	46.0	3.00	3.00	0.00
700.0	15.60	142.93	693.6	-56.1	42.4	70.4	3.00	3.00	0.00
800.0	18.60	142.93	789.2	-79.6	60.1	99.8	3.00	3.00	0.00
900.0	21.60	142.93	883.1	-107.0	80.9	134.1	3.00	3.00	0.00
1,000.0	24.60	142.93	975.0	-138.3	104.5	173.3	3.00	3.00	0.00
1,100.0	27.60	142.93	1,064.8	-173.4	131.0	217.3	3.00	3.00	0.00
9 5/8"									
1,113.5	28.00	142.93	1,076.8	-178.4	134.8	223.6	3.00	3.00	0.00
1,200.0	28.00	142.93	1,153.1	-210.8	159.3	264.2	0.00	0.00	0.00
1,300.0	28.00	142.93	1,241.4	-248.3	187.6	311.2	0.00	0.00	0.00
1,400.0	28.00	142.93	1,329.7	-285.8	215.9	358.2	0.00	0.00	0.00
1,500.0	28.00	142.93	1,418.0	-323.2	244.2	405.1	0.00	0.00	0.00
1,600.0	28.00	142.93	1,506.3	-360.7	272.5	452.1	0.00	0.00	0.00
1,700.0	28.00	142.93	1,594.6	-398.1	300.8	499.0	0.00	0.00	0.00
1,800.0	28.00	142.93	1,682.9	-435.6	329.1	546.0	0.00	0.00	0.00
1,900.0	28.00	142.93	1,771.2	-473.1	357.4	592.9	0.00	0.00	0.00
2,000.0	28.00	142.93	1,859.5	-510.5	385.7	639.9	0.00	0.00	0.00
2,100.0	28.00	142.93	1,947.8	-548.0	414.0	686.8	0.00	0.00	0.00
2,200.0	28.00	142.93	2,036.1	-585.5	442.4	733.8	0.00	0.00	0.00
2,300.0	28.00	142.93	2,124.4	-622.9	470.7	780.7	0.00	0.00	0.00
2,400.0	28.00	142.93	2,212.6	-660.4	499.0	827.7	0.00	0.00	0.00
2,500.0	28.00	142.93	2,300.9	-697.8	527.3	874.6	0.00	0.00	0.00
2,564.6	28.00	142.93	2,358.0	-722.1	545.6	905.0	0.00	0.00	0.00
Wasatch G									
2,600.0	28.00	142.93	2,389.2	-735.3	555.6	921.6	0.00	0.00	0.00
2,632.6	28.00	142.93	2,418.0	-747.5	564.8	936.9	0.00	0.00	0.00
Wasatch G Base									
2,700.0	28.00	142.93	2,477.5	-772.8	583.9	968.6	0.00	0.00	0.00
2,800.0	28.00	142.93	2,565.8	-810.2	612.2	1,015.5	0.00	0.00	0.00
2,900.0	28.00	142.93	2,654.1	-847.7	640.5	1,062.5	0.00	0.00	0.00
3,000.0	28.00	142.93	2,742.4	-885.2	668.8	1,109.4	0.00	0.00	0.00
3,100.0	28.00	142.93	2,830.7	-922.6	697.1	1,156.4	0.00	0.00	0.00
3,200.0	28.00	142.93	2,919.0	-960.1	725.4	1,203.3	0.00	0.00	0.00
3,300.0	28.00	142.93	3,007.3	-997.6	753.7	1,250.3	0.00	0.00	0.00
3,400.0	28.00	142.93	3,095.6	-1,035.0	782.0	1,297.2	0.00	0.00	0.00
3,500.0	28.00	142.93	3,183.8	-1,072.5	810.3	1,344.2	0.00	0.00	0.00
3,600.0	28.00	142.93	3,272.1	-1,109.9	838.6	1,391.1	0.00	0.00	0.00
3,700.0	28.00	142.93	3,360.4	-1,147.4	866.9	1,438.1	0.00	0.00	0.00
3,800.0	28.00	142.93	3,448.7	-1,184.9	895.2	1,485.0	0.00	0.00	0.00
3,900.0	28.00	142.93	3,537.0	-1,222.3	923.6	1,532.0	0.00	0.00	0.00
4,000.0	28.00	142.93	3,625.3	-1,259.8	951.9	1,579.0	0.00	0.00	0.00
4,100.0	28.00	142.93	3,713.6	-1,297.3	980.2	1,625.9	0.00	0.00	0.00
4,200.0	28.00	142.93	3,801.9	-1,334.7	1,008.5	1,672.9	0.00	0.00	0.00
4,300.0	28.00	142.93	3,890.2	-1,372.2	1,036.8	1,719.8	0.00	0.00	0.00
4,400.0	28.00	142.93	3,978.5	-1,409.6	1,065.1	1,766.8	0.00	0.00	0.00
4,500.0	28.00	142.93	4,066.8	-1,447.1	1,093.4	1,813.7	0.00	0.00	0.00

**N/A**  
Planning Report

<b>Database:</b>	EDM_PRO	<b>Local Co-ordinate Reference:</b>	Well PA 534-26 - Slot B9
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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 534-26	<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	28.00	142.93	4,155.1	-1,484.6	1,121.7	1,860.7	0.00	0.00	0.00
4,700.0	28.00	142.93	4,243.3	-1,522.0	1,150.0	1,907.6	0.00	0.00	0.00
4,800.0	28.00	142.93	4,331.6	-1,559.5	1,178.3	1,954.6	0.00	0.00	0.00
4,831.6	28.00	142.93	4,359.5	-1,571.3	1,187.2	1,969.4	0.00	0.00	0.00
4,900.0	26.98	142.93	4,420.2	-1,596.5	1,206.3	2,001.0	1.50	-1.50	0.00
5,000.0	25.48	142.93	4,509.9	-1,631.8	1,232.9	2,045.2	1.50	-1.50	0.00
5,086.1	24.19	142.93	4,588.0	-1,660.6	1,254.7	2,081.3	1.50	-1.50	0.00
Ohio Creek									
5,100.0	23.98	142.93	4,600.7	-1,665.2	1,258.1	2,087.0	1.50	-1.50	0.00
5,200.0	22.48	142.93	4,692.6	-1,696.6	1,281.9	2,126.5	1.50	-1.50	0.00
5,281.2	21.26	142.93	4,768.0	-1,720.8	1,300.1	2,156.7	1.50	-1.50	0.00
Upper MVRD									
5,300.0	20.98	142.93	4,785.5	-1,726.2	1,304.2	2,163.5	1.50	-1.50	0.00
5,400.0	19.48	142.93	4,879.4	-1,753.7	1,325.1	2,198.0	1.50	-1.50	0.00
5,500.0	17.98	142.93	4,974.1	-1,779.4	1,344.4	2,230.2	1.50	-1.50	0.00
5,600.0	16.48	142.93	5,069.6	-1,803.0	1,362.3	2,259.8	1.50	-1.50	0.00
5,700.0	14.98	142.93	5,165.8	-1,824.6	1,378.6	2,286.9	1.50	-1.50	0.00
5,800.0	13.48	142.93	5,262.8	-1,844.2	1,393.4	2,311.5	1.50	-1.50	0.00
5,900.0	11.98	142.93	5,360.3	-1,861.8	1,406.7	2,333.5	1.50	-1.50	0.00
6,000.0	10.48	142.93	5,458.4	-1,877.3	1,418.5	2,353.0	1.50	-1.50	0.00
6,100.0	8.98	142.93	5,556.9	-1,890.8	1,428.6	2,369.9	1.50	-1.50	0.00
6,200.0	7.48	142.93	5,655.9	-1,902.2	1,437.3	2,384.2	1.50	-1.50	0.00
6,300.0	5.98	142.93	5,755.2	-1,911.6	1,444.3	2,395.9	1.50	-1.50	0.00
6,333.0	5.48	142.93	5,788.0	-1,914.2	1,446.3	2,399.2	1.50	-1.50	0.00
Top of Gas									
6,400.0	4.48	142.93	5,854.8	-1,918.9	1,449.8	2,405.0	1.50	-1.50	0.00
6,500.0	2.98	142.93	5,954.6	-1,924.0	1,453.7	2,411.5	1.50	-1.50	0.00
6,600.0	1.48	142.93	6,054.5	-1,927.1	1,456.1	2,415.4	1.50	-1.50	0.00
6,698.5	0.00	0.00	6,153.0	-1,928.2	1,456.8	2,416.6	1.50	-1.50	0.00
6,700.0	0.00	0.00	6,154.5	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
6,800.0	0.00	0.00	6,254.5	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
6,900.0	0.00	0.00	6,354.5	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
7,000.0	0.00	0.00	6,454.5	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
7,100.0	0.00	0.00	6,554.5	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
7,200.0	0.00	0.00	6,654.5	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
7,300.0	0.00	0.00	6,754.5	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
7,400.0	0.00	0.00	6,854.5	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
7,500.0	0.00	0.00	6,954.5	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
7,600.0	0.00	0.00	7,054.5	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
7,700.0	0.00	0.00	7,154.5	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
7,800.0	0.00	0.00	7,254.5	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
7,900.0	0.00	0.00	7,354.5	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
7,913.5	0.00	0.00	7,368.0	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
Cameo									
8,000.0	0.00	0.00	7,454.5	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
8,100.0	0.00	0.00	7,554.5	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
8,200.0	0.00	0.00	7,654.5	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
8,300.0	0.00	0.00	7,754.5	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
8,400.0	0.00	0.00	7,854.5	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
8,500.0	0.00	0.00	7,954.5	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
8,600.0	0.00	0.00	8,054.5	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
8,623.5	0.00	0.00	8,078.0	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
RLNS									
8,700.0	0.00	0.00	8,154.5	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00

**N/A**  
Planning Report

<b>Database:</b>	EDM_PRO	<b>Local Co-ordinate Reference:</b>	Well PA 534-26 - Slot B9
<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 534-26	<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)
8,776.5	0.00	0.00	8,231.0	-1,928.2	1,456.8	2,416.6	0.00	0.00	0.00
PBHL(PA 534-26)									

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 534-26)	0.00	0.00	8,231.0	-1,928.2	1,456.8	1,612,422.50	2,305,325.20	39° 29' 20.494 N	107° 57' 42.154 W
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,100.0	1,064.8	9 5/8"	9.625	13.500	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,564.6	2,358.0	Wasatch G		0.00		
2,632.6	2,418.0	Wasatch G Base		0.00		
5,086.1	4,588.0	Ohio Creek		0.00		
5,281.2	4,768.0	Upper MVRD		0.00		
6,333.0	5,788.0	Top of Gas		0.00		
7,913.5	7,368.0	Cameo		0.00		
8,623.5	8,078.0	RLNS		0.00		