

TEP Rocky Mountain LLC

Garfield County, CO NAD83

PA 44-13

PA 533-13 - Slot A7

OH

Plan: Plan #1

Standard Planning Report

17 July, 2018

N/A
Planning Report

Database:	EDM_PROD	Local Co-ordinate Reference:	Well PA 533-13 - Slot A7
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 6594.0ft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 6594.0ft (Original Well Elev)
Site:	PA 44-13	North Reference:	True
Well:	PA 533-13	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 44-13			
Site Position:		Northing:	1,623,782.10 ft	Latitude: 39° 31' 14.301 N
From: Map		Easting:	2,311,231.60 ft	Longitude: 107° 56' 30.736 W
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence: -1.54 °

Well	PA 533-13 - Slot A7			
Well Position	+N/-S	2.9 ft	Northing:	1,623,784.70 ft
	+E/-W	9.6 ft	Easting:	2,311,241.30 ft
Position Uncertainty		0.0 ft	Wellhead Elevation:	Ground Level: 6,570.0 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2000	12/31/2004	11.43	66.02	53,064.34499600

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	302.62

Plan Survey Tool Program			Date	7/17/2018	
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	9,574.1	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	
180.0	0.00	0.00	180.0	0.0	0.0	0.00	0.00	0.00	0.00	
541.7	10.85	302.62	539.6	18.4	-28.8	3.00	3.00	0.00	302.62	
6,390.6	10.85	302.62	6,283.9	612.0	-956.3	0.00	0.00	0.00	0.00	
7,114.1	0.00	0.00	7,003.0	648.8	-1,013.8	1.50	-1.50	0.00	180.00	
9,574.1	0.00	0.00	9,463.0	648.8	-1,013.8	0.00	0.00	0.00	0.00	PA 533-13 TD

N/A
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Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 6594.0ft (Original Well Elev)
Site:	PA 44-13	North Reference:	True
Well:	PA 533-13	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
180.0	0.00	0.00	180.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.60	302.62	200.0	0.1	-0.1	0.1	3.00	3.00	0.00
300.0	3.60	302.62	299.9	2.0	-3.2	3.8	3.00	3.00	0.00
400.0	6.60	302.62	399.5	6.8	-10.7	12.7	3.00	3.00	0.00
500.0	9.60	302.62	498.5	14.4	-22.5	26.7	3.00	3.00	0.00
541.7	10.85	302.62	539.6	18.4	-28.8	34.2	3.00	3.00	0.00
600.0	10.85	302.62	596.8	24.3	-38.0	45.1	0.00	0.00	0.00
700.0	10.85	302.62	695.0	34.5	-53.9	64.0	0.00	0.00	0.00
800.0	10.85	302.62	793.2	44.6	-69.7	82.8	0.00	0.00	0.00
900.0	10.85	302.62	891.4	54.8	-85.6	101.6	0.00	0.00	0.00
1,000.0	10.85	302.62	989.6	64.9	-101.4	120.4	0.00	0.00	0.00
1,100.0	10.85	302.62	1,087.9	75.1	-117.3	139.3	0.00	0.00	0.00
9 5/8"									
1,200.0	10.85	302.62	1,186.1	85.2	-133.2	158.1	0.00	0.00	0.00
1,300.0	10.85	302.62	1,284.3	95.4	-149.0	176.9	0.00	0.00	0.00
1,400.0	10.85	302.62	1,382.5	105.5	-164.9	195.7	0.00	0.00	0.00
1,500.0	10.85	302.62	1,480.7	115.7	-180.7	214.6	0.00	0.00	0.00
1,600.0	10.85	302.62	1,578.9	125.8	-196.6	233.4	0.00	0.00	0.00
1,700.0	10.85	302.62	1,677.1	136.0	-212.4	252.2	0.00	0.00	0.00
1,800.0	10.85	302.62	1,775.3	146.1	-228.3	271.0	0.00	0.00	0.00
1,900.0	10.85	302.62	1,873.6	156.3	-244.2	289.9	0.00	0.00	0.00
2,000.0	10.85	302.62	1,971.8	166.4	-260.0	308.7	0.00	0.00	0.00
2,100.0	10.85	302.62	2,070.0	176.5	-275.9	327.5	0.00	0.00	0.00
2,200.0	10.85	302.62	2,168.2	186.7	-291.7	346.4	0.00	0.00	0.00
2,300.0	10.85	302.62	2,266.4	196.8	-307.6	365.2	0.00	0.00	0.00
2,400.0	10.85	302.62	2,364.6	207.0	-323.4	384.0	0.00	0.00	0.00
2,500.0	10.85	302.62	2,462.8	217.1	-339.3	402.8	0.00	0.00	0.00
2,600.0	10.85	302.62	2,561.0	227.3	-355.2	421.7	0.00	0.00	0.00
2,700.0	10.85	302.62	2,659.3	237.4	-371.0	440.5	0.00	0.00	0.00
2,800.0	10.85	302.62	2,757.5	247.6	-386.9	459.3	0.00	0.00	0.00
2,900.0	10.85	302.62	2,855.7	257.7	-402.7	478.1	0.00	0.00	0.00
3,000.0	10.85	302.62	2,953.9	267.9	-418.6	497.0	0.00	0.00	0.00
3,100.0	10.85	302.62	3,052.1	278.0	-434.5	515.8	0.00	0.00	0.00
3,200.0	10.85	302.62	3,150.3	288.2	-450.3	534.6	0.00	0.00	0.00
3,300.0	10.85	302.62	3,248.5	298.3	-466.2	553.5	0.00	0.00	0.00
3,400.0	10.85	302.62	3,346.7	308.5	-482.0	572.3	0.00	0.00	0.00
3,420.6	10.85	302.62	3,367.0	310.6	-485.3	576.2	0.00	0.00	0.00
G SAND									
3,500.0	10.85	302.62	3,444.9	318.6	-497.9	591.1	0.00	0.00	0.00
3,515.3	10.85	302.62	3,460.0	320.2	-500.3	594.0	0.00	0.00	0.00
G SAND BASE									
3,600.0	10.85	302.62	3,543.2	328.8	-513.7	609.9	0.00	0.00	0.00
3,700.0	10.85	302.62	3,641.4	338.9	-529.6	628.8	0.00	0.00	0.00
3,800.0	10.85	302.62	3,739.6	349.1	-545.5	647.6	0.00	0.00	0.00
3,900.0	10.85	302.62	3,837.8	359.2	-561.3	666.4	0.00	0.00	0.00
4,000.0	10.85	302.62	3,936.0	369.4	-577.2	685.2	0.00	0.00	0.00
4,100.0	10.85	302.62	4,034.2	379.5	-593.0	704.1	0.00	0.00	0.00
4,200.0	10.85	302.62	4,132.4	389.7	-608.9	722.9	0.00	0.00	0.00
4,300.0	10.85	302.62	4,230.6	399.8	-624.7	741.7	0.00	0.00	0.00
4,400.0	10.85	302.62	4,328.9	410.0	-640.6	760.6	0.00	0.00	0.00
4,500.0	10.85	302.62	4,427.1	420.1	-656.5	779.4	0.00	0.00	0.00

N/A
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Site:	PA 44-13	North Reference:	True
Well:	PA 533-13	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)
4,600.0	10.85	302.62	4,525.3	430.3	-672.3	798.2	0.00	0.00	0.00
4,700.0	10.85	302.62	4,623.5	440.4	-688.2	817.0	0.00	0.00	0.00
4,800.0	10.85	302.62	4,721.7	450.6	-704.0	835.9	0.00	0.00	0.00
4,900.0	10.85	302.62	4,819.9	460.7	-719.9	854.7	0.00	0.00	0.00
5,000.0	10.85	302.62	4,918.1	470.8	-735.8	873.5	0.00	0.00	0.00
5,100.0	10.85	302.62	5,016.3	481.0	-751.6	892.3	0.00	0.00	0.00
5,200.0	10.85	302.62	5,114.5	491.1	-767.5	911.2	0.00	0.00	0.00
5,300.0	10.85	302.62	5,212.8	501.3	-783.3	930.0	0.00	0.00	0.00
5,400.0	10.85	302.62	5,311.0	511.4	-799.2	948.8	0.00	0.00	0.00
5,500.0	10.85	302.62	5,409.2	521.6	-815.0	967.6	0.00	0.00	0.00
5,600.0	10.85	302.62	5,507.4	531.7	-830.9	986.5	0.00	0.00	0.00
5,700.0	10.85	302.62	5,605.6	541.9	-846.8	1,005.3	0.00	0.00	0.00
5,800.0	10.85	302.62	5,703.8	552.0	-862.6	1,024.1	0.00	0.00	0.00
5,879.6	10.85	302.62	5,782.0	560.1	-875.2	1,039.1	0.00	0.00	0.00
MVRD									
5,900.0	10.85	302.62	5,802.0	562.2	-878.5	1,043.0	0.00	0.00	0.00
5,936.6	10.85	302.62	5,838.0	565.9	-884.3	1,049.9	0.00	0.00	0.00
WFRK/UMVRD									
6,000.0	10.85	302.62	5,900.2	572.3	-894.3	1,061.8	0.00	0.00	0.00
6,100.0	10.85	302.62	5,998.5	582.5	-910.2	1,080.6	0.00	0.00	0.00
6,200.0	10.85	302.62	6,096.7	592.6	-926.0	1,099.4	0.00	0.00	0.00
6,300.0	10.85	302.62	6,194.9	602.8	-941.9	1,118.3	0.00	0.00	0.00
6,390.6	10.85	302.62	6,283.9	612.0	-956.3	1,135.3	0.00	0.00	0.00
6,400.0	10.71	302.62	6,293.1	612.9	-957.7	1,137.1	1.50	-1.50	0.00
6,500.0	9.21	302.62	6,391.6	622.2	-972.3	1,154.4	1.50	-1.50	0.00
6,600.0	7.71	302.62	6,490.5	630.2	-984.7	1,169.1	1.50	-1.50	0.00
6,700.0	6.21	302.62	6,589.8	636.7	-994.9	1,181.2	1.50	-1.50	0.00
6,800.0	4.71	302.62	6,689.3	641.8	-1,002.9	1,190.7	1.50	-1.50	0.00
6,900.0	3.21	302.62	6,789.1	645.6	-1,008.8	1,197.6	1.50	-1.50	0.00
7,000.0	1.71	302.62	6,889.0	647.9	-1,012.4	1,201.9	1.50	-1.50	0.00
7,064.1	0.75	302.62	6,953.0	648.6	-1,013.5	1,203.3	1.50	-1.50	0.00
TOP GAS									
7,100.0	0.21	302.62	6,988.9	648.8	-1,013.8	1,203.6	1.50	-1.50	0.00
7,114.1	0.00	0.00	7,003.0	648.8	-1,013.8	1,203.6	1.50	-1.50	0.00
7,200.0	0.00	0.00	7,088.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
7,300.0	0.00	0.00	7,188.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
7,400.0	0.00	0.00	7,288.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
7,500.0	0.00	0.00	7,388.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
7,600.0	0.00	0.00	7,488.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
7,700.0	0.00	0.00	7,588.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
7,800.0	0.00	0.00	7,688.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
7,900.0	0.00	0.00	7,788.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
8,000.0	0.00	0.00	7,888.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
8,100.0	0.00	0.00	7,988.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
8,200.0	0.00	0.00	8,088.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
8,300.0	0.00	0.00	8,188.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
8,400.0	0.00	0.00	8,288.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
8,500.0	0.00	0.00	8,388.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
8,528.1	0.00	0.00	8,417.0	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
CMEO									
8,600.0	0.00	0.00	8,488.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
8,700.0	0.00	0.00	8,588.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
8,800.0	0.00	0.00	8,688.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
8,900.0	0.00	0.00	8,788.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00

N/A
Planning Report

Database:	EDM_PROD	Local Co-ordinate Reference:	Well PA 533-13 - Slot A7
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 6594.0ft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 6594.0ft (Original Well Elev)
Site:	PA 44-13	North Reference:	True
Well:	PA 533-13	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)
9,000.0	0.00	0.00	8,888.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
9,100.0	0.00	0.00	8,988.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
9,200.0	0.00	0.00	9,088.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
9,300.0	0.00	0.00	9,188.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
9,400.0	0.00	0.00	9,288.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
9,424.1	0.00	0.00	9,313.0	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
RLNS									
9,500.0	0.00	0.00	9,388.9	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
9,574.1	0.00	0.00	9,463.0	648.8	-1,013.8	1,203.6	0.00	0.00	0.00
PA 533-13 TD									

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
PA 533-13 TD - plan hits target center - Point	0.00	0.00	9,463.0	648.8	-1,013.8	1,624,460.50	2,310,245.30	39° 31' 20.742 N	107° 56' 43.551 W

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,100.0	1,087.9	9 5/8"	9.625	13.500	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,420.6	3,367.0	G SAND		0.00	
3,515.3	3,460.0	G SAND BASE		0.00	
5,879.6	5,782.0	MVRD		0.00	
5,936.6	5,838.0	WFRK/UMVRD		0.00	
7,064.1	6,953.0	TOP GAS		0.00	
8,528.1	8,417.0	CMEO		0.00	
9,424.1	9,313.0	RLNS		0.00	