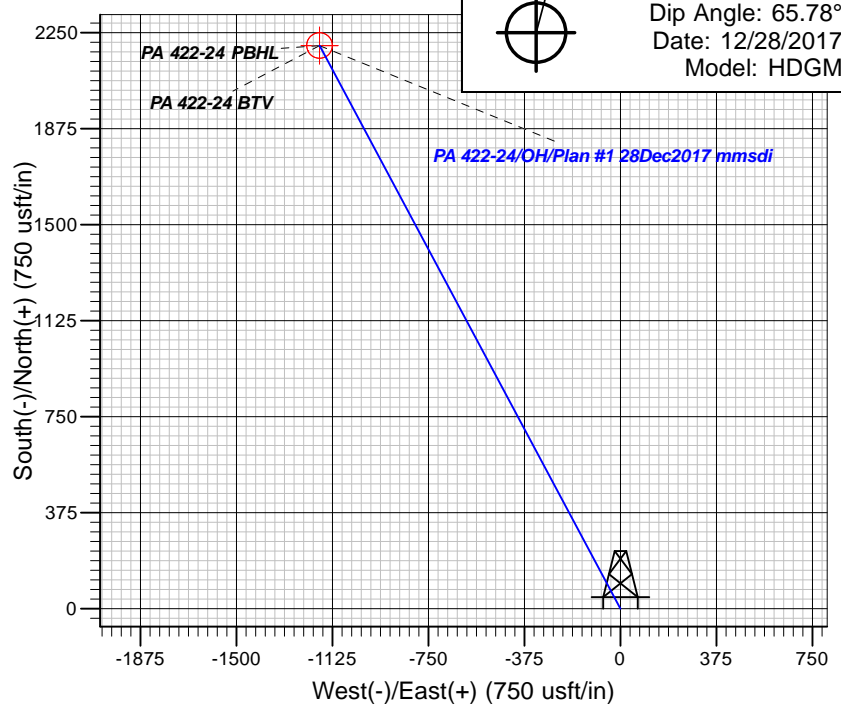
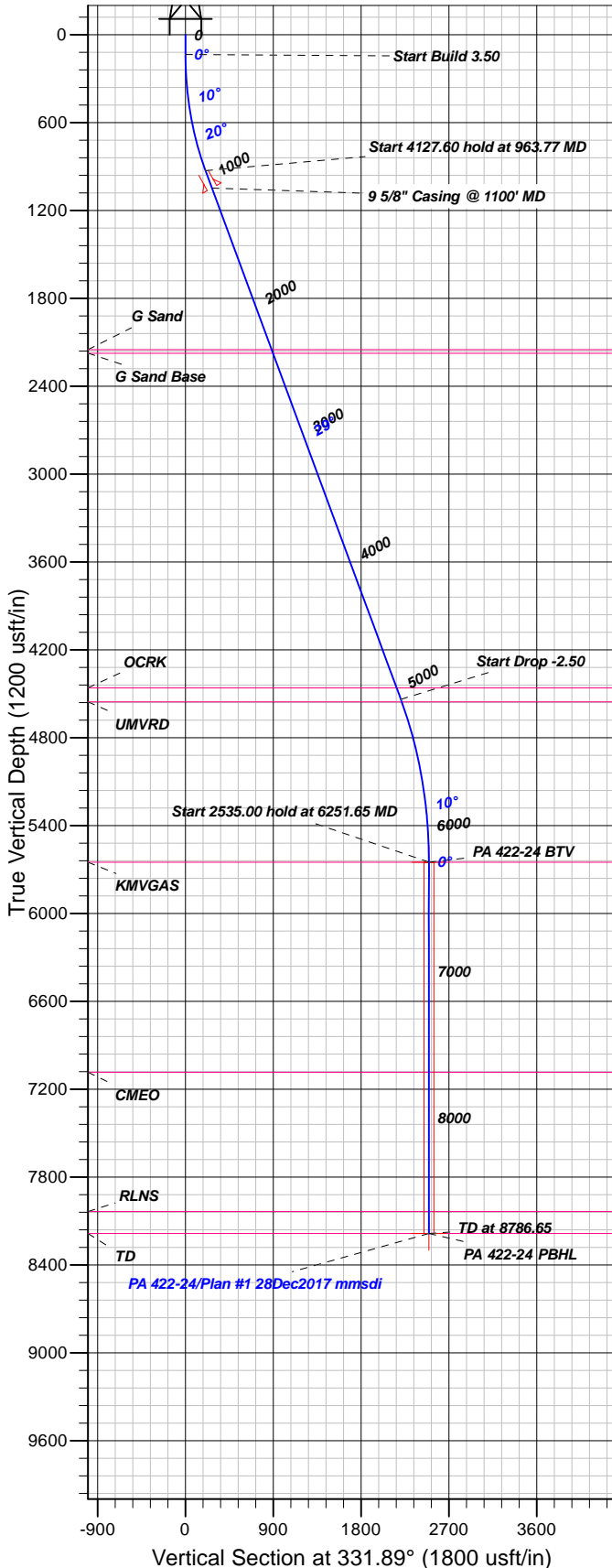


Well Details: PA 422-24

GL 5371' & RKB 24' @ 5395.00usft
+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.00 0.00 1618406.45 2310453.00 39.5058379 -107.9441015 PA 422-24 (A8)

T M Azimuths to True North
Magnetic North: 9.42°
Magnetic Field
Strength: 51662.3snT
Dip Angle: 65.78°
Date: 12/28/2017
Model: HDGM



FORMATION TOP DETAILS

TVDPth	MDPath	Formation
2150.00	2360.12	G Sand
2175.00	2388.70	G Sand Base
4460.00	5001.46	OCRK
4555.00	5110.04	UMVRD
5650.00	6251.67	KMVGAS
7085.00	7686.67	CMEQ
8035.00	8636.67	RLNS
8185.00	8786.67	TD

Plan: Plan #1 28Dec2017 mmsdi

16:21, January 07 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
1047.96	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	963.79	29.01	331.89	928.83	181.13	-96.77	3.50	331.89	205.36	
4	5091.37	29.01	331.89	4538.63	1946.55	-1039.94	0.00	0.00	0.00	
5	6251.67	0.00	0.00	5650.00	2200.13	-1175.41	2.50	180.00	2494.42	PA 422-24 BTM
6	8786.67	0.00	0.00	8185.00	2200.13	-1175.41	0.00	0.00	2494.42	PA 422-24 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PA 422-24 BTM	5650.00	2200.13	-1175.41	1620637.40	2309337.20	39.5118781	-107.9482676	Circle (Radius: 50.00)
- plan hits target center								
PA 422-24 PBHL	8185.00	2200.13	-1175.41	1620637.40	2309337.20	39.5118781	-107.9482676	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

PA 34-24 Pad

PA 422-24 - Slot PA 422-24 (A8)

OH

Plan: Plan #1 28Dec2017 mmsdi

Standard Planning Report

07 January, 2018



Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 422-24 - Slot PA 422-24 (A8)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5371' & RKB 24' @ 5395.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5371' & RKB 24' @ 5395.00usft
Site:	PA 34-24 Pad	North Reference:	True
Well:	PA 422-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 28Dec2017 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		PA 34-24 Pad			
Site Position:		Northing:		1,618,371.20 usft	
From:		Easting:		2,310,465.70 usft	
Position Uncertainty:		Slot Radius:		Grid Convergence:	
Map		0.00 usft		13.20 in	
				39.5057421	
				-107.9440532	
				-1.54 °	

Well	PA 422-24 - Slot PA 422-24 (A8)					
Well Position	+N/-S	34.90 usft	Northing:	1,618,406.45 usft	Latitude:	39.5058379
	+E/-W	-13.64 usft	Easting:	2,310,453.00 usft	Longitude:	-107.9441015
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,371.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	12/28/2017	9.42	65.78	51,662

Design	Plan #1 28Dec2017 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	331.89

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	
963.79	29.01	331.89	928.83	181.13	-96.77	3.50	3.50	0.00	331.89	
5,091.37	29.01	331.89	4,538.63	1,946.55	-1,039.94	0.00	0.00	0.00	0.00	
6,251.67	0.00	0.00	5,650.00	2,200.13	-1,175.41	2.50	-2.50	0.00	180.00	PA 422-24 BTV
8,786.67	0.00	0.00	8,185.00	2,200.13	-1,175.41	0.00	0.00	0.00	0.00	PA 422-24 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 422-24 - Slot PA 422-24 (A8)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5371' & RKB 24' @ 5395.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5371' & RKB 24' @ 5395.00usft
Site:	PA 34-24 Pad	North Reference:	True
Well:	PA 422-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 28Dec2017 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 3.50									
200.00	2.28	331.89	199.98	1.14	-0.61	1.29	3.50	3.50	0.00
300.00	5.78	331.89	299.72	7.33	-3.92	8.31	3.50	3.50	0.00
400.00	9.28	331.89	398.84	18.88	-10.09	21.40	3.50	3.50	0.00
500.00	12.78	331.89	496.98	35.74	-19.10	40.52	3.50	3.50	0.00
600.00	16.28	331.89	593.77	57.86	-30.91	65.60	3.50	3.50	0.00
700.00	19.78	331.89	688.85	85.15	-45.49	96.54	3.50	3.50	0.00
800.00	23.28	331.89	781.86	117.50	-62.78	133.22	3.50	3.50	0.00
900.00	26.78	331.89	872.46	154.81	-82.71	175.52	3.50	3.50	0.00
963.77	29.01	331.89	928.82	181.12	-96.76	205.35	3.50	3.50	0.00
Start 4127.60 hold at 963.77 MD									
963.79	29.01	331.89	928.83	181.13	-96.77	205.36	3.50	3.50	0.00
1,000.00	29.01	331.89	960.50	196.62	-105.04	222.92	0.00	0.00	0.00
1,100.00	29.01	331.89	1,047.96	239.39	-127.89	271.41	0.00	0.00	0.00
9 5/8" Casing @ 1100' MD									
1,200.00	29.01	331.89	1,135.41	282.16	-150.74	319.90	0.00	0.00	0.00
1,300.00	29.01	331.89	1,222.87	324.93	-173.59	368.39	0.00	0.00	0.00
1,400.00	29.01	331.89	1,310.33	367.70	-196.44	416.89	0.00	0.00	0.00
1,500.00	29.01	331.89	1,397.78	410.47	-219.29	465.38	0.00	0.00	0.00
1,600.00	29.01	331.89	1,485.24	453.24	-242.14	513.87	0.00	0.00	0.00
1,700.00	29.01	331.89	1,572.69	496.01	-264.99	562.36	0.00	0.00	0.00
1,800.00	29.01	331.89	1,660.15	538.79	-287.84	610.86	0.00	0.00	0.00
1,900.00	29.01	331.89	1,747.60	581.56	-310.69	659.35	0.00	0.00	0.00
2,000.00	29.01	331.89	1,835.06	624.33	-333.55	707.84	0.00	0.00	0.00
2,100.00	29.01	331.89	1,922.51	667.10	-356.40	756.33	0.00	0.00	0.00
2,200.00	29.01	331.89	2,009.97	709.87	-379.25	804.83	0.00	0.00	0.00
2,300.00	29.01	331.89	2,097.43	752.64	-402.10	853.32	0.00	0.00	0.00
2,360.12	29.01	331.89	2,150.00	778.36	-415.83	882.47	0.00	0.00	0.00
G Sand									
2,388.70	29.01	331.89	2,175.00	790.58	-422.37	896.33	0.00	0.00	0.00
G Sand Base									
2,400.00	29.01	331.89	2,184.88	795.41	-424.95	901.81	0.00	0.00	0.00
2,500.00	29.01	331.89	2,272.34	838.19	-447.80	950.30	0.00	0.00	0.00
2,600.00	29.01	331.89	2,359.79	880.96	-470.65	998.80	0.00	0.00	0.00
2,700.00	29.01	331.89	2,447.25	923.73	-493.50	1,047.29	0.00	0.00	0.00
2,800.00	29.01	331.89	2,534.70	966.50	-516.35	1,095.78	0.00	0.00	0.00
2,900.00	29.01	331.89	2,622.16	1,009.27	-539.20	1,144.27	0.00	0.00	0.00
3,000.00	29.01	331.89	2,709.61	1,052.04	-562.05	1,192.77	0.00	0.00	0.00
3,100.00	29.01	331.89	2,797.07	1,094.81	-584.90	1,241.26	0.00	0.00	0.00
3,200.00	29.01	331.89	2,884.52	1,137.58	-607.75	1,289.75	0.00	0.00	0.00
3,300.00	29.01	331.89	2,971.98	1,180.36	-630.60	1,338.24	0.00	0.00	0.00
3,400.00	29.01	331.89	3,059.44	1,223.13	-653.45	1,386.74	0.00	0.00	0.00
3,500.00	29.01	331.89	3,146.89	1,265.90	-676.30	1,435.23	0.00	0.00	0.00
3,600.00	29.01	331.89	3,234.35	1,308.67	-699.15	1,483.72	0.00	0.00	0.00
3,700.00	29.01	331.89	3,321.80	1,351.44	-722.00	1,532.21	0.00	0.00	0.00
3,800.00	29.01	331.89	3,409.26	1,394.21	-744.85	1,580.71	0.00	0.00	0.00
3,900.00	29.01	331.89	3,496.71	1,436.98	-767.70	1,629.20	0.00	0.00	0.00
4,000.00	29.01	331.89	3,584.17	1,479.76	-790.55	1,677.69	0.00	0.00	0.00
4,100.00	29.01	331.89	3,671.62	1,522.53	-813.40	1,726.18	0.00	0.00	0.00
4,200.00	29.01	331.89	3,759.08	1,565.30	-836.25	1,774.68	0.00	0.00	0.00
4,300.00	29.01	331.89	3,846.54	1,608.07	-859.11	1,823.17	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 422-24 - Slot PA 422-24 (A8)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5371' & RKB 24' @ 5395.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5371' & RKB 24' @ 5395.00usft
Site:	PA 34-24 Pad	North Reference:	True
Well:	PA 422-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 28Dec2017 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)
4,400.00	29.01	331.89	3,933.99	1,650.84	-881.96	1,871.66	0.00	0.00	0.00
4,500.00	29.01	331.89	4,021.45	1,693.61	-904.81	1,920.16	0.00	0.00	0.00
4,600.00	29.01	331.89	4,108.90	1,736.38	-927.66	1,968.65	0.00	0.00	0.00
4,700.00	29.01	331.89	4,196.36	1,779.15	-950.51	2,017.14	0.00	0.00	0.00
4,800.00	29.01	331.89	4,283.81	1,821.93	-973.36	2,065.63	0.00	0.00	0.00
4,900.00	29.01	331.89	4,371.27	1,864.70	-996.21	2,114.13	0.00	0.00	0.00
5,000.00	29.01	331.89	4,458.72	1,907.47	-1,019.06	2,162.62	0.00	0.00	0.00
5,001.46	29.01	331.89	4,460.00	1,908.09	-1,019.39	2,163.33	0.00	0.00	0.00
OCRK									
5,091.37	29.01	331.89	4,538.63	1,946.55	-1,039.94	2,206.93	0.00	0.00	0.00
Start Drop -2.50									
5,100.00	28.79	331.89	4,546.19	1,950.23	-1,041.90	2,211.10	2.50	-2.50	0.00
5,110.04	28.54	331.89	4,555.00	1,954.48	-1,044.17	2,215.91	2.50	-2.50	0.00
UMVRD									
5,200.00	26.29	331.89	4,634.85	1,991.01	-1,063.69	2,257.33	2.50	-2.50	0.00
5,300.00	23.79	331.89	4,725.44	2,028.34	-1,083.63	2,299.66	2.50	-2.50	0.00
5,400.00	21.29	331.89	4,817.79	2,062.15	-1,101.70	2,337.99	2.50	-2.50	0.00
5,500.00	18.79	331.89	4,911.73	2,092.37	-1,117.84	2,372.26	2.50	-2.50	0.00
5,600.00	16.29	331.89	5,007.07	2,118.96	-1,132.04	2,402.40	2.50	-2.50	0.00
5,700.00	13.79	331.89	5,103.64	2,141.85	-1,144.27	2,428.35	2.50	-2.50	0.00
5,800.00	11.29	331.89	5,201.24	2,161.00	-1,154.50	2,450.06	2.50	-2.50	0.00
5,900.00	8.79	331.89	5,299.70	2,176.38	-1,162.72	2,467.49	2.50	-2.50	0.00
6,000.00	6.29	331.89	5,398.83	2,187.95	-1,168.90	2,480.62	2.50	-2.50	0.00
6,100.00	3.79	331.89	5,498.44	2,195.70	-1,173.05	2,489.41	2.50	-2.50	0.00
6,200.00	1.29	331.89	5,598.33	2,199.61	-1,175.14	2,493.84	2.50	-2.50	0.00
6,251.65	0.00	331.89	5,649.98	2,200.13	-1,175.41	2,494.42	2.50	-2.50	0.00
Start 2535.00 hold at 6251.65 MD									
6,251.67	0.00	0.00	5,650.00	2,200.13	-1,175.41	2,494.42	2.49	-2.49	129,647.65
KMVGAS - PA 422-24 BTV									
6,300.00	0.00	0.00	5,698.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
6,400.00	0.00	0.00	5,798.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
6,500.00	0.00	0.00	5,898.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
6,600.00	0.00	0.00	5,998.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
6,700.00	0.00	0.00	6,098.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
6,800.00	0.00	0.00	6,198.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
6,900.00	0.00	0.00	6,298.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
7,000.00	0.00	0.00	6,398.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
7,100.00	0.00	0.00	6,498.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
7,200.00	0.00	0.00	6,598.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
7,300.00	0.00	0.00	6,698.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
7,400.00	0.00	0.00	6,798.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
7,500.00	0.00	0.00	6,898.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
7,600.00	0.00	0.00	6,998.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
7,686.67	0.00	0.00	7,085.00	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
CME0									
7,700.00	0.00	0.00	7,098.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
7,800.00	0.00	0.00	7,198.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
7,900.00	0.00	0.00	7,298.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
8,000.00	0.00	0.00	7,398.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
8,100.00	0.00	0.00	7,498.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
8,200.00	0.00	0.00	7,598.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
8,300.00	0.00	0.00	7,698.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00
8,400.00	0.00	0.00	7,798.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 422-24 - Slot PA 422-24 (A8)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5371' & RKB 24' @ 5395.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5371' & RKB 24' @ 5395.00usft
Site:	PA 34-24 Pad	North Reference:	True
Well:	PA 422-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 28Dec2017 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)	
8,500.00	0.00	0.00	7,898.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00	
8,600.00	0.00	0.00	7,998.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00	
8,636.67	0.00	0.00	8,035.00	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00	
RLNS										
8,700.00	0.00	0.00	8,098.33	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00	
8,786.65	0.00	0.00	8,184.98	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00	
TD at 8786.65										
8,786.67	0.00	0.00	8,185.00	2,200.13	-1,175.41	2,494.42	0.00	0.00	0.00	
TD - PA 422-24 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 422-24 BTV - plan hits target center - Circle (radius 50.00)	0.00	0.00	5,650.00	2,200.13	-1,175.41	1,620,637.40	2,309,337.20	39.5118782	-107.9482676
PA 422-24 PBHL - plan hits target center - Point	0.00	0.00	8,185.00	2,200.13	-1,175.41	1,620,637.40	2,309,337.20	39.5118782	-107.9482676

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,100.00	1,047.96	9 5/8" Casing @ 1100' MD	9.62	13.50	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,360.12	2,150.00	G Sand		0.00	0.00	
2,388.70	2,175.00	G Sand Base		0.00	0.00	
5,001.46	4,460.00	OCRK		0.00	0.00	
5,110.04	4,555.00	UMVRD		0.00	0.00	
6,251.67	5,650.00	KMVGAS		0.00	0.00	
7,686.67	7,085.00	CME0		0.00	0.00	
8,636.67	8,035.00	RLNS		0.00	0.00	
8,786.67	8,185.00	TD		0.00	0.00	

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 422-24 - Slot PA 422-24 (A8)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5371' & RKB 24' @ 5395.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5371' & RKB 24' @ 5395.00usft
Site:	PA 34-24 Pad	North Reference:	True
Well:	PA 422-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 28Dec2017 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 3.50
963.77	928.82	181.12	-96.76	Start 4127.60 hold at 963.77 MD
5,091.37	4,538.63	1,946.55	-1,039.94	Start Drop -2.50
6,251.65	5,649.98	2,200.13	-1,175.41	Start 2535.00 hold at 6251.65 MD
8,786.65	8,184.98	2,200.13	-1,175.41	TD at 8786.65