

# **TEP Rocky Mountain LLC**

**Garfield County, CO NAD83**

**PA 23-26 Pad**

**PA 433-26 - Slot B5**

**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 433-26 - Slot B5
<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 433-26	<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 433-26 - Slot B5, B5					
Well Position	+N/-S	-11.2 ft	Northing:	1,614,389.92 ft	Latitude:	39° 29' 39.563 N
	+E/-W	-29.6 ft	Easting:	2,303,951.24 ft	Longitude:	107° 58' 0.355 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	51,543.19782381

<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	98.84

<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	8,518.7 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	
330.0	3.00	180.00	329.9	-3.9	0.0	2.00	2.00	0.00	180.00	
858.2	16.00	98.16	850.9	-28.2	72.5	3.00	2.46	-15.49	-92.36	
5,419.2	16.00	98.16	5,235.3	-206.7	1,316.8	0.00	0.00	0.00	0.00	
6,485.8	0.00	0.00	6,288.0	-227.7	1,463.3	1.50	-1.50	0.00	180.00	
8,518.8	0.00	0.00	8,321.0	-227.7	1,463.3	0.00	0.00	0.00	0.00	PBHL(PA 433-26)

**N/A**  
Planning Report

<b>Database:</b>	EDM_PRO	<b>Local Co-ordinate Reference:</b>	Well PA 433-26 - Slot B5
<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 433-26	<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	0.40	180.00	200.0	-0.1	0.0	0.0	2.00	2.00	0.00
300.0	2.40	180.00	300.0	-2.5	0.0	0.4	2.00	2.00	0.00
330.0	3.00	180.00	329.9	-3.9	0.0	0.6	2.00	2.00	0.00
400.0	3.59	144.22	399.8	-7.5	1.3	2.4	3.00	0.84	-51.12
500.0	5.81	118.62	499.5	-12.5	7.6	9.4	3.00	2.22	-25.59
600.0	8.52	108.10	598.7	-17.2	19.0	21.5	3.00	2.71	-10.52
700.0	11.37	102.73	697.2	-21.7	35.7	38.6	3.00	2.86	-5.38
800.0	14.29	99.50	794.7	-25.9	57.5	60.8	3.00	2.91	-3.22
858.2	16.00	98.16	850.9	-28.2	72.5	76.0	3.00	2.94	-2.31
900.0	16.00	98.16	891.0	-29.9	83.9	87.5	0.00	0.00	0.00
1,000.0	16.00	98.16	987.2	-33.8	111.2	115.1	0.00	0.00	0.00
1,100.0	16.00	98.16	1,083.3	-37.7	138.5	142.6	0.00	0.00	0.00
9 5/8"									
1,200.0	16.00	98.16	1,179.4	-41.6	165.8	170.2	0.00	0.00	0.00
1,300.0	16.00	98.16	1,275.6	-45.5	193.0	197.7	0.00	0.00	0.00
1,400.0	16.00	98.16	1,371.7	-49.4	220.3	225.3	0.00	0.00	0.00
1,500.0	16.00	98.16	1,467.8	-53.3	247.6	252.9	0.00	0.00	0.00
1,600.0	16.00	98.16	1,563.9	-57.3	274.9	280.4	0.00	0.00	0.00
1,700.0	16.00	98.16	1,660.1	-61.2	302.2	308.0	0.00	0.00	0.00
1,800.0	16.00	98.16	1,756.2	-65.1	329.5	335.5	0.00	0.00	0.00
1,900.0	16.00	98.16	1,852.3	-69.0	356.7	363.1	0.00	0.00	0.00
2,000.0	16.00	98.16	1,948.4	-72.9	384.0	390.7	0.00	0.00	0.00
2,100.0	16.00	98.16	2,044.6	-76.8	411.3	418.2	0.00	0.00	0.00
2,200.0	16.00	98.16	2,140.7	-80.7	438.6	445.8	0.00	0.00	0.00
2,300.0	16.00	98.16	2,236.8	-84.6	465.9	473.3	0.00	0.00	0.00
2,400.0	16.00	98.16	2,333.0	-88.6	493.1	500.9	0.00	0.00	0.00
2,426.1	16.00	98.16	2,358.0	-89.6	500.3	508.1	0.00	0.00	0.00
Wasatch G									
2,488.5	16.00	98.16	2,418.0	-92.0	517.3	525.3	0.00	0.00	0.00
Wasatch G Base									
2,500.0	16.00	98.16	2,429.1	-92.5	520.4	528.5	0.00	0.00	0.00
2,600.0	16.00	98.16	2,525.2	-96.4	547.7	556.0	0.00	0.00	0.00
2,700.0	16.00	98.16	2,621.3	-100.3	575.0	583.6	0.00	0.00	0.00
2,800.0	16.00	98.16	2,717.5	-104.2	602.3	611.1	0.00	0.00	0.00
2,900.0	16.00	98.16	2,813.6	-108.1	629.6	638.7	0.00	0.00	0.00
3,000.0	16.00	98.16	2,909.7	-112.0	656.8	666.3	0.00	0.00	0.00
3,100.0	16.00	98.16	3,005.8	-115.9	684.1	693.8	0.00	0.00	0.00
3,200.0	16.00	98.16	3,102.0	-119.9	711.4	721.4	0.00	0.00	0.00
3,300.0	16.00	98.16	3,198.1	-123.8	738.7	748.9	0.00	0.00	0.00
3,400.0	16.00	98.16	3,294.2	-127.7	766.0	776.5	0.00	0.00	0.00
3,500.0	16.00	98.16	3,390.4	-131.6	793.2	804.0	0.00	0.00	0.00
3,600.0	16.00	98.16	3,486.5	-135.5	820.5	831.6	0.00	0.00	0.00
3,700.0	16.00	98.16	3,582.6	-139.4	847.8	859.2	0.00	0.00	0.00
3,800.0	16.00	98.16	3,678.7	-143.3	875.1	886.7	0.00	0.00	0.00
3,900.0	16.00	98.16	3,774.9	-147.2	902.4	914.3	0.00	0.00	0.00
4,000.0	16.00	98.16	3,871.0	-151.2	929.7	941.8	0.00	0.00	0.00
4,100.0	16.00	98.16	3,967.1	-155.1	956.9	969.4	0.00	0.00	0.00
4,200.0	16.00	98.16	4,063.2	-159.0	984.2	997.0	0.00	0.00	0.00
4,300.0	16.00	98.16	4,159.4	-162.9	1,011.5	1,024.5	0.00	0.00	0.00
4,400.0	16.00	98.16	4,255.5	-166.8	1,038.8	1,052.1	0.00	0.00	0.00

**N/A**  
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<b>Site:</b>	PA 23-26 Pad	<b>North Reference:</b>	True
<b>Well:</b>	PA 433-26	<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)
4,500.0	16.00	98.16	4,351.6	-170.7	1,066.1	1,079.6	0.00	0.00	0.00
4,600.0	16.00	98.16	4,447.8	-174.6	1,093.3	1,107.2	0.00	0.00	0.00
4,700.0	16.00	98.16	4,543.9	-178.5	1,120.6	1,134.8	0.00	0.00	0.00
4,800.0	16.00	98.16	4,640.0	-182.5	1,147.9	1,162.3	0.00	0.00	0.00
4,839.5	16.00	98.16	4,678.0	-184.0	1,158.7	1,173.2	0.00	0.00	0.00
Ohio Creek									
4,900.0	16.00	98.16	4,736.1	-186.4	1,175.2	1,189.9	0.00	0.00	0.00
5,000.0	16.00	98.16	4,832.3	-190.3	1,202.5	1,217.4	0.00	0.00	0.00
5,026.8	16.00	98.16	4,858.0	-191.3	1,209.8	1,224.8	0.00	0.00	0.00
Upper MVRD									
5,100.0	16.00	98.16	4,928.4	-194.2	1,229.8	1,245.0	0.00	0.00	0.00
5,200.0	16.00	98.16	5,024.5	-198.1	1,257.0	1,272.5	0.00	0.00	0.00
5,300.0	16.00	98.16	5,120.6	-202.0	1,284.3	1,300.1	0.00	0.00	0.00
5,400.0	16.00	98.16	5,216.8	-205.9	1,311.6	1,327.7	0.00	0.00	0.00
5,419.2	16.00	98.16	5,235.3	-206.7	1,316.8	1,333.0	0.00	0.00	0.00
5,500.0	14.79	98.16	5,313.1	-209.7	1,338.1	1,354.4	1.50	-1.50	0.00
5,600.0	13.29	98.16	5,410.1	-213.2	1,362.1	1,378.7	1.50	-1.50	0.00
5,700.0	11.79	98.16	5,507.8	-216.2	1,383.6	1,400.4	1.50	-1.50	0.00
5,800.0	10.29	98.16	5,605.9	-219.0	1,402.5	1,419.5	1.50	-1.50	0.00
5,900.0	8.79	98.16	5,704.5	-221.3	1,418.9	1,436.1	1.50	-1.50	0.00
6,000.0	7.29	98.16	5,803.5	-223.3	1,432.7	1,450.0	1.50	-1.50	0.00
6,075.0	6.16	98.16	5,878.0	-224.5	1,441.4	1,458.8	1.50	-1.50	0.00
Top of Gas									
6,100.0	5.79	98.16	5,902.9	-224.9	1,444.0	1,461.4	1.50	-1.50	0.00
6,200.0	4.29	98.16	6,002.5	-226.2	1,452.7	1,470.2	1.50	-1.50	0.00
6,300.0	2.79	98.16	6,102.3	-227.0	1,458.8	1,476.4	1.50	-1.50	0.00
6,400.0	1.29	98.16	6,202.2	-227.5	1,462.3	1,479.9	1.50	-1.50	0.00
6,485.8	0.00	0.00	6,288.0	-227.7	1,463.3	1,480.9	1.50	-1.50	0.00
6,500.0	0.00	0.00	6,302.2	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
6,600.0	0.00	0.00	6,402.2	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
6,700.0	0.00	0.00	6,502.2	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
6,800.0	0.00	0.00	6,602.2	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
6,900.0	0.00	0.00	6,702.2	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
7,000.0	0.00	0.00	6,802.2	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
7,100.0	0.00	0.00	6,902.2	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
7,200.0	0.00	0.00	7,002.2	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
7,300.0	0.00	0.00	7,102.2	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
7,400.0	0.00	0.00	7,202.2	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
7,500.0	0.00	0.00	7,302.2	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
7,600.0	0.00	0.00	7,402.2	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
7,655.8	0.00	0.00	7,458.0	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
Cameo									
7,700.0	0.00	0.00	7,502.2	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
7,800.0	0.00	0.00	7,602.2	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
7,900.0	0.00	0.00	7,702.2	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
8,000.0	0.00	0.00	7,802.2	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
8,100.0	0.00	0.00	7,902.2	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
8,200.0	0.00	0.00	8,002.2	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
8,300.0	0.00	0.00	8,102.2	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
8,365.8	0.00	0.00	8,168.0	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
RLNS									
8,400.0	0.00	0.00	8,202.2	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
8,500.0	0.00	0.00	8,302.2	-227.7	1,463.3	1,480.9	0.00	0.00	0.00
8,518.8	0.00	0.00	8,321.0	-227.7	1,463.3	1,480.9	0.00	0.00	0.00

**N/A**  
Planning Report

<b>Database:</b>	EDM_PRO	<b>Local Co-ordinate Reference:</b>	Well PA 433-26 - Slot B5
<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 433-26	<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 433-26)									

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 433-26)	0.00	0.00	8,321.0	-227.7	1,463.3	1,614,122.60	2,305,407.80	39° 29' 37.313 N	107° 57' 41.689 W
- plan hits target center									
- Point									

Casing Points						Casing Diameter (in)	Hole Diameter (in)
Measured Depth (ft)	Vertical Depth (ft)	Name					
1,100.0	1,083.3	9 5/8"				9.625	13.500

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,426.1	2,358.0	Wasatch G		0.00		
2,488.5	2,418.0	Wasatch G Base		0.00		
4,839.5	4,678.0	Ohio Creek		0.00		
5,026.8	4,858.0	Upper MVRD		0.00		
6,075.0	5,878.0	Top of Gas		0.00		
7,655.8	7,458.0	Cameo		0.00		
8,365.8	8,168.0	RLNS		0.00		