

TEP Rocky Mountain LLC

Garfield County, CO NAD83

PA 23-26 Pad

PA 522-26 - Slot B11

OH

Plan: Plan #1

Standard Planning Report

10 July, 2017

N/A
Planning Report

Database:	EDM_PRO	Local Co-ordinate Reference:	Well PA 522-26 - Slot B11
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 5658.0ft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 5658.0ft (Original Well Elev)
Site:	PA 23-26 Pad	North Reference:	True
Well:	PA 522-26	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project	Garfield County, CO NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	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 522-26 - Slot B11, B11					
Well Position	+N/-S	-13.0 ft	Northing:	1,614,389.36 ft	Latitude:	39° 29' 39.546 N
	+E/-W	-74.5 ft	Easting:	2,303,906.24 ft	Longitude:	107° 58' 0.929 W
Position Uncertainty		0.0 ft	Wellhead Elevation:		Ground Level:	5,637.0 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2000	12/31/2004	11.44	65.99	53,054.04041267

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	352.90

Plan Survey Tool Program	Date	7/10/2017			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	8,518.2 Plan #1 (OH)	SDI MWD		
			SDI MWD - Standard ver 1.0.1		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,549.8	15.00	352.90	1,541.3	96.8	-12.1	2.00	2.00	0.00	352.90	
5,438.6	15.00	352.90	5,297.6	1,095.4	-136.4	0.00	0.00	0.00	0.00	
6,438.3	0.00	0.00	6,286.0	1,224.4	-152.4	1.50	-1.50	0.00	180.00	
8,518.3	0.00	0.00	8,366.0	1,224.4	-152.4	0.00	0.00	0.00	0.00	PBHL(PA 522-26)

N/A
Planning Report

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Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 5658.0ft (Original Well Elev)
Site:	PA 23-26 Pad	North Reference:	True
Well:	PA 522-26	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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	2.00	352.90	900.0	1.7	-0.2	1.7	2.00	2.00	0.00
1,000.0	4.00	352.90	999.8	6.9	-0.9	7.0	2.00	2.00	0.00
1,100.0	6.00	352.90	1,099.5	15.6	-1.9	15.7	2.00	2.00	0.00
9 5/8"									
1,200.0	8.00	352.90	1,198.7	27.7	-3.4	27.9	2.00	2.00	0.00
1,300.0	10.00	352.90	1,297.5	43.2	-5.4	43.5	2.00	2.00	0.00
1,400.0	12.00	352.90	1,395.6	62.1	-7.7	62.6	2.00	2.00	0.00
1,500.0	14.00	352.90	1,493.1	84.4	-10.5	85.1	2.00	2.00	0.00
1,549.8	15.00	352.90	1,541.3	96.8	-12.1	97.6	2.00	2.00	0.00
1,600.0	15.00	352.90	1,589.8	109.7	-13.7	110.6	0.00	0.00	0.00
1,700.0	15.00	352.90	1,686.4	135.4	-16.9	136.4	0.00	0.00	0.00
1,800.0	15.00	352.90	1,783.0	161.1	-20.1	162.3	0.00	0.00	0.00
1,900.0	15.00	352.90	1,879.5	186.7	-23.2	188.2	0.00	0.00	0.00
2,000.0	15.00	352.90	1,976.1	212.4	-26.4	214.1	0.00	0.00	0.00
2,100.0	15.00	352.90	2,072.7	238.1	-29.6	239.9	0.00	0.00	0.00
2,200.0	15.00	352.90	2,169.3	263.8	-32.8	265.8	0.00	0.00	0.00
2,300.0	15.00	352.90	2,265.9	289.4	-36.0	291.7	0.00	0.00	0.00
2,400.0	15.00	352.90	2,362.5	315.1	-39.2	317.6	0.00	0.00	0.00
2,500.0	15.00	352.90	2,459.1	340.8	-42.4	343.4	0.00	0.00	0.00
2,600.0	15.00	352.90	2,555.7	366.5	-45.6	369.3	0.00	0.00	0.00
2,602.4	15.00	352.90	2,558.0	367.1	-45.7	369.9	0.00	0.00	0.00
WASATCH G									
2,664.5	15.00	352.90	2,618.0	383.0	-47.7	386.0	0.00	0.00	0.00
WASATCH G BASE									
2,700.0	15.00	352.90	2,652.3	392.2	-48.8	395.2	0.00	0.00	0.00
2,800.0	15.00	352.90	2,748.9	417.8	-52.0	421.1	0.00	0.00	0.00
2,900.0	15.00	352.90	2,845.5	443.5	-55.2	446.9	0.00	0.00	0.00
3,000.0	15.00	352.90	2,942.1	469.2	-58.4	472.8	0.00	0.00	0.00
3,100.0	15.00	352.90	3,038.7	494.9	-61.6	498.7	0.00	0.00	0.00
3,200.0	15.00	352.90	3,135.3	520.5	-64.8	524.6	0.00	0.00	0.00
3,300.0	15.00	352.90	3,231.9	546.2	-68.0	550.4	0.00	0.00	0.00
3,400.0	15.00	352.90	3,328.5	571.9	-71.2	576.3	0.00	0.00	0.00
3,500.0	15.00	352.90	3,425.1	597.6	-74.4	602.2	0.00	0.00	0.00
3,600.0	15.00	352.90	3,521.7	623.3	-77.6	628.1	0.00	0.00	0.00
3,700.0	15.00	352.90	3,618.2	648.9	-80.8	653.9	0.00	0.00	0.00
3,800.0	15.00	352.90	3,714.8	674.6	-84.0	679.8	0.00	0.00	0.00
3,900.0	15.00	352.90	3,811.4	700.3	-87.2	705.7	0.00	0.00	0.00
4,000.0	15.00	352.90	3,908.0	726.0	-90.4	731.6	0.00	0.00	0.00
4,100.0	15.00	352.90	4,004.6	751.6	-93.6	757.4	0.00	0.00	0.00
4,200.0	15.00	352.90	4,101.2	777.3	-96.8	783.3	0.00	0.00	0.00
4,300.0	15.00	352.90	4,197.8	803.0	-100.0	809.2	0.00	0.00	0.00
4,400.0	15.00	352.90	4,294.4	828.7	-103.2	835.1	0.00	0.00	0.00
4,500.0	15.00	352.90	4,391.0	854.4	-106.4	860.9	0.00	0.00	0.00
4,600.0	15.00	352.90	4,487.6	880.0	-109.6	886.8	0.00	0.00	0.00

N/A
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Well:	PA 522-26	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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	15.00	352.90	4,584.2	905.7	-112.8	912.7	0.00	0.00	0.00
4,800.0	15.00	352.90	4,680.8	931.4	-116.0	938.6	0.00	0.00	0.00
4,900.0	15.00	352.90	4,777.4	957.1	-119.2	964.5	0.00	0.00	0.00
4,947.2	15.00	352.90	4,823.0	969.2	-120.7	976.7	0.00	0.00	0.00
MESAVERDE									
5,000.0	15.00	352.90	4,874.0	982.7	-122.4	990.3	0.00	0.00	0.00
5,030.1	15.00	352.90	4,903.0	990.5	-123.3	998.1	0.00	0.00	0.00
UPPER MESAVERDE									
5,100.0	15.00	352.90	4,970.6	1,008.4	-125.5	1,016.2	0.00	0.00	0.00
5,200.0	15.00	352.90	5,067.2	1,034.1	-128.7	1,042.1	0.00	0.00	0.00
5,300.0	15.00	352.90	5,163.8	1,059.8	-131.9	1,068.0	0.00	0.00	0.00
5,400.0	15.00	352.90	5,260.4	1,085.4	-135.1	1,093.8	0.00	0.00	0.00
5,438.6	15.00	352.90	5,297.6	1,095.4	-136.4	1,103.8	0.00	0.00	0.00
5,500.0	14.08	352.90	5,357.1	1,110.7	-138.3	1,119.2	1.50	-1.50	0.00
5,600.0	12.58	352.90	5,454.4	1,133.5	-141.1	1,142.3	1.50	-1.50	0.00
5,700.0	11.08	352.90	5,552.3	1,153.9	-143.7	1,162.8	1.50	-1.50	0.00
5,800.0	9.58	352.90	5,650.6	1,171.6	-145.9	1,180.7	1.50	-1.50	0.00
5,900.0	8.08	352.90	5,749.4	1,186.9	-147.8	1,196.0	1.50	-1.50	0.00
6,000.0	6.58	352.90	5,848.6	1,199.5	-149.3	1,208.8	1.50	-1.50	0.00
6,074.8	5.45	352.90	5,923.0	1,207.3	-150.3	1,216.6	1.50	-1.50	0.00
TOP GAS									
6,100.0	5.08	352.90	5,948.1	1,209.6	-150.6	1,218.9	1.50	-1.50	0.00
6,200.0	3.58	352.90	6,047.8	1,217.1	-151.5	1,226.5	1.50	-1.50	0.00
6,300.0	2.08	352.90	6,147.7	1,222.0	-152.1	1,231.4	1.50	-1.50	0.00
6,400.0	0.58	352.90	6,247.7	1,224.3	-152.4	1,233.7	1.50	-1.50	0.00
6,438.3	0.00	0.00	6,286.0	1,224.4	-152.4	1,233.9	1.50	-1.50	0.00
6,500.0	0.00	0.00	6,347.7	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
6,600.0	0.00	0.00	6,447.7	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
6,700.0	0.00	0.00	6,547.7	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
6,800.0	0.00	0.00	6,647.7	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
6,900.0	0.00	0.00	6,747.7	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
7,000.0	0.00	0.00	6,847.7	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
7,100.0	0.00	0.00	6,947.7	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
7,200.0	0.00	0.00	7,047.7	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
7,300.0	0.00	0.00	7,147.7	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
7,400.0	0.00	0.00	7,247.7	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
7,500.0	0.00	0.00	7,347.7	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
7,600.0	0.00	0.00	7,447.7	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
7,655.3	0.00	0.00	7,503.0	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
CAMEO									
7,700.0	0.00	0.00	7,547.7	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
7,800.0	0.00	0.00	7,647.7	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
7,900.0	0.00	0.00	7,747.7	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
8,000.0	0.00	0.00	7,847.7	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
8,100.0	0.00	0.00	7,947.7	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
8,200.0	0.00	0.00	8,047.7	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
8,300.0	0.00	0.00	8,147.7	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
8,365.3	0.00	0.00	8,213.0	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
ROLLINS									
8,400.0	0.00	0.00	8,247.7	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
8,500.0	0.00	0.00	8,347.7	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
8,515.3	0.00	0.00	8,363.0	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
TD									

N/A
Planning Report

Database:	EDM_PRO	Local Co-ordinate Reference:	Well PA 522-26 - Slot B11
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 5658.0ft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 5658.0ft (Original Well Elev)
Site:	PA 23-26 Pad	North Reference:	True
Well:	PA 522-26	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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)
8,518.3	0.00	0.00	8,366.0	1,224.4	-152.4	1,233.9	0.00	0.00	0.00
PBHL(PA 522-26)									

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 522-26) - plan hits target center - Point	0.00	0.00	8,366.0	1,224.4	-152.4	1,615,617.50	2,303,787.10	39° 29' 51.648 N	107° 58' 2.873 W

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,100.0	1,099.5	9 5/8"	9.625	13.500	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,602.4	2,558.0	WASATCH G		0.00		
2,664.5	2,618.0	WASATCH G BASE		0.00		
4,947.2	4,823.0	MESAVERDE		0.00		
5,030.1	4,903.0	UPPER MESAVERDE		0.00		
6,074.8	5,923.0	TOP GAS		0.00		
7,655.3	7,503.0	CAMEO		0.00		
8,365.3	8,213.0	ROLLINS		0.00		
8,515.3	8,363.0	TD		0.00		