

TEP Rocky Mountain LLC

Garfield County, CO NAD83

PA 23-26 Pad

PA 34-26 - Slot A9

OH

Plan: Plan #1

Standard Planning Report

10 July, 2017

N/A
Planning Report

Database:	EDM_PRO	Local Co-ordinate Reference:	Well PA 34-26 - Slot A9
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 34-26	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 34-26 - Slot A9, B9					
Well Position	+N/-S	-2.4 ft	Northing:	1,614,399.49 ft	Latitude:	39° 29' 39.650 N
	+E/-W	-60.0 ft	Easting:	2,303,921.10 ft	Longitude:	107° 58' 0.743 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)
	IGRF2015	5/19/2017	9.70	65.59	51,543.19706448

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	137.61

Plan Survey Tool Program	Date	7/10/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	8,410.5 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	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
876.0	11.28	137.61	873.6	-27.2	24.9	3.00	3.00	0.00	137.61	
5,655.6	11.28	137.61	5,560.9	-717.7	655.2	0.00	0.00	0.00	0.00	
6,407.6	0.00	0.00	6,308.0	-772.1	704.9	1.50	-1.50	0.00	180.00	
8,410.6	0.00	0.00	8,311.0	-772.1	704.9	0.00	0.00	0.00	0.00	PBHL(PA 34-26)

N/A
Planning Report

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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 34-26	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	3.00	137.61	600.0	-1.9	1.8	2.6	3.00	3.00	0.00
700.0	6.00	137.61	699.6	-7.7	7.1	10.5	3.00	3.00	0.00
800.0	9.00	137.61	798.8	-17.4	15.9	23.5	3.00	3.00	0.00
876.0	11.28	137.61	873.6	-27.2	24.9	36.9	3.00	3.00	0.00
900.0	11.28	137.61	897.1	-30.7	28.0	41.6	0.00	0.00	0.00
1,000.0	11.28	137.61	995.2	-45.2	41.2	61.1	0.00	0.00	0.00
1,100.0	11.28	137.61	1,093.2	-59.6	54.4	80.7	0.00	0.00	0.00
9 5/8"									
1,200.0	11.28	137.61	1,191.3	-74.0	67.6	100.3	0.00	0.00	0.00
1,300.0	11.28	137.61	1,289.4	-88.5	80.8	119.8	0.00	0.00	0.00
1,400.0	11.28	137.61	1,387.5	-102.9	94.0	139.4	0.00	0.00	0.00
1,500.0	11.28	137.61	1,485.5	-117.4	107.2	158.9	0.00	0.00	0.00
1,600.0	11.28	137.61	1,583.6	-131.8	120.4	178.5	0.00	0.00	0.00
1,700.0	11.28	137.61	1,681.7	-146.3	133.5	198.1	0.00	0.00	0.00
1,800.0	11.28	137.61	1,779.7	-160.7	146.7	217.6	0.00	0.00	0.00
1,900.0	11.28	137.61	1,877.8	-175.2	159.9	237.2	0.00	0.00	0.00
2,000.0	11.28	137.61	1,975.9	-189.6	173.1	256.7	0.00	0.00	0.00
2,100.0	11.28	137.61	2,073.9	-204.1	186.3	276.3	0.00	0.00	0.00
2,200.0	11.28	137.61	2,172.0	-218.5	199.5	295.9	0.00	0.00	0.00
2,300.0	11.28	137.61	2,270.1	-232.9	212.7	315.4	0.00	0.00	0.00
2,389.7	11.28	137.61	2,358.0	-245.9	224.5	333.0	0.00	0.00	0.00
Wasatch G									
2,400.0	11.28	137.61	2,368.1	-247.4	225.9	335.0	0.00	0.00	0.00
2,450.8	11.28	137.61	2,418.0	-254.7	232.6	344.9	0.00	0.00	0.00
Wasatch G Base									
2,500.0	11.28	137.61	2,466.2	-261.8	239.0	354.5	0.00	0.00	0.00
2,600.0	11.28	137.61	2,564.3	-276.3	252.2	374.1	0.00	0.00	0.00
2,700.0	11.28	137.61	2,662.4	-290.7	265.4	393.7	0.00	0.00	0.00
2,800.0	11.28	137.61	2,760.4	-305.2	278.6	413.2	0.00	0.00	0.00
2,900.0	11.28	137.61	2,858.5	-319.6	291.8	432.8	0.00	0.00	0.00
3,000.0	11.28	137.61	2,956.6	-334.1	305.0	452.3	0.00	0.00	0.00
3,100.0	11.28	137.61	3,054.6	-348.5	318.2	471.9	0.00	0.00	0.00
3,200.0	11.28	137.61	3,152.7	-362.9	331.3	491.4	0.00	0.00	0.00
3,300.0	11.28	137.61	3,250.8	-377.4	344.5	511.0	0.00	0.00	0.00
3,400.0	11.28	137.61	3,348.8	-391.8	357.7	530.6	0.00	0.00	0.00
3,500.0	11.28	137.61	3,446.9	-406.3	370.9	550.1	0.00	0.00	0.00
3,600.0	11.28	137.61	3,545.0	-420.7	384.1	569.7	0.00	0.00	0.00
3,700.0	11.28	137.61	3,643.0	-435.2	397.3	589.2	0.00	0.00	0.00
3,800.0	11.28	137.61	3,741.1	-449.6	410.5	608.8	0.00	0.00	0.00
3,900.0	11.28	137.61	3,839.2	-464.1	423.7	628.4	0.00	0.00	0.00
4,000.0	11.28	137.61	3,937.2	-478.5	436.8	647.9	0.00	0.00	0.00
4,100.0	11.28	137.61	4,035.3	-492.9	450.0	667.5	0.00	0.00	0.00
4,200.0	11.28	137.61	4,133.4	-507.4	463.2	687.0	0.00	0.00	0.00
4,300.0	11.28	137.61	4,231.5	-521.8	476.4	706.6	0.00	0.00	0.00
4,400.0	11.28	137.61	4,329.5	-536.3	489.6	726.2	0.00	0.00	0.00
4,500.0	11.28	137.61	4,427.6	-550.7	502.8	745.7	0.00	0.00	0.00
4,600.0	11.28	137.61	4,525.7	-565.2	516.0	765.3	0.00	0.00	0.00

N/A
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Site:	PA 23-26 Pad	North Reference:	True
Well:	PA 34-26	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	11.28	137.61	4,623.7	-579.6	529.2	784.8	0.00	0.00	0.00	
4,745.2	11.28	137.61	4,668.0	-586.1	535.1	793.7	0.00	0.00	0.00	
Ohio Creek										
4,800.0	11.28	137.61	4,721.8	-594.1	542.3	804.4	0.00	0.00	0.00	
4,900.0	11.28	137.61	4,819.9	-608.5	555.5	824.0	0.00	0.00	0.00	
4,928.7	11.28	137.61	4,848.0	-612.7	559.3	829.6	0.00	0.00	0.00	
Upper MVRD										
5,000.0	11.28	137.61	4,917.9	-623.0	568.7	843.5	0.00	0.00	0.00	
5,100.0	11.28	137.61	5,016.0	-637.4	581.9	863.1	0.00	0.00	0.00	
5,200.0	11.28	137.61	5,114.1	-651.8	595.1	882.6	0.00	0.00	0.00	
5,300.0	11.28	137.61	5,212.1	-666.3	608.3	902.2	0.00	0.00	0.00	
5,400.0	11.28	137.61	5,310.2	-680.7	621.5	921.7	0.00	0.00	0.00	
5,500.0	11.28	137.61	5,408.3	-695.2	634.7	941.3	0.00	0.00	0.00	
5,600.0	11.28	137.61	5,506.3	-709.6	647.8	960.9	0.00	0.00	0.00	
5,655.6	11.28	137.61	5,560.9	-717.7	655.2	971.7	0.00	0.00	0.00	
5,700.0	10.61	137.61	5,604.5	-723.9	660.9	980.2	1.50	-1.50	0.00	
5,800.0	9.11	137.61	5,703.0	-736.5	672.4	997.3	1.50	-1.50	0.00	
5,900.0	7.61	137.61	5,801.9	-747.3	682.2	1,011.8	1.50	-1.50	0.00	
5,966.6	6.61	137.61	5,868.0	-753.4	687.8	1,020.1	1.50	-1.50	0.00	
Top of Gas										
6,000.0	6.11	137.61	5,901.2	-756.1	690.3	1,023.8	1.50	-1.50	0.00	
6,100.0	4.61	137.61	6,000.8	-763.0	696.6	1,033.1	1.50	-1.50	0.00	
6,200.0	3.11	137.61	6,100.5	-768.0	701.1	1,039.9	1.50	-1.50	0.00	
6,300.0	1.61	137.61	6,200.4	-771.0	703.9	1,044.0	1.50	-1.50	0.00	
6,400.0	0.11	137.61	6,300.4	-772.1	704.9	1,045.5	1.50	-1.50	0.00	
6,407.6	0.00	0.00	6,308.0	-772.1	704.9	1,045.5	1.50	-1.50	0.00	
6,500.0	0.00	0.00	6,400.4	-772.1	704.9	1,045.5	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,500.4	-772.1	704.9	1,045.5	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,600.4	-772.1	704.9	1,045.5	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,700.4	-772.1	704.9	1,045.5	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,800.4	-772.1	704.9	1,045.5	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,900.4	-772.1	704.9	1,045.5	0.00	0.00	0.00	
7,100.0	0.00	0.00	7,000.4	-772.1	704.9	1,045.5	0.00	0.00	0.00	
7,200.0	0.00	0.00	7,100.4	-772.1	704.9	1,045.5	0.00	0.00	0.00	
7,300.0	0.00	0.00	7,200.4	-772.1	704.9	1,045.5	0.00	0.00	0.00	
7,400.0	0.00	0.00	7,300.4	-772.1	704.9	1,045.5	0.00	0.00	0.00	
7,500.0	0.00	0.00	7,400.4	-772.1	704.9	1,045.5	0.00	0.00	0.00	
7,547.6	0.00	0.00	7,448.0	-772.1	704.9	1,045.5	0.00	0.00	0.00	
Cameo										
7,600.0	0.00	0.00	7,500.4	-772.1	704.9	1,045.5	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,600.4	-772.1	704.9	1,045.5	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,700.4	-772.1	704.9	1,045.5	0.00	0.00	0.00	
7,900.0	0.00	0.00	7,800.4	-772.1	704.9	1,045.5	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,900.4	-772.1	704.9	1,045.5	0.00	0.00	0.00	
8,100.0	0.00	0.00	8,000.4	-772.1	704.9	1,045.5	0.00	0.00	0.00	
8,200.0	0.00	0.00	8,100.4	-772.1	704.9	1,045.5	0.00	0.00	0.00	
8,257.6	0.00	0.00	8,158.0	-772.1	704.9	1,045.5	0.00	0.00	0.00	
RLNS										
8,300.0	0.00	0.00	8,200.4	-772.1	704.9	1,045.5	0.00	0.00	0.00	
8,400.0	0.00	0.00	8,300.4	-772.1	704.9	1,045.5	0.00	0.00	0.00	
8,410.6	0.00	0.00	8,311.0	-772.1	704.9	1,045.5	0.00	0.00	0.00	
PBHL(PA 34-26)										

N/A
Planning Report

Database:	EDM_PRO	Local Co-ordinate Reference:	Well PA 34-26 - Slot A9
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 34-26	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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 34-26)	0.00	0.00	8,311.0	-772.1	704.9	1,613,608.50	2,304,604.80	39° 29' 32.018 N	107° 57' 51.751 W
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter	
(ft)	(ft)		(in)	(in)	
1,100.0	1,093.2	9 5/8"	9.625	14.750	

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
2,389.7	2,358.0	Wasatch G		0.00	
2,450.8	2,418.0	Wasatch G Base		0.00	
4,745.2	4,668.0	Ohio Creek		0.00	
4,928.7	4,848.0	Upper MVRD		0.00	
5,966.6	5,868.0	Top of Gas		0.00	
7,547.6	7,448.0	Cameo		0.00	
8,257.6	8,158.0	RLNS		0.00	