

TEP Rocky Mountain LLC

Garfield County, CO NAD83

TR 23-22-597

TR 343-22-597 - Slot B2

OH

Plan: Plan #1

Standard Planning Report

25 July, 2017

N/A
Planning Report

Database:	EDM_PROD	Local Co-ordinate Reference:	Well TR 343-22-597 - Slot B2
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 8167.0ft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 8167.0ft (Original Well Elev)
Site:	TR 23-22-597	North Reference:	True
Well:	TR 343-22-597	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		TR 23-22-597			
Site Position:		Northing:	1,653,700.36 ft	Latitude:	39° 35' 44.289 N
From:	Map	Easting:	2,220,890.08 ft	Longitude:	108° 15' 54.702 W
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.74 °

Well	TR 343-22-597 - Slot B2					
Well Position	+N/-S	-12.0 ft	Northing:	1,653,688.24 ft	Latitude:	39° 35' 44.170 N
	+E/-W	3.4 ft	Easting:	2,220,893.12 ft	Longitude:	108° 15' 54.659 W
Position Uncertainty		0.0 ft	Wellhead Elevation:		Ground Level:	8,143.0 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2000	12/31/2004	11.59	66.02	53,045.96157777

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	67.71

Plan Survey Tool Program	Date	7/25/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	10,047.7 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	
240.0	0.00	0.00	240.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,073.2	25.00	67.71	1,047.1	67.9	165.5	3.00	3.00	0.00	67.71	
5,441.2	25.00	67.71	5,005.9	768.1	1,873.3	0.00	0.00	0.00	0.00	
7,107.7	0.00	0.00	6,620.0	903.9	2,204.4	1.50	-1.50	0.00	180.00	
10,047.7	0.00	0.00	9,560.0	903.9	2,204.4	0.00	0.00	0.00	0.00	TR_343-22-597-BHL

N/A
Planning Report

Database:	EDM_PROD	Local Co-ordinate Reference:	Well TR 343-22-597 - Slot B2
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 8167.0ft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 8167.0ft (Original Well Elev)
Site:	TR 23-22-597	North Reference:	True
Well:	TR 343-22-597	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
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	1.80	67.71	300.0	0.4	0.9	0.9	3.00	3.00	0.00
400.0	4.80	67.71	399.8	2.5	6.2	6.7	3.00	3.00	0.00
500.0	7.80	67.71	499.2	6.7	16.3	17.7	3.00	3.00	0.00
600.0	10.80	67.71	597.9	12.8	31.3	33.8	3.00	3.00	0.00
700.0	13.80	67.71	695.6	20.9	51.0	55.1	3.00	3.00	0.00
800.0	16.80	67.71	792.0	30.9	75.4	81.5	3.00	3.00	0.00
900.0	19.80	67.71	886.9	42.8	104.5	112.9	3.00	3.00	0.00
1,000.0	22.80	67.71	980.1	56.6	138.1	149.2	3.00	3.00	0.00
1,073.2	25.00	67.71	1,047.1	67.9	165.5	178.9	3.00	3.00	0.00
1,100.0	25.00	67.71	1,071.3	72.2	176.0	190.2	0.00	0.00	0.00
1,200.0	25.00	67.71	1,161.9	88.2	215.1	232.5	0.00	0.00	0.00
1,300.0	25.00	67.71	1,252.6	104.2	254.2	274.7	0.00	0.00	0.00
1,400.0	25.00	67.71	1,343.2	120.3	293.3	317.0	0.00	0.00	0.00
1,500.0	25.00	67.71	1,433.8	136.3	332.4	359.2	0.00	0.00	0.00
1,600.0	25.00	67.71	1,524.5	152.3	371.5	401.5	0.00	0.00	0.00
1,700.0	25.00	67.71	1,615.1	168.3	410.6	443.8	0.00	0.00	0.00
1,800.0	25.00	67.71	1,705.7	184.4	449.7	486.0	0.00	0.00	0.00
1,900.0	25.00	67.71	1,796.4	200.4	488.8	528.3	0.00	0.00	0.00
2,000.0	25.00	67.71	1,887.0	216.4	527.9	570.5	0.00	0.00	0.00
2,100.0	25.00	67.71	1,977.6	232.5	567.0	612.8	0.00	0.00	0.00
2,200.0	25.00	67.71	2,068.3	248.5	606.1	655.0	0.00	0.00	0.00
2,300.0	25.00	67.71	2,158.9	264.5	645.2	697.3	0.00	0.00	0.00
2,400.0	25.00	67.71	2,249.5	280.6	684.3	739.6	0.00	0.00	0.00
2,500.0	25.00	67.71	2,340.2	296.6	723.4	781.8	0.00	0.00	0.00
2,600.0	25.00	67.71	2,430.8	312.6	762.5	824.1	0.00	0.00	0.00
2,700.0	25.00	67.71	2,521.4	328.7	801.6	866.3	0.00	0.00	0.00
2,800.0	25.00	67.71	2,612.1	344.7	840.7	908.6	0.00	0.00	0.00
2,818.7	25.00	67.71	2,629.0	347.7	848.0	916.5	0.00	0.00	0.00
Wasatch									
2,900.0	25.00	67.71	2,702.7	360.7	879.8	950.8	0.00	0.00	0.00
2,918.0	25.00	67.71	2,719.0	363.6	886.8	958.5	0.00	0.00	0.00
9 5/8"									
3,000.0	25.00	67.71	2,793.3	376.8	918.9	993.1	0.00	0.00	0.00
3,100.0	25.00	67.71	2,884.0	392.8	958.0	1,035.4	0.00	0.00	0.00
3,200.0	25.00	67.71	2,974.6	408.8	997.1	1,077.6	0.00	0.00	0.00
3,300.0	25.00	67.71	3,065.2	424.9	1,036.2	1,119.9	0.00	0.00	0.00
3,400.0	25.00	67.71	3,155.9	440.9	1,075.3	1,162.1	0.00	0.00	0.00
3,500.0	25.00	67.71	3,246.5	456.9	1,114.4	1,204.4	0.00	0.00	0.00
3,600.0	25.00	67.71	3,337.1	472.9	1,153.5	1,246.7	0.00	0.00	0.00
3,700.0	25.00	67.71	3,427.8	489.0	1,192.6	1,288.9	0.00	0.00	0.00
3,800.0	25.00	67.71	3,518.4	505.0	1,231.7	1,331.2	0.00	0.00	0.00
3,900.0	25.00	67.71	3,609.0	521.0	1,270.8	1,373.4	0.00	0.00	0.00
4,000.0	25.00	67.71	3,699.7	537.1	1,309.9	1,415.7	0.00	0.00	0.00
4,100.0	25.00	67.71	3,790.3	553.1	1,349.0	1,457.9	0.00	0.00	0.00
4,200.0	25.00	67.71	3,880.9	569.1	1,388.1	1,500.2	0.00	0.00	0.00
4,300.0	25.00	67.71	3,971.6	585.2	1,427.1	1,542.5	0.00	0.00	0.00
4,400.0	25.00	67.71	4,062.2	601.2	1,466.2	1,584.7	0.00	0.00	0.00
4,500.0	25.00	67.71	4,152.8	617.2	1,505.3	1,627.0	0.00	0.00	0.00
4,600.0	25.00	67.71	4,243.5	633.3	1,544.4	1,669.2	0.00	0.00	0.00

N/A
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Well:	TR 343-22-597	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)
4,682.3	25.00	67.71	4,318.0	646.4	1,576.6	1,704.0	0.00	0.00	0.00
G Sand									
4,700.0	25.00	67.71	4,334.1	649.3	1,583.5	1,711.5	0.00	0.00	0.00
4,707.6	25.00	67.71	4,341.0	650.5	1,586.5	1,714.7	0.00	0.00	0.00
G Sand Base									
4,800.0	25.00	67.71	4,424.7	665.3	1,622.6	1,753.7	0.00	0.00	0.00
4,900.0	25.00	67.71	4,515.4	681.4	1,661.7	1,796.0	0.00	0.00	0.00
5,000.0	25.00	67.71	4,606.0	697.4	1,700.8	1,838.3	0.00	0.00	0.00
5,100.0	25.00	67.71	4,696.6	713.4	1,739.9	1,880.5	0.00	0.00	0.00
5,200.0	25.00	67.71	4,787.3	729.5	1,779.0	1,922.8	0.00	0.00	0.00
5,300.0	25.00	67.71	4,877.9	745.5	1,818.1	1,965.0	0.00	0.00	0.00
5,400.0	25.00	67.71	4,968.5	761.5	1,857.2	2,007.3	0.00	0.00	0.00
5,441.2	25.00	67.71	5,005.9	768.1	1,873.3	2,024.7	0.00	0.00	0.00
5,500.0	24.12	67.71	5,059.3	777.4	1,896.0	2,049.1	1.50	-1.50	0.00
5,541.2	23.50	67.71	5,097.0	783.7	1,911.3	2,065.8	1.50	-1.50	0.00
Fort Union									
5,600.0	22.62	67.71	5,151.1	792.4	1,932.6	2,088.8	1.50	-1.50	0.00
5,700.0	21.12	67.71	5,243.9	806.6	1,967.1	2,126.0	1.50	-1.50	0.00
5,800.0	19.62	67.71	5,337.7	819.8	1,999.3	2,160.8	1.50	-1.50	0.00
5,900.0	18.12	67.71	5,432.3	832.0	2,029.2	2,193.2	1.50	-1.50	0.00
6,000.0	16.62	67.71	5,527.8	843.4	2,056.8	2,223.0	1.50	-1.50	0.00
6,100.0	15.12	67.71	5,623.9	853.7	2,082.1	2,250.4	1.50	-1.50	0.00
6,160.0	14.22	67.71	5,682.0	859.5	2,096.2	2,265.6	1.50	-1.50	0.00
Ohio Creek									
6,200.0	13.62	67.71	5,720.8	863.1	2,105.1	2,275.2	1.50	-1.50	0.00
6,300.0	12.12	67.71	5,818.3	871.6	2,125.7	2,297.4	1.50	-1.50	0.00
6,390.5	10.76	67.71	5,907.0	878.4	2,142.3	2,315.4	1.50	-1.50	0.00
Upper MVRD									
6,400.0	10.62	67.71	5,916.3	879.1	2,143.9	2,317.1	1.50	-1.50	0.00
6,500.0	9.12	67.71	6,014.9	885.6	2,159.8	2,334.3	1.50	-1.50	0.00
6,600.0	7.62	67.71	6,113.8	891.1	2,173.2	2,348.8	1.50	-1.50	0.00
6,700.0	6.12	67.71	6,213.1	895.6	2,184.3	2,360.8	1.50	-1.50	0.00
6,800.0	4.62	67.71	6,312.6	899.2	2,192.9	2,370.1	1.50	-1.50	0.00
6,900.0	3.12	67.71	6,412.4	901.7	2,199.2	2,376.9	1.50	-1.50	0.00
7,000.0	1.62	67.71	6,512.3	903.3	2,203.0	2,381.0	1.50	-1.50	0.00
7,100.0	0.12	67.71	6,612.3	903.9	2,204.4	2,382.5	1.50	-1.50	0.00
7,107.7	0.00	0.00	6,620.0	903.9	2,204.4	2,382.5	1.50	-1.50	0.00
7,200.0	0.00	0.00	6,712.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
7,300.0	0.00	0.00	6,812.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
7,302.7	0.00	0.00	6,815.0	903.9	2,204.4	2,382.5	0.00	0.00	0.00
Top Gas									
7,400.0	0.00	0.00	6,912.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
7,500.0	0.00	0.00	7,012.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
7,600.0	0.00	0.00	7,112.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
7,700.0	0.00	0.00	7,212.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
7,800.0	0.00	0.00	7,312.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
7,900.0	0.00	0.00	7,412.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
8,000.0	0.00	0.00	7,512.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
8,100.0	0.00	0.00	7,612.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
8,200.0	0.00	0.00	7,712.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
8,300.0	0.00	0.00	7,812.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
8,400.0	0.00	0.00	7,912.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
8,500.0	0.00	0.00	8,012.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00

N/A
Planning Report

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Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 8167.0ft (Original Well Elev)
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Site:	TR 23-22-597	North Reference:	True
Well:	TR 343-22-597	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)
8,600.0	0.00	0.00	8,112.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
8,700.0	0.00	0.00	8,212.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
8,800.0	0.00	0.00	8,312.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
8,900.0	0.00	0.00	8,412.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
8,909.7	0.00	0.00	8,422.0	903.9	2,204.4	2,382.5	0.00	0.00	0.00
Cameo									
9,000.0	0.00	0.00	8,512.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
9,100.0	0.00	0.00	8,612.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
9,200.0	0.00	0.00	8,712.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
9,258.7	0.00	0.00	8,771.0	903.9	2,204.4	2,382.5	0.00	0.00	0.00
Rollins									
9,300.0	0.00	0.00	8,812.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
9,400.0	0.00	0.00	8,912.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
9,439.7	0.00	0.00	8,952.0	903.9	2,204.4	2,382.5	0.00	0.00	0.00
Cozzette									
9,500.0	0.00	0.00	9,012.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
9,600.0	0.00	0.00	9,112.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
9,668.7	0.00	0.00	9,181.0	903.9	2,204.4	2,382.5	0.00	0.00	0.00
Corcoran									
9,700.0	0.00	0.00	9,212.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
9,800.0	0.00	0.00	9,312.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
9,847.7	0.00	0.00	9,360.0	903.9	2,204.4	2,382.5	0.00	0.00	0.00
Sego									
9,900.0	0.00	0.00	9,412.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
10,000.0	0.00	0.00	9,512.3	903.9	2,204.4	2,382.5	0.00	0.00	0.00
10,047.7	0.00	0.00	9,560.0	903.9	2,204.4	2,382.5	0.00	0.00	0.00
TR_343-22-597-BHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
TR_343-22-597-BHL	0.00	0.00	9,560.0	903.9	2,204.4	1,654,524.60	2,223,124.01	39° 35' 53.102 N	108° 15' 26.496 W
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (in)	Hole Diameter (in)
2,918.0	2,719.0	9 5/8"		9.625	14.750

N/A
Planning Report

Database:	EDM_PROD	Local Co-ordinate Reference:	Well TR 343-22-597 - Slot B2
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 8167.0ft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 8167.0ft (Original Well Elev)
Site:	TR 23-22-597	North Reference:	True
Well:	TR 343-22-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,818.7	2,629.0	Wasatch		0.00		
4,682.3	4,318.0	G Sand		0.00		
4,707.6	4,341.0	G Sand Base		0.00		
5,541.2	5,097.0	Fort Union		0.00		
6,160.0	5,682.0	Ohio Creek		0.00		
6,390.5	5,907.0	Upper MVRD		0.00		
7,302.7	6,815.0	Top Gas		0.00		
8,909.7	8,422.0	Cameo		0.00		
9,258.7	8,771.0	Rollins		0.00		
9,439.7	8,952.0	Cozzette		0.00		
9,668.7	9,181.0	Corcoran		0.00		
9,847.7	9,360.0	Sego		0.00		