

# **TEP Rocky Mountain LLC**

**Garfield County, CO NAD83**

**PA 23-26 Pad**

**PA 532-26 - Slot B3**

**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 532-26 - Slot B3
<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 532-26	<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 532-26 - Slot B3, B3					
Well Position	+N/-S	-10.6 ft	Northing:	1,614,390.13 ft	Latitude:	39° 29' 39.570 N
	+E/-W	-14.6 ft	Easting:	2,303,966.24 ft	Longitude:	107° 58' 0.164 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	51,543.20549135

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	61.67

<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	8,590.4 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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
973.4	17.20	61.67	964.9	40.5	75.2	3.00	3.00	0.00	61.67	
5,640.7	17.20	61.67	5,423.3	695.5	1,290.3	0.00	0.00	0.00	0.00	
6,787.5	0.00	0.00	6,553.0	776.6	1,440.7	1.50	-1.50	0.00	180.00	
8,590.5	0.00	0.00	8,356.0	776.6	1,440.7	0.00	0.00	0.00	0.00	PBHL(PA 532-26)

**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 532-26	<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	3.00	61.67	500.0	1.2	2.3	2.6	3.00	3.00	0.00
600.0	6.00	61.67	599.6	5.0	9.2	10.5	3.00	3.00	0.00
700.0	9.00	61.67	698.8	11.2	20.7	23.5	3.00	3.00	0.00
800.0	12.00	61.67	797.1	19.8	36.7	41.7	3.00	3.00	0.00
900.0	15.00	61.67	894.3	30.9	57.3	65.1	3.00	3.00	0.00
973.4	17.20	61.67	964.9	40.5	75.2	85.4	3.00	3.00	0.00
1,000.0	17.20	61.67	990.2	44.3	82.1	93.3	0.00	0.00	0.00
1,100.0	17.20	61.67	1,085.8	58.3	108.2	122.9	0.00	0.00	0.00
9 5/8"									
1,200.0	17.20	61.67	1,181.3	72.3	134.2	152.5	0.00	0.00	0.00
1,300.0	17.20	61.67	1,276.8	86.4	160.2	182.0	0.00	0.00	0.00
1,400.0	17.20	61.67	1,372.3	100.4	186.3	211.6	0.00	0.00	0.00
1,500.0	17.20	61.67	1,467.9	114.4	212.3	241.2	0.00	0.00	0.00
1,600.0	17.20	61.67	1,563.4	128.5	238.3	270.8	0.00	0.00	0.00
1,700.0	17.20	61.67	1,658.9	142.5	264.4	300.3	0.00	0.00	0.00
1,800.0	17.20	61.67	1,754.4	156.5	290.4	329.9	0.00	0.00	0.00
1,900.0	17.20	61.67	1,850.0	170.6	316.4	359.5	0.00	0.00	0.00
2,000.0	17.20	61.67	1,945.5	184.6	342.5	389.1	0.00	0.00	0.00
2,100.0	17.20	61.67	2,041.0	198.6	368.5	418.6	0.00	0.00	0.00
2,200.0	17.20	61.67	2,136.6	212.7	394.5	448.2	0.00	0.00	0.00
2,300.0	17.20	61.67	2,232.1	226.7	420.6	477.8	0.00	0.00	0.00
2,400.0	17.20	61.67	2,327.6	240.7	446.6	507.4	0.00	0.00	0.00
2,500.0	17.20	61.67	2,423.1	254.8	472.6	536.9	0.00	0.00	0.00
2,520.8	17.20	61.67	2,443.0	257.7	478.1	543.1	0.00	0.00	0.00
Wasatch G									
2,583.6	17.20	61.67	2,503.0	266.5	494.4	561.7	0.00	0.00	0.00
Wasatch G Base									
2,600.0	17.20	61.67	2,518.7	268.8	498.7	566.5	0.00	0.00	0.00
2,700.0	17.20	61.67	2,614.2	282.8	524.7	596.1	0.00	0.00	0.00
2,800.0	17.20	61.67	2,709.7	296.9	550.7	625.7	0.00	0.00	0.00
2,900.0	17.20	61.67	2,805.2	310.9	576.8	655.2	0.00	0.00	0.00
3,000.0	17.20	61.67	2,900.8	324.9	602.8	684.8	0.00	0.00	0.00
3,100.0	17.20	61.67	2,996.3	339.0	628.8	714.4	0.00	0.00	0.00
3,200.0	17.20	61.67	3,091.8	353.0	654.9	744.0	0.00	0.00	0.00
3,300.0	17.20	61.67	3,187.3	367.0	680.9	773.5	0.00	0.00	0.00
3,400.0	17.20	61.67	3,282.9	381.1	707.0	803.1	0.00	0.00	0.00
3,500.0	17.20	61.67	3,378.4	395.1	733.0	832.7	0.00	0.00	0.00
3,600.0	17.20	61.67	3,473.9	409.1	759.0	862.3	0.00	0.00	0.00
3,700.0	17.20	61.67	3,569.5	423.2	785.1	891.8	0.00	0.00	0.00
3,800.0	17.20	61.67	3,665.0	437.2	811.1	921.4	0.00	0.00	0.00
3,900.0	17.20	61.67	3,760.5	451.2	837.1	951.0	0.00	0.00	0.00
4,000.0	17.20	61.67	3,856.0	465.3	863.2	980.6	0.00	0.00	0.00
4,100.0	17.20	61.67	3,951.6	479.3	889.2	1,010.1	0.00	0.00	0.00
4,200.0	17.20	61.67	4,047.1	493.3	915.2	1,039.7	0.00	0.00	0.00
4,300.0	17.20	61.67	4,142.6	507.4	941.3	1,069.3	0.00	0.00	0.00
4,400.0	17.20	61.67	4,238.1	521.4	967.3	1,098.9	0.00	0.00	0.00
4,500.0	17.20	61.67	4,333.7	535.4	993.3	1,128.4	0.00	0.00	0.00
4,600.0	17.20	61.67	4,429.2	549.5	1,019.4	1,158.0	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 532-26	<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	17.20	61.67	4,524.7	563.5	1,045.4	1,187.6	0.00	0.00	0.00
4,800.0	17.20	61.67	4,620.2	577.5	1,071.4	1,217.2	0.00	0.00	0.00
4,897.1	17.20	61.67	4,713.0	591.1	1,096.7	1,245.9	0.00	0.00	0.00
<b>Ohio Creek</b>									
4,900.0	17.20	61.67	4,715.8	591.6	1,097.5	1,246.7	0.00	0.00	0.00
5,000.0	17.20	61.67	4,811.3	605.6	1,123.5	1,276.3	0.00	0.00	0.00
5,085.5	17.20	61.67	4,893.0	617.6	1,145.8	1,301.6	0.00	0.00	0.00
<b>Upper MVRD</b>									
5,100.0	17.20	61.67	4,906.8	619.6	1,149.5	1,305.9	0.00	0.00	0.00
5,200.0	17.20	61.67	5,002.4	633.7	1,175.6	1,335.5	0.00	0.00	0.00
5,300.0	17.20	61.67	5,097.9	647.7	1,201.6	1,365.0	0.00	0.00	0.00
5,400.0	17.20	61.67	5,193.4	661.7	1,227.6	1,394.6	0.00	0.00	0.00
5,500.0	17.20	61.67	5,288.9	675.8	1,253.7	1,424.2	0.00	0.00	0.00
5,600.0	17.20	61.67	5,384.5	689.8	1,279.7	1,453.8	0.00	0.00	0.00
5,640.7	17.20	61.67	5,423.3	695.5	1,290.3	1,465.8	0.00	0.00	0.00
5,700.0	16.31	61.67	5,480.1	703.6	1,305.4	1,482.9	1.50	-1.50	0.00
5,800.0	14.81	61.67	5,576.5	716.3	1,329.0	1,509.7	1.50	-1.50	0.00
5,900.0	13.31	61.67	5,673.5	727.9	1,350.4	1,534.0	1.50	-1.50	0.00
6,000.0	11.81	61.67	5,771.1	738.2	1,369.5	1,555.8	1.50	-1.50	0.00
6,100.0	10.31	61.67	5,869.2	747.3	1,386.4	1,575.0	1.50	-1.50	0.00
6,144.5	9.65	61.67	5,913.0	750.9	1,393.2	1,582.7	1.50	-1.50	0.00
<b>Top of Gas</b>									
6,200.0	8.81	61.67	5,967.8	755.2	1,401.0	1,591.6	1.50	-1.50	0.00
6,300.0	7.31	61.67	6,066.8	761.8	1,413.4	1,605.6	1.50	-1.50	0.00
6,400.0	5.81	61.67	6,166.2	767.2	1,423.4	1,617.0	1.50	-1.50	0.00
6,500.0	4.31	61.67	6,265.8	771.4	1,431.2	1,625.9	1.50	-1.50	0.00
6,600.0	2.81	61.67	6,365.6	774.4	1,436.7	1,632.1	1.50	-1.50	0.00
6,700.0	1.31	61.67	6,465.5	776.1	1,439.8	1,635.7	1.50	-1.50	0.00
6,787.5	0.00	0.00	6,553.0	776.6	1,440.7	1,636.7	1.50	-1.50	0.00
6,800.0	0.00	0.00	6,565.5	776.6	1,440.7	1,636.7	0.00	0.00	0.00
6,900.0	0.00	0.00	6,665.5	776.6	1,440.7	1,636.7	0.00	0.00	0.00
7,000.0	0.00	0.00	6,765.5	776.6	1,440.7	1,636.7	0.00	0.00	0.00
7,100.0	0.00	0.00	6,865.5	776.6	1,440.7	1,636.7	0.00	0.00	0.00
7,200.0	0.00	0.00	6,965.5	776.6	1,440.7	1,636.7	0.00	0.00	0.00
7,300.0	0.00	0.00	7,065.5	776.6	1,440.7	1,636.7	0.00	0.00	0.00
7,400.0	0.00	0.00	7,165.5	776.6	1,440.7	1,636.7	0.00	0.00	0.00
7,500.0	0.00	0.00	7,265.5	776.6	1,440.7	1,636.7	0.00	0.00	0.00
7,600.0	0.00	0.00	7,365.5	776.6	1,440.7	1,636.7	0.00	0.00	0.00
7,700.0	0.00	0.00	7,465.5	776.6	1,440.7	1,636.7	0.00	0.00	0.00
7,727.5	0.00	0.00	7,493.0	776.6	1,440.7	1,636.7	0.00	0.00	0.00
<b>Cameo</b>									
7,800.0	0.00	0.00	7,565.5	776.6	1,440.7	1,636.7	0.00	0.00	0.00
7,900.0	0.00	0.00	7,665.5	776.6	1,440.7	1,636.7	0.00	0.00	0.00
8,000.0	0.00	0.00	7,765.5	776.6	1,440.7	1,636.7	0.00	0.00	0.00
8,100.0	0.00	0.00	7,865.5	776.6	1,440.7	1,636.7	0.00	0.00	0.00
8,200.0	0.00	0.00	7,965.5	776.6	1,440.7	1,636.7	0.00	0.00	0.00
8,300.0	0.00	0.00	8,065.5	776.6	1,440.7	1,636.7	0.00	0.00	0.00
8,400.0	0.00	0.00	8,165.5	776.6	1,440.7	1,636.7	0.00	0.00	0.00
8,437.5	0.00	0.00	8,203.0	776.6	1,440.7	1,636.7	0.00	0.00	0.00
<b>RLNS</b>									
8,500.0	0.00	0.00	8,265.5	776.6	1,440.7	1,636.7	0.00	0.00	0.00
8,590.5	0.00	0.00	8,356.0	776.6	1,440.7	1,636.7	0.00	0.00	0.00
<b>PBHL(PA 532-26)</b>									

**N/A**  
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<b>Well:</b>	PA 532-26	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
PBHL(PA 532-26)	0.00	0.00	8,356.0	776.6	1,440.7	1,615,127.30	2,305,427.50	39° 29' 47.244 N	107° 57' 41.785 W
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(in)	(in)
1,100.0	1,085.8	9 5/8"		9.625	13.500

Formations						
Measured Depth	Vertical Depth	Name		Lithology	Dip	Dip Direction
(ft)	(ft)				(°)	(°)
2,520.8	2,443.0	Wasatch G			0.00	
2,583.6	2,503.0	Wasatch G Base			0.00	
4,897.1	4,713.0	Ohio Creek			0.00	
5,085.5	4,893.0	Upper MVRD			0.00	
6,144.5	5,913.0	Top of Gas			0.00	
7,727.5	7,493.0	Cameo			0.00	
8,437.5	8,203.0	RLNS			0.00	