

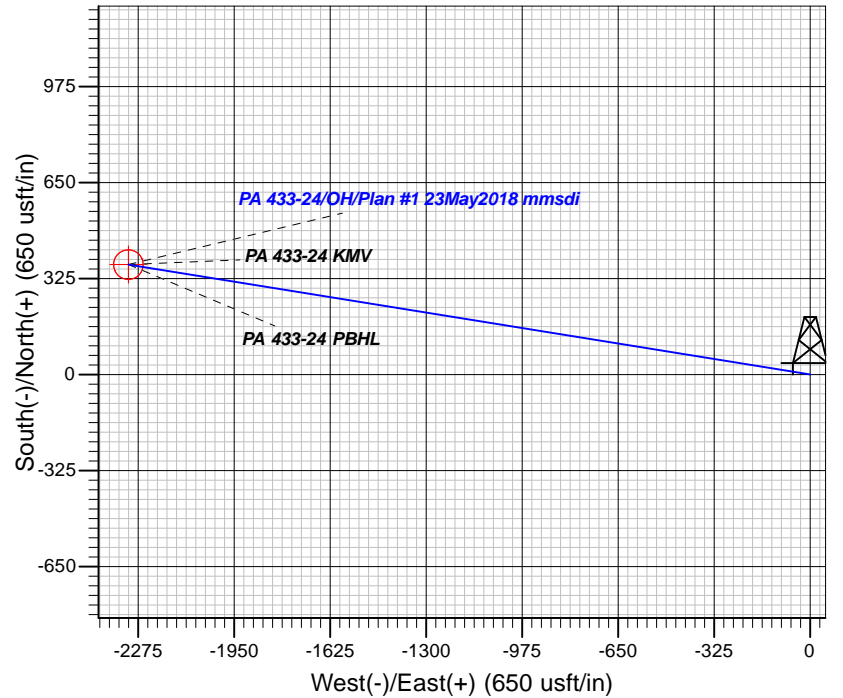
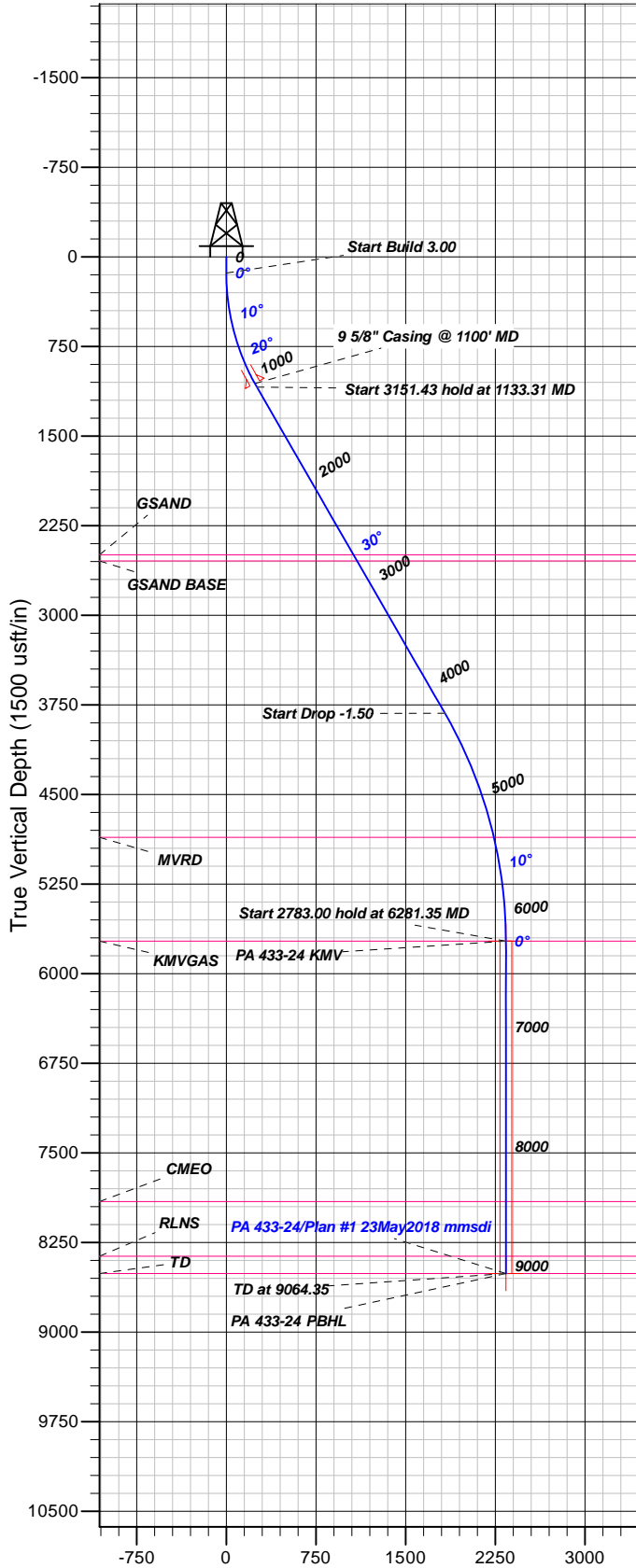


Azimuths to True North
Magnetic North: 9.38°

Magnetic Field
Strength: 51610.3snT
Dip Angle: 65.77°
Date: 5/23/2018
Model: HDGM

Well Details: PA 433-24

+N/-S	+E/-W	Northing	GL 5733' & RKB 24' @ 5757.00usft	Easting	Latitude	Longitude	Slot
0.00	0.00	1618787.10		2312518.40	39.5070349	-107.9368204	PA 433-24 (A4)



FORMATION TOP DETAILS

TVDPATH	MDPATH	FORMATION
2493.00	2754.30	GSAND
2543.00	2812.00	GSAND BASE
4858.00	5405.70	MVRD
5726.00	6281.35	KMGAS
7906.00	8461.35	CMEO
8364.00	8919.35	RLNS
8508.99	9064.34	TD

Plan: Plan #1 23May2018 mmsdi

18:08, June 04 2018
Created By: Mel Mireles

PROJECT DETAILS: Garfield County, CO NAD83

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Central Zone

System Datum: Mean Sea Level

CASING DETAILS

TVD	MD	Name	Size
1059.46	1100.00	5/8" Casing @ 1100' MD	9.62

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	
3	1133.31	29.95	279.15	1088.46	40.56	-251.78	3.00	279.15	255.03	
4	4284.73	29.95	279.15	3819.08	290.79	-1805.05	0.00	0.00	1828.32	
5	6281.35	0.00	0.00	5726.00	371.92	-2308.61	1.50	180.00	2338.37	PA 433-24 KMV
6	9064.35	0.00	0.00	8509.00	371.92	-2308.61	0.00	0.00	2338.37	PA 433-24 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PA 433-24 KMV	5726.00	371.92	-2308.61	1619220.80	2310220.60	39.5080557	-107.9450025	Circle (Radius: 50.00)
- plan hits target center								
PA 433-24 PBHL	8509.00	371.92	-2308.61	1619220.80	2310220.60	39.5080557	-107.9450025	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

RWF 13-19 Pad

PA 433-24 - Slot PA 433-24 (A4)

OH

Plan: Plan #1 23May2018 mmsdi

Standard Planning Report

04 June, 2018



Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 433-24 - Slot PA 433-24 (A4)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5733' & RKB 24' @ 5757.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5733' & RKB 24' @ 5757.00usft
Site:	RWF 13-19 Pad	North Reference:	True
Well:	PA 433-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 23May2018 mmsdi		

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	RWF 13-19 Pad				
Site Position:		Northing:	1,618,792.50 usft	Latitude:	39.5070510
From:	Map	Easting:	2,312,535.60 usft	Longitude:	-107.9367600
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.54

Well	PA 433-24 - Slot PA 433-24 (A4)					
Well Position	+N/-S	-5.86 usft	Northing:	1,618,787.10 usft	Latitude:	39.5070349
	+E/-W	-17.05 usft	Easting:	2,312,518.40 usft	Longitude:	-107.9368204
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,733.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/23/2018	9.38	65.77	51,610

Design	Plan #1 23May2018 mmsdi			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	279.15

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,133.31	29.95	279.15	1,088.46	40.56	-251.78	3.00	3.00	0.00	279.15	
4,284.73	29.95	279.15	3,819.08	290.79	-1,805.05	0.00	0.00	0.00	0.00	
6,281.35	0.00	0.00	5,726.00	371.92	-2,308.61	1.50	-1.50	0.00	180.00	PA 433-24 KMV
9,064.35	0.00	0.00	8,509.00	371.92	-2,308.61	0.00	0.00	0.00	0.00	PA 433-24 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 433-24 - Slot PA 433-24 (A4)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5733' & RKB 24' @ 5757.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5733' & RKB 24' @ 5757.00usft
Site:	RWF 13-19 Pad	North Reference:	True
Well:	PA 433-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 23May2018 mmsdi		

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.00									
200.00	1.95	279.15	199.99	0.18	-1.09	1.11	3.00	3.00	0.00
300.00	4.95	279.15	299.79	1.13	-7.03	7.12	3.00	3.00	0.00
400.00	7.95	279.15	399.15	2.92	-18.12	18.36	3.00	3.00	0.00
500.00	10.95	279.15	497.78	5.53	-34.33	34.77	3.00	3.00	0.00
600.00	13.95	279.15	595.42	8.96	-55.61	56.33	3.00	3.00	0.00
700.00	16.95	279.15	691.79	13.20	-81.91	82.97	3.00	3.00	0.00
800.00	19.95	279.15	786.64	18.23	-113.15	114.61	3.00	3.00	0.00
900.00	22.95	279.15	879.71	24.04	-149.25	151.17	3.00	3.00	0.00
1,000.00	25.95	279.15	970.73	30.63	-190.11	192.56	3.00	3.00	0.00
1,100.00	28.95	279.15	1,059.46	37.96	-235.61	238.65	3.00	3.00	0.00
9 5/8" Casing @ 1100' MD									
1,133.31	29.95	279.15	1,088.46	40.56	-251.78	255.03	3.00	3.00	0.00
Start 3151.43 hold at 1133.31 MD									
1,200.00	29.95	279.15	1,146.25	45.86	-284.65	288.32	0.00	0.00	0.00
1,300.00	29.95	279.15	1,232.90	53.80	-333.94	338.25	0.00	0.00	0.00
1,400.00	29.95	279.15	1,319.54	61.74	-383.23	388.17	0.00	0.00	0.00
1,500.00	29.95	279.15	1,406.19	69.68	-432.51	438.09	0.00	0.00	0.00
1,600.00	29.95	279.15	1,492.84	77.62	-481.80	488.01	0.00	0.00	0.00
1,700.00	29.95	279.15	1,579.48	85.56	-531.09	537.94	0.00	0.00	0.00
1,800.00	29.95	279.15	1,666.13	93.50	-580.38	587.86	0.00	0.00	0.00
1,900.00	29.95	279.15	1,752.78	101.44	-629.67	637.78	0.00	0.00	0.00
2,000.00	29.95	279.15	1,839.43	109.38	-678.95	687.71	0.00	0.00	0.00
2,100.00	29.95	279.15	1,926.07	117.32	-728.24	737.63	0.00	0.00	0.00
2,200.00	29.95	279.15	2,012.72	125.26	-777.53	787.55	0.00	0.00	0.00
2,300.00	29.95	279.15	2,099.37	133.20	-826.82	837.48	0.00	0.00	0.00
2,400.00	29.95	279.15	2,186.01	141.14	-876.10	887.40	0.00	0.00	0.00
2,500.00	29.95	279.15	2,272.66	149.08	-925.39	937.32	0.00	0.00	0.00
2,600.00	29.95	279.15	2,359.31	157.02	-974.68	987.25	0.00	0.00	0.00
2,700.00	29.95	279.15	2,445.95	164.96	-1,023.97	1,037.17	0.00	0.00	0.00
2,754.30	29.95	279.15	2,493.00	169.27	-1,050.73	1,064.28	0.00	0.00	0.00
GSAND									
2,800.00	29.95	279.15	2,532.60	172.90	-1,073.25	1,087.09	0.00	0.00	0.00
2,812.00	29.95	279.15	2,543.00	173.85	-1,079.17	1,093.08	0.00	0.00	0.00
GSAND BASE									
2,900.00	29.95	279.15	2,619.25	180.84	-1,122.54	1,137.02	0.00	0.00	0.00
3,000.00	29.95	279.15	2,705.89	188.78	-1,171.83	1,186.94	0.00	0.00	0.00
3,100.00	29.95	279.15	2,792.54	196.72	-1,221.12	1,236.86	0.00	0.00	0.00
3,200.00	29.95	279.15	2,879.19	204.66	-1,270.41	1,286.79	0.00	0.00	0.00
3,300.00	29.95	279.15	2,965.83	212.60	-1,319.69	1,336.71	0.00	0.00	0.00
3,400.00	29.95	279.15	3,052.48	220.54	-1,368.98	1,386.63	0.00	0.00	0.00
3,500.00	29.95	279.15	3,139.13	228.48	-1,418.27	1,436.55	0.00	0.00	0.00
3,600.00	29.95	279.15	3,225.78	236.42	-1,467.56	1,486.48	0.00	0.00	0.00
3,700.00	29.95	279.15	3,312.42	244.36	-1,516.84	1,536.40	0.00	0.00	0.00
3,800.00	29.95	279.15	3,399.07	252.30	-1,566.13	1,586.32	0.00	0.00	0.00
3,900.00	29.95	279.15	3,485.72	260.24	-1,615.42	1,636.25	0.00	0.00	0.00
4,000.00	29.95	279.15	3,572.36	268.18	-1,664.71	1,686.17	0.00	0.00	0.00
4,100.00	29.95	279.15	3,659.01	276.12	-1,713.99	1,736.09	0.00	0.00	0.00
4,200.00	29.95	279.15	3,745.66	284.06	-1,763.28	1,786.02	0.00	0.00	0.00
4,284.73	29.95	279.15	3,819.08	290.79	-1,805.05	1,828.32	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 433-24 - Slot PA 433-24 (A4)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5733' & RKB 24' @ 5757.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5733' & RKB 24' @ 5757.00usft
Site:	RWF 13-19 Pad	North Reference:	True
Well:	PA 433-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 23May2018 mmsdi		

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)
Start Drop -1.50									
4,300.00	29.72	279.15	3,832.32	292.00	-1,812.54	1,835.91	1.50	-1.50	0.00
4,400.00	28.22	279.15	3,919.80	299.70	-1,860.36	1,884.35	1.50	-1.50	0.00
4,500.00	26.72	279.15	4,008.53	307.04	-1,905.90	1,930.48	1.50	-1.50	0.00
4,600.00	25.22	279.15	4,098.43	314.01	-1,949.13	1,974.26	1.50	-1.50	0.00
4,700.00	23.72	279.15	4,189.44	320.59	-1,990.03	2,015.68	1.50	-1.50	0.00
4,800.00	22.22	279.15	4,281.51	326.80	-2,028.55	2,054.71	1.50	-1.50	0.00
4,900.00	20.72	279.15	4,374.57	332.62	-2,064.69	2,091.31	1.50	-1.50	0.00
5,000.00	19.22	279.15	4,468.55	338.05	-2,098.41	2,125.46	1.50	-1.50	0.00
5,100.00	17.72	279.15	4,563.40	343.09	-2,129.68	2,157.14	1.50	-1.50	0.00
5,200.00	16.22	279.15	4,659.04	347.73	-2,158.50	2,186.33	1.50	-1.50	0.00
5,300.00	14.72	279.15	4,755.41	351.98	-2,184.83	2,213.00	1.50	-1.50	0.00
5,400.00	13.22	279.15	4,852.45	355.82	-2,208.67	2,237.14	1.50	-1.50	0.00
5,405.70	13.13	279.15	4,858.00	356.02	-2,209.95	2,238.44	1.50	-1.50	0.00
MVRD									
5,500.00	11.72	279.15	4,950.09	359.25	-2,229.98	2,258.74	1.50	-1.50	0.00
5,600.00	10.22	279.15	5,048.26	362.28	-2,248.77	2,277.76	1.50	-1.50	0.00
5,700.00	8.72	279.15	5,146.90	364.89	-2,265.01	2,294.22	1.50	-1.50	0.00
5,800.00	7.22	279.15	5,245.93	367.10	-2,278.70	2,308.08	1.50	-1.50	0.00
5,900.00	5.72	279.15	5,345.29	368.89	-2,289.83	2,319.35	1.50	-1.50	0.00
6,000.00	4.22	279.15	5,444.91	370.27	-2,298.38	2,328.01	1.50	-1.50	0.00
6,100.00	2.72	279.15	5,544.72	371.23	-2,304.36	2,334.07	1.50	-1.50	0.00
6,200.00	1.22	279.15	5,644.66	371.78	-2,307.75	2,337.51	1.50	-1.50	0.00
6,281.35	0.00	0.00	5,726.00	371.92	-2,308.61	2,338.37	1.50	-1.50	0.00
Start 2783.00 hold at 6281.35 MD - KMGAS - PA 433-24 KMV									
6,300.00	0.00	0.00	5,744.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
6,400.00	0.00	0.00	5,844.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
6,500.00	0.00	0.00	5,944.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
6,600.00	0.00	0.00	6,044.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
6,700.00	0.00	0.00	6,144.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
6,800.00	0.00	0.00	6,244.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
6,900.00	0.00	0.00	6,344.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
7,000.00	0.00	0.00	6,444.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
7,100.00	0.00	0.00	6,544.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
7,200.00	0.00	0.00	6,644.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
7,300.00	0.00	0.00	6,744.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
7,400.00	0.00	0.00	6,844.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
7,500.00	0.00	0.00	6,944.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
7,600.00	0.00	0.00	7,044.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
7,700.00	0.00	0.00	7,144.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
7,800.00	0.00	0.00	7,244.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
7,900.00	0.00	0.00	7,344.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
8,000.00	0.00	0.00	7,444.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
8,100.00	0.00	0.00	7,544.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
8,200.00	0.00	0.00	7,644.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
8,300.00	0.00	0.00	7,744.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
8,400.00	0.00	0.00	7,844.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
8,461.35	0.00	0.00	7,906.00	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
CME0									
8,500.00	0.00	0.00	7,944.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
8,600.00	0.00	0.00	8,044.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
8,700.00	0.00	0.00	8,144.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
8,800.00	0.00	0.00	8,244.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 433-24 - Slot PA 433-24 (A4)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5733' & RKB 24' @ 5757.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5733' & RKB 24' @ 5757.00usft
Site:	RWF 13-19 Pad	North Reference:	True
Well:	PA 433-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 23May2018 mmsdi		

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)
8,900.00	0.00	0.00	8,344.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
8,919.35	0.00	0.00	8,364.00	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
RLNS									
9,000.00	0.00	0.00	8,444.65	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
9,064.34	0.00	0.00	8,508.99	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
TD									
9,064.35	0.00	0.00	8,509.00	371.92	-2,308.61	2,338.37	0.00	0.00	0.00
TD at 9064.35 - PA 433-24 PBHL									

Design Targets										
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude Longitude		
PA 433-24 KMV - plan hits target center - Circle (radius 50.00)	0.00	0.00	5,726.00	371.92	-2,308.61	1,619,220.80	2,310,220.60	39.5080557 -107.9450026		
PA 433-24 PBHL - plan hits target center - Point	0.00	0.00	8,509.00	371.92	-2,308.61	1,619,220.80	2,310,220.60	39.5080557 -107.9450026		

Casing Points									
Measured Depth (usft)	Vertical Depth (usft)	Name			Casing Diameter (in)	Hole Diameter (in)			
1,100.00	1,059.46	9 5/8" Casing @ 1100' MD			9.62	13.50			

Formations									
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)				
2,754.30	2,493.00	GSAND		0.00	0.00				
2,812.00	2,543.00	GSAND BASE		0.00	0.00				
5,405.70	4,858.00	MVRD		0.00	0.00				
6,281.35	5,726.00	KMVGAS		0.00	0.00				
8,461.35	7,906.00	CMEO		0.00	0.00				
8,919.35	8,364.00	RLNS		0.00	0.00				
9,064.34	8,508.99	TD		0.00	0.00				

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 433-24 - Slot PA 433-24 (A4)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5733' & RKB 24' @ 5757.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5733' & RKB 24' @ 5757.00usft
Site:	RWF 13-19 Pad	North Reference:	True
Well:	PA 433-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 23May2018 mmsdi		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
135.00	135.00	0.00	0.00	Start Build 3.00
1,133.31	1,088.46	40.56	-251.78	Start 3151.43 hold at 1133.31 MD
4,284.73	3,819.08	290.79	-1,805.05	Start Drop -1.50
6,281.35	5,726.00	371.92	-2,308.61	Start 2783.00 hold at 6281.35 MD
9,064.35	8,509.00	371.92	-2,308.61	TD at 9064.35