

TEP Rocky Mountain LLC

Garfield County, CO NAD83

TR 11-1-698 Pad

TR 22-1-698 - Slot A7

OH

Plan: Plan #1

Standard Planning Report

24 May, 2017

N/A
Planning Report

Database:	EDM_PRO	Local Co-ordinate Reference:	Well TR 22-1-698 - Slot A7
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 8306.9usft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 8306.9usft (Original Well Elev)
Site:	TR 11-1-698 Pad	North Reference:	True
Well:	TR 22-1-698	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 11-1-698 Pad					
Site Position:		Northing:	1,641,435.41 usft	Latitude:	39° 33' 41.345 N	
From:	Map	Easting:	2,214,876.07 usft	Longitude:	108° 17' 6.637 W	
Position Uncertainty:		0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.76 °

Well	TR 22-1-698 - Slot A7					
Well Position	+N/-S	45.0 usft	Northing:	1,641,480.35 usft	Latitude:	39° 33' 41.790 N
	+E/-W	0.9 usft	Easting:	2,214,878.32 usft	Longitude:	108° 17' 6.625 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	8,282.9 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2000	12/31/2004	11.59	65.98	53,023.33478975

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	110.61

Plan Survey Tool Program	Date	5/24/2017		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	9,303.6 Plan #1 (OH)	SDI MWD	
			SDI MWD - Standard ver 1.0.1	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	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	
350.0	0.00	0.00	350.0	0.0	0.0	0.00	0.00	0.00	0.00	
949.9	18.00	110.61	940.1	-32.9	87.5	3.00	3.00	0.00	110.61	
5,088.1	18.00	110.61	4,875.7	-482.9	1,284.3	0.00	0.00	0.00	0.00	
6,287.9	0.00	0.00	6,056.0	-548.7	1,459.3	1.50	-1.50	0.00	180.00	
9,303.9	0.00	0.00	9,072.0	-548.7	1,459.3	0.00	0.00	0.00	0.00	PBHL (TR 22-1-698)

N/A
Planning Report

Database:	EDM_PRO	Local Co-ordinate Reference:	Well TR 22-1-698 - Slot A7
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 8306.9usft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 8306.9usft (Original Well Elev)
Site:	TR 11-1-698 Pad	North Reference:	True
Well:	TR 22-1-698	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	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
350.0	0.00	0.00	350.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	1.50	110.61	400.0	-0.2	0.6	0.7	3.00	3.00	0.00
500.0	4.50	110.61	499.8	-2.1	5.5	5.9	3.00	3.00	0.00
600.0	7.50	110.61	599.3	-5.8	15.3	16.3	3.00	3.00	0.00
700.0	10.50	110.61	698.0	-11.3	29.9	32.0	3.00	3.00	0.00
800.0	13.50	110.61	795.8	-18.6	49.4	52.8	3.00	3.00	0.00
900.0	16.50	110.61	892.4	-27.7	73.6	78.6	3.00	3.00	0.00
949.9	18.00	110.61	940.1	-32.9	87.5	93.5	3.00	3.00	0.00
1,000.0	18.00	110.61	987.7	-38.3	102.0	108.9	0.00	0.00	0.00
1,100.0	18.00	110.61	1,082.8	-49.2	130.9	139.8	0.00	0.00	0.00
1,200.0	18.00	110.61	1,177.9	-60.1	159.8	170.7	0.00	0.00	0.00
1,300.0	18.00	110.61	1,273.1	-71.0	188.7	201.6	0.00	0.00	0.00
1,400.0	18.00	110.61	1,368.2	-81.8	217.6	232.5	0.00	0.00	0.00
1,500.0	18.00	110.61	1,463.3	-92.7	246.6	263.4	0.00	0.00	0.00
1,600.0	18.00	110.61	1,558.4	-103.6	275.5	294.3	0.00	0.00	0.00
1,700.0	18.00	110.61	1,653.5	-114.5	304.4	325.2	0.00	0.00	0.00
1,800.0	18.00	110.61	1,748.6	-125.3	333.3	356.1	0.00	0.00	0.00
1,900.0	18.00	110.61	1,843.7	-136.2	362.3	387.0	0.00	0.00	0.00
2,000.0	18.00	110.61	1,938.8	-147.1	391.2	417.9	0.00	0.00	0.00
2,100.0	18.00	110.61	2,033.9	-158.0	420.1	448.8	0.00	0.00	0.00
2,200.0	18.00	110.61	2,129.0	-168.8	449.0	479.7	0.00	0.00	0.00
2,300.0	18.00	110.61	2,224.1	-179.7	477.9	510.6	0.00	0.00	0.00
2,400.0	18.00	110.61	2,319.2	-190.6	506.9	541.5	0.00	0.00	0.00
2,454.4	18.00	110.61	2,371.0	-196.5	522.6	558.3	0.00	0.00	0.00
Wasatch									
2,500.0	18.00	110.61	2,414.3	-201.4	535.8	572.4	0.00	0.00	0.00
2,600.0	18.00	110.61	2,509.4	-212.3	564.7	603.3	0.00	0.00	0.00
2,700.0	18.00	110.61	2,604.5	-223.2	593.6	634.2	0.00	0.00	0.00
2,704.0	18.00	110.61	2,608.3	-223.6	594.8	635.4	0.00	0.00	0.00
9 5/8"									
2,800.0	18.00	110.61	2,699.7	-234.1	622.5	665.1	0.00	0.00	0.00
2,900.0	18.00	110.61	2,794.8	-244.9	651.5	696.0	0.00	0.00	0.00
3,000.0	18.00	110.61	2,889.9	-255.8	680.4	726.9	0.00	0.00	0.00
3,100.0	18.00	110.61	2,985.0	-266.7	709.3	757.8	0.00	0.00	0.00
3,200.0	18.00	110.61	3,080.1	-277.6	738.2	788.7	0.00	0.00	0.00
3,300.0	18.00	110.61	3,175.2	-288.4	767.2	819.6	0.00	0.00	0.00
3,400.0	18.00	110.61	3,270.3	-299.3	796.1	850.5	0.00	0.00	0.00
3,500.0	18.00	110.61	3,365.4	-310.2	825.0	881.4	0.00	0.00	0.00
3,600.0	18.00	110.61	3,460.5	-321.1	853.9	912.3	0.00	0.00	0.00
3,700.0	18.00	110.61	3,555.6	-331.9	882.8	943.2	0.00	0.00	0.00
3,800.0	18.00	110.61	3,650.7	-342.8	911.8	974.1	0.00	0.00	0.00
3,900.0	18.00	110.61	3,745.8	-353.7	940.7	1,005.0	0.00	0.00	0.00
4,000.0	18.00	110.61	3,840.9	-364.6	969.6	1,035.9	0.00	0.00	0.00
4,100.0	18.00	110.61	3,936.0	-375.4	998.5	1,066.8	0.00	0.00	0.00
4,200.0	18.00	110.61	4,031.1	-386.3	1,027.5	1,097.7	0.00	0.00	0.00
4,227.2	18.00	110.61	4,057.0	-389.3	1,035.3	1,106.1	0.00	0.00	0.00
Top of "G" Sand									
4,249.3	18.00	110.61	4,078.0	-391.7	1,041.7	1,112.9	0.00	0.00	0.00
Base of "G" Sand									

N/A
Planning Report

Database:	EDM_PRO	Local Co-ordinate Reference:	Well TR 22-1-698 - Slot A7
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 8306.9usft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 8306.9usft (Original Well Elev)
Site:	TR 11-1-698 Pad	North Reference:	True
Well:	TR 22-1-698	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,300.0	18.00	110.61	4,126.3	-397.2	1,056.4	1,128.6	0.00	0.00	0.00
4,400.0	18.00	110.61	4,221.4	-408.1	1,085.3	1,159.5	0.00	0.00	0.00
4,407.0	18.00	110.61	4,228.0	-408.8	1,087.3	1,161.6	0.00	0.00	0.00
Fort Union									
4,500.0	18.00	110.61	4,316.5	-418.9	1,114.2	1,190.4	0.00	0.00	0.00
4,600.0	18.00	110.61	4,411.6	-429.8	1,143.1	1,221.3	0.00	0.00	0.00
4,700.0	18.00	110.61	4,506.7	-440.7	1,172.1	1,252.2	0.00	0.00	0.00
4,800.0	18.00	110.61	4,601.8	-451.6	1,201.0	1,283.1	0.00	0.00	0.00
4,900.0	18.00	110.61	4,696.9	-462.4	1,229.9	1,314.0	0.00	0.00	0.00
5,000.0	18.00	110.61	4,792.0	-473.3	1,258.8	1,344.9	0.00	0.00	0.00
5,088.1	18.00	110.61	4,875.7	-482.9	1,284.3	1,372.1	0.00	0.00	0.00
5,100.0	17.82	110.61	4,887.1	-484.2	1,287.7	1,375.7	1.50	-1.50	0.00
5,200.0	16.32	110.61	4,982.7	-494.5	1,315.2	1,405.1	1.50	-1.50	0.00
5,300.0	14.82	110.61	5,079.0	-504.0	1,340.3	1,431.9	1.50	-1.50	0.00
5,400.0	13.32	110.61	5,176.0	-512.5	1,363.1	1,456.2	1.50	-1.50	0.00
5,500.0	11.82	110.61	5,273.6	-520.2	1,383.5	1,478.0	1.50	-1.50	0.00
5,545.3	11.14	110.61	5,318.0	-523.3	1,391.9	1,487.0	1.50	-1.50	0.00
Ohio Creek									
5,600.0	10.32	110.61	5,371.8	-526.9	1,401.4	1,497.2	1.50	-1.50	0.00
5,700.0	8.82	110.61	5,470.4	-532.8	1,417.0	1,513.8	1.50	-1.50	0.00
5,791.5	7.45	110.61	5,561.0	-537.3	1,429.1	1,526.8	1.50	-1.50	0.00
Mesaverde									
5,800.0	7.32	110.61	5,569.4	-537.7	1,430.1	1,527.9	1.50	-1.50	0.00
5,900.0	5.82	110.61	5,668.7	-541.7	1,440.8	1,539.3	1.50	-1.50	0.00
6,000.0	4.32	110.61	5,768.3	-544.8	1,449.1	1,548.1	1.50	-1.50	0.00
6,100.0	2.82	110.61	5,868.1	-547.0	1,454.9	1,554.4	1.50	-1.50	0.00
6,200.0	1.32	110.61	5,968.1	-548.3	1,458.3	1,558.0	1.50	-1.50	0.00
6,287.9	0.00	0.00	6,056.0	-548.7	1,459.3	1,559.0	1.50	-1.50	0.00
6,300.0	0.00	0.00	6,068.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
6,334.9	0.00	0.00	6,103.0	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
Top of Gas									
6,400.0	0.00	0.00	6,168.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,268.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,368.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,468.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,568.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,668.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
7,000.0	0.00	0.00	6,768.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
7,100.0	0.00	0.00	6,868.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
7,200.0	0.00	0.00	6,968.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,068.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,168.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,268.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,368.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,468.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,568.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,668.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
8,000.0	0.00	0.00	7,768.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
8,100.0	0.00	0.00	7,868.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
8,158.9	0.00	0.00	7,927.0	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
Cameo									
8,200.0	0.00	0.00	7,968.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,068.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00

N/A
Planning Report

Database:	EDM_PRO	Local Co-ordinate Reference:	Well TR 22-1-698 - Slot A7
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 8306.9usft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 8306.9usft (Original Well Elev)
Site:	TR 11-1-698 Pad	North Reference:	True
Well:	TR 22-1-698	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,400.0	0.00	0.00	8,168.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
8,419.9	0.00	0.00	8,188.0	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
RLNS									
8,500.0	0.00	0.00	8,268.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
8,599.9	0.00	0.00	8,368.0	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
Cozzette									
8,600.0	0.00	0.00	8,368.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
8,700.0	0.00	0.00	8,468.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
8,800.0	0.00	0.00	8,568.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
8,832.9	0.00	0.00	8,601.0	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
Corcoran									
8,900.0	0.00	0.00	8,668.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
9,000.0	0.00	0.00	8,768.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
9,003.9	0.00	0.00	8,772.0	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
Sego									
9,100.0	0.00	0.00	8,868.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
9,200.0	0.00	0.00	8,968.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
9,300.0	0.00	0.00	9,068.1	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
9,303.9	0.00	0.00	9,072.0	-548.7	1,459.3	1,559.0	0.00	0.00	0.00
PBHL (TR 22-1-698)									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL (TR 22-1-698)	0.00	0.00	9,072.0	-548.7	1,459.3	1,640,887.21	2,216,320.07	39° 33' 36.367 N	108° 16' 47.993 W
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
2,704.0	2,608.3	9 5/8"		9-5/8	14-3/4

N/A
Planning Report

Database:	EDM_PRO	Local Co-ordinate Reference:	Well TR 22-1-698 - Slot A7
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 8306.9usft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 8306.9usft (Original Well Elev)
Site:	TR 11-1-698 Pad	North Reference:	True
Well:	TR 22-1-698	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,454.4	2,371.0	Wasatch		0.00		
4,227.2	4,057.0	Top of "G" Sand		0.00		
4,249.3	4,078.0	Base of "G" Sand		0.00		
4,407.0	4,228.0	Fort Union		0.00		
5,545.3	5,318.0	Ohio Creek		0.00		
5,791.5	5,561.0	Mesaverde		0.00		
6,334.9	6,103.0	Top of Gas		0.00		
8,158.9	7,927.0	Cameo		0.00		
8,419.9	8,188.0	RLNS		0.00		
8,599.9	8,368.0	Cozzette		0.00		
8,832.9	8,601.0	Corcoran		0.00		
9,003.9	8,772.0	Sego		0.00		