

# **TEP Rocky Mountain LLC**

**Garfield County, CO NAD83**

**PA 23-26 Pad**

**PA 531-26 - Slot B6**

**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 531-26 - Slot B6
<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 531-26	<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 531-26 - Slot B6, B6					
Well Position	+N/-S	-11.5 ft	Northing:	1,614,389.81 ft	Latitude:	39° 29' 39.560 N
	+E/-W	-37.1 ft	Easting:	2,303,943.74 ft	Longitude:	107° 58' 0.451 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>
	IGRF2015	5/19/2017	9.70	65.59	51,543.19399003

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	31.08

<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	9,063.6 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	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,233.4	34.00	31.08	2,168.0	279.7	168.6	3.00	3.00	0.00	31.08	
4,994.4	34.00	31.08	4,457.0	1,602.0	965.6	0.00	0.00	0.00	0.00	
7,261.1	0.00	0.00	6,593.0	2,161.3	1,302.7	1.50	-1.50	0.00	180.00	
9,064.1	0.00	0.00	8,396.0	2,161.3	1,302.7	0.00	0.00	0.00	0.00	PBHL(PA 531-26)

**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 531-26	<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
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
9 5/8"									
1,200.0	3.00	31.08	1,200.0	2.2	1.4	2.6	3.00	3.00	0.00
1,300.0	6.00	31.08	1,299.6	9.0	5.4	10.5	3.00	3.00	0.00
1,400.0	9.00	31.08	1,398.8	20.1	12.1	23.5	3.00	3.00	0.00
1,500.0	12.00	31.08	1,497.1	35.7	21.5	41.7	3.00	3.00	0.00
1,600.0	15.00	31.08	1,594.3	55.7	33.6	65.1	3.00	3.00	0.00
1,700.0	18.00	31.08	1,690.2	80.1	48.3	93.5	3.00	3.00	0.00
1,800.0	21.00	31.08	1,784.4	108.6	65.5	126.9	3.00	3.00	0.00
1,900.0	24.00	31.08	1,876.8	141.4	85.2	165.1	3.00	3.00	0.00
2,000.0	27.00	31.08	1,967.1	178.3	107.5	208.2	3.00	3.00	0.00
2,100.0	30.00	31.08	2,054.9	219.1	132.1	255.9	3.00	3.00	0.00
2,200.0	33.00	31.08	2,140.2	263.9	159.1	308.1	3.00	3.00	0.00
2,233.4	34.00	31.08	2,168.0	279.7	168.6	326.5	3.00	3.00	0.00
2,300.0	34.00	31.08	2,223.3	311.6	187.8	363.8	0.00	0.00	0.00
2,400.0	34.00	31.08	2,306.2	359.5	216.7	419.7	0.00	0.00	0.00
2,500.0	34.00	31.08	2,389.1	407.4	245.5	475.6	0.00	0.00	0.00
2,600.0	34.00	31.08	2,472.0	455.3	274.4	531.6	0.00	0.00	0.00
2,700.0	34.00	31.08	2,554.9	503.2	303.3	587.5	0.00	0.00	0.00
2,703.8	34.00	31.08	2,558.0	505.0	304.3	589.6	0.00	0.00	0.00
Wasatch G									
2,776.2	34.00	31.08	2,618.0	539.6	325.2	630.1	0.00	0.00	0.00
Wasatch G Base									
2,800.0	34.00	31.08	2,637.8	551.0	332.1	643.4	0.00	0.00	0.00
2,900.0	34.00	31.08	2,720.7	598.9	361.0	699.3	0.00	0.00	0.00
3,000.0	34.00	31.08	2,803.6	646.8	389.9	755.2	0.00	0.00	0.00
3,100.0	34.00	31.08	2,886.5	694.7	418.7	811.2	0.00	0.00	0.00
3,200.0	34.00	31.08	2,969.4	742.6	447.6	867.1	0.00	0.00	0.00
3,300.0	34.00	31.08	3,052.3	790.5	476.5	923.0	0.00	0.00	0.00
3,400.0	34.00	31.08	3,135.2	838.4	505.3	978.9	0.00	0.00	0.00
3,500.0	34.00	31.08	3,218.1	886.3	534.2	1,034.8	0.00	0.00	0.00
3,600.0	34.00	31.08	3,301.0	934.2	563.0	1,090.8	0.00	0.00	0.00
3,700.0	34.00	31.08	3,383.9	982.1	591.9	1,146.7	0.00	0.00	0.00
3,800.0	34.00	31.08	3,466.8	1,030.0	620.8	1,202.6	0.00	0.00	0.00
3,900.0	34.00	31.08	3,549.7	1,077.9	649.6	1,258.5	0.00	0.00	0.00
4,000.0	34.00	31.08	3,632.6	1,125.8	678.5	1,314.4	0.00	0.00	0.00
4,100.0	34.00	31.08	3,715.5	1,173.7	707.4	1,370.4	0.00	0.00	0.00
4,200.0	34.00	31.08	3,798.4	1,221.6	736.2	1,426.3	0.00	0.00	0.00
4,300.0	34.00	31.08	3,881.3	1,269.5	765.1	1,482.2	0.00	0.00	0.00
4,400.0	34.00	31.08	3,964.2	1,317.4	794.0	1,538.1	0.00	0.00	0.00
4,500.0	34.00	31.08	4,047.1	1,365.2	822.8	1,594.0	0.00	0.00	0.00
4,600.0	34.00	31.08	4,130.0	1,413.1	851.7	1,650.0	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 @ 5658.0ft (Original Well Elev)
<b>Site:</b>	PA 23-26 Pad	<b>North Reference:</b>	True
<b>Well:</b>	PA 531-26	<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)
4,700.0	34.00	31.08	4,212.9	1,461.0	880.6	1,705.9	0.00	0.00	0.00
4,800.0	34.00	31.08	4,295.8	1,508.9	909.4	1,761.8	0.00	0.00	0.00
4,900.0	34.00	31.08	4,378.7	1,556.8	938.3	1,817.7	0.00	0.00	0.00
4,994.4	34.00	31.08	4,457.0	1,602.0	965.6	1,870.5	0.00	0.00	0.00
5,000.0	33.92	31.08	4,461.6	1,604.7	967.2	1,873.6	1.50	-1.50	0.00
5,100.0	32.42	31.08	4,545.4	1,651.6	995.4	1,928.3	1.50	-1.50	0.00
5,200.0	30.92	31.08	4,630.5	1,696.5	1,022.5	1,980.8	1.50	-1.50	0.00
5,300.0	29.42	31.08	4,716.9	1,739.6	1,048.4	2,031.1	1.50	-1.50	0.00
5,341.3	28.80	31.08	4,753.0	1,756.8	1,058.8	2,051.2	1.50	-1.50	0.00
<b>Ohio Creek</b>									
5,400.0	27.92	31.08	4,804.7	1,780.6	1,073.2	2,079.1	1.50	-1.50	0.00
5,500.0	26.42	31.08	4,893.6	1,819.8	1,096.8	2,124.7	1.50	-1.50	0.00
5,543.9	25.76	31.08	4,933.0	1,836.3	1,106.7	2,144.0	1.50	-1.50	0.00
<b>Opper MVRD</b>									
5,600.0	24.92	31.08	4,983.8	1,856.8	1,119.1	2,168.0	1.50	-1.50	0.00
5,700.0	23.42	31.08	5,075.0	1,891.9	1,140.3	2,209.0	1.50	-1.50	0.00
5,800.0	21.92	31.08	5,167.3	1,924.9	1,160.2	2,247.5	1.50	-1.50	0.00
5,900.0	20.42	31.08	5,260.5	1,955.8	1,178.8	2,283.6	1.50	-1.50	0.00
6,000.0	18.92	31.08	5,354.7	1,984.7	1,196.2	2,317.3	1.50	-1.50	0.00
6,100.0	17.42	31.08	5,449.7	2,011.4	1,212.3	2,348.4	1.50	-1.50	0.00
6,200.0	15.92	31.08	5,545.5	2,035.9	1,227.1	2,377.1	1.50	-1.50	0.00
6,300.0	14.42	31.08	5,642.0	2,058.3	1,240.6	2,403.3	1.50	-1.50	0.00
6,400.0	12.92	31.08	5,739.2	2,078.6	1,252.8	2,426.9	1.50	-1.50	0.00
6,500.0	11.42	31.08	5,836.9	2,096.6	1,263.6	2,448.0	1.50	-1.50	0.00
6,600.0	9.92	31.08	5,935.2	2,112.5	1,273.2	2,466.5	1.50	-1.50	0.00
6,618.1	9.65	31.08	5,953.0	2,115.1	1,274.8	2,469.6	1.50	-1.50	0.00
<b>Top of Gas</b>									
6,700.0	8.42	31.08	6,033.9	2,126.1	1,281.4	2,482.4	1.50	-1.50	0.00
6,800.0	6.92	31.08	6,133.0	2,137.5	1,288.3	2,495.8	1.50	-1.50	0.00
6,900.0	5.42	31.08	6,232.4	2,146.7	1,293.9	2,506.5	1.50	-1.50	0.00
7,000.0	3.92	31.08	6,332.1	2,153.7	1,298.1	2,514.6	1.50	-1.50	0.00
7,100.0	2.42	31.08	6,431.9	2,158.4	1,300.9	2,520.2	1.50	-1.50	0.00
7,200.0	0.92	31.08	6,531.9	2,160.9	1,302.4	2,523.1	1.50	-1.50	0.00
7,261.1	0.00	0.00	6,593.0	2,161.3	1,302.7	2,523.6	1.50	-1.50	0.00
7,300.0	0.00	0.00	6,631.9	2,161.3	1,302.7	2,523.6	0.00	0.00	0.00
7,400.0	0.00	0.00	6,731.9	2,161.3	1,302.7	2,523.6	0.00	0.00	0.00
7,500.0	0.00	0.00	6,831.9	2,161.3	1,302.7	2,523.6	0.00	0.00	0.00
7,600.0	0.00	0.00	6,931.9	2,161.3	1,302.7	2,523.6	0.00	0.00	0.00
7,700.0	0.00	0.00	7,031.9	2,161.3	1,302.7	2,523.6	0.00	0.00	0.00
7,800.0	0.00	0.00	7,131.9	2,161.3	1,302.7	2,523.6	0.00	0.00	0.00
7,900.0	0.00	0.00	7,231.9	2,161.3	1,302.7	2,523.6	0.00	0.00	0.00
8,000.0	0.00	0.00	7,331.9	2,161.3	1,302.7	2,523.6	0.00	0.00	0.00
8,100.0	0.00	0.00	7,431.9	2,161.3	1,302.7	2,523.6	0.00	0.00	0.00
8,200.0	0.00	0.00	7,531.9	2,161.3	1,302.7	2,523.6	0.00	0.00	0.00
8,201.1	0.00	0.00	7,533.0	2,161.3	1,302.7	2,523.6	0.00	0.00	0.00
<b>Cameo</b>									
8,300.0	0.00	0.00	7,631.9	2,161.3	1,302.7	2,523.6	0.00	0.00	0.00
8,400.0	0.00	0.00	7,731.9	2,161.3	1,302.7	2,523.6	0.00	0.00	0.00
8,500.0	0.00	0.00	7,831.9	2,161.3	1,302.7	2,523.6	0.00	0.00	0.00
8,600.0	0.00	0.00	7,931.9	2,161.3	1,302.7	2,523.6	0.00	0.00	0.00
8,700.0	0.00	0.00	8,031.9	2,161.3	1,302.7	2,523.6	0.00	0.00	0.00
8,800.0	0.00	0.00	8,131.9	2,161.3	1,302.7	2,523.6	0.00	0.00	0.00
8,900.0	0.00	0.00	8,231.9	2,161.3	1,302.7	2,523.6	0.00	0.00	0.00
8,911.1	0.00	0.00	8,243.0	2,161.3	1,302.7	2,523.6	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 @ 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 531-26	<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)
<b>RLNS</b>									
9,000.0	0.00	0.00	8,331.9	2,161.3	1,302.7	2,523.6	0.00	0.00	0.00
9,064.1	0.00	0.00	8,396.0	2,161.3	1,302.7	2,523.6	0.00	0.00	0.00
<b>PBHL(PA 531-26)</b>									

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
PBHL(PA 531-26) - plan hits target center - Point	0.00	0.00	8,396.0	2,161.3	1,302.7	1,616,515.00	2,305,304.60	39° 30' 0.922 N	107° 57' 43.832 W

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

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,703.8	2,558.0	Wasatch G		0.00	
2,776.2	2,618.0	Wasatch G Base		0.00	
5,341.3	4,753.0	Ohio Creek		0.00	
5,543.9	4,933.0	Opper MVRD		0.00	
6,618.1	5,953.0	Top of Gas		0.00	
8,201.1	7,533.0	Cameo		0.00	
8,911.1	8,243.0	RLNS		0.00	