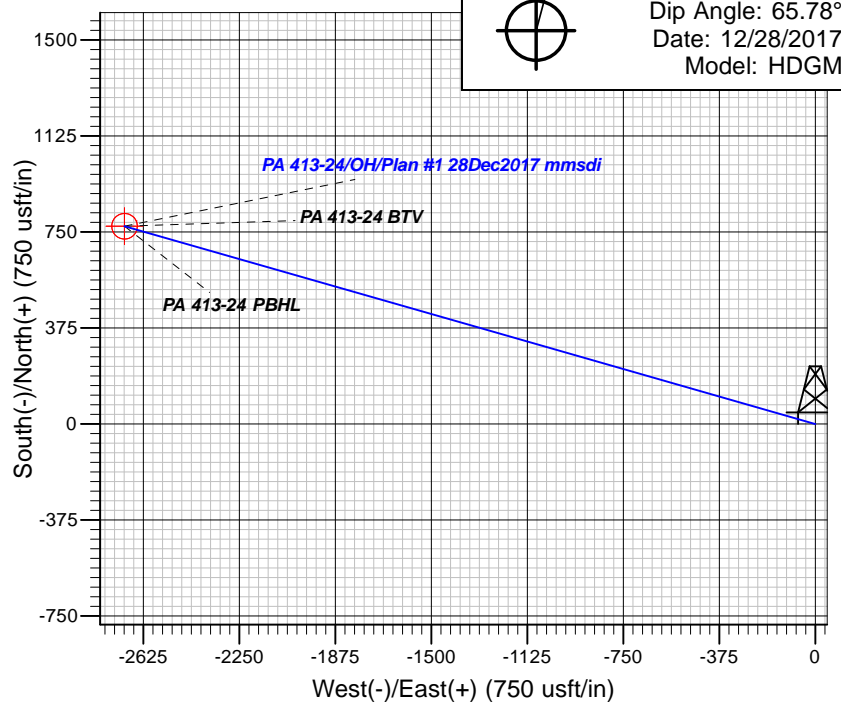
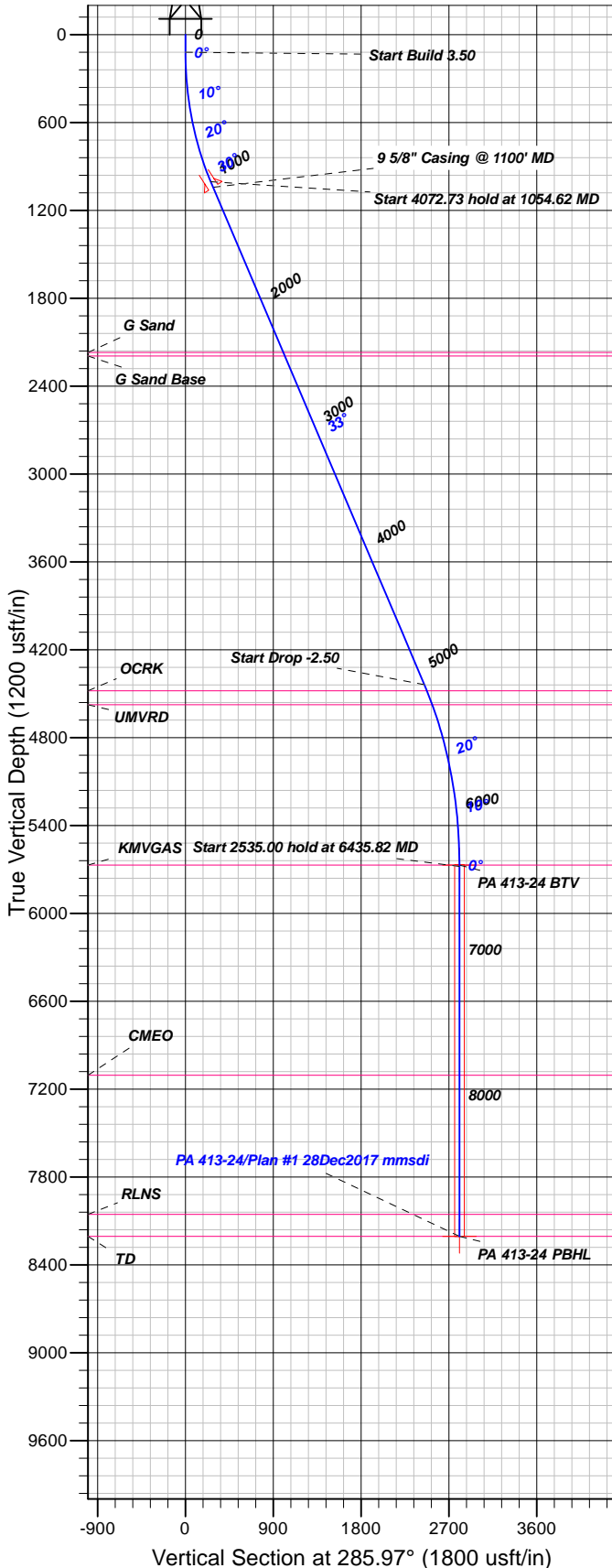


Well Details: PA 413-24

WELL @ 5371.00usft (Original Well Elev)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1618371.15	2310465.65	39.5057420	-107.9440533	PA 413-24 (A3)

T M Azimuths to True North
Magnetic North: 9.42°
Magnetic Field
Strength: 51662.6snT
Dip Angle: 65.78°
Date: 12/28/2017
Model: HDGM



FORMATION TOP DETAILS

TVDPth	MDPath	Formation
2170.00	2436.49	G Sand
2195.00	2466.14	G Sand Base
4480.00	5175.41	OCRK
4575.00	5285.02	UMVRD
5670.00	6426.65	KMVGAS
7105.00	7861.65	CMEQ
8055.00	8811.65	RLNS
8205.00	8961.65	TD

Plan: Plan #1 28Dec2017 mmsdi

14:56, 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
1042.94	1100.00	5/8" Casing @ 1100' MD	9.62

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	
3	1048.86	32.51	285.97	999.81	70.58	-246.63	3.50	285.97	256.53	
4	5126.24	32.51	285.97	4438.26	673.52	-2353.43	0.00	0.002447.91		
5	6426.65	0.00	0.00	5670.00	772.33	-2698.70	2.50	180.002807.04		PA 413-24 BTM
6	8961.65	0.00	0.00	8205.00	772.33	-2698.70	0.00	0.002807.04		PA 413-24 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PA 413-24 BTM	5670.00	772.33	-2698.70	1619215.80	2307788.70	39.5078620	-107.9536180	Circle (Radius: 50.00)
- plan hits target center								
PA 413-24 PBHL	8205.00	772.33	-2698.70	1619215.80	2307788.70	39.5078620	-107.9536180	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

PA 34-24 Pad

PA 413-24 - Slot PA 413-24 (A3)

OH

Plan: Plan #1 28Dec2017 mmsdi

Standard Planning Report

07 January, 2018



Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 413-24 - Slot PA 413-24 (A3)
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 5371.00usft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 5371.00usft (Original Well Elev)
Site:	PA 34-24 Pad	North Reference:	True
Well:	PA 413-24	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	Latitude: 39.5057421
From: Map		Easting:	2,310,465.70 usft	Longitude: -107.9440532
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence: -1.54 °

Well	PA 413-24 - Slot PA 413-24 (A3)			
Well Position	+N/-S	-0.05 usft	Northing:	1,618,371.15 usft
	+E/-W	-0.05 usft	Easting:	2,310,465.65 usft
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	51,663

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	285.97

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	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,048.86	32.51	285.97	999.81	70.58	-246.63	3.50	3.50	0.00	285.97	
5,126.24	32.51	285.97	4,438.26	673.52	-2,353.43	0.00	0.00	0.00	0.00	
6,426.65	0.00	0.00	5,670.00	772.33	-2,698.70	2.50	-2.50	0.00	180.00	PA 413-24 BTV
8,961.65	0.00	0.00	8,205.00	772.33	-2,698.70	0.00	0.00	0.00	0.00	PA 413-24 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 413-24 - Slot PA 413-24 (A3)
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 5371.00usft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 5371.00usft (Original Well Elev)
Site:	PA 34-24 Pad	North Reference:	True
Well:	PA 413-24	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
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.50									
200.00	2.80	285.97	199.97	0.54	-1.88	1.95	3.50	3.50	0.00
300.00	6.30	285.97	299.64	2.72	-9.50	9.89	3.50	3.50	0.00
400.00	9.80	285.97	398.64	6.57	-22.97	23.89	3.50	3.50	0.00
500.00	13.30	285.97	496.60	12.08	-42.21	43.91	3.50	3.50	0.00
600.00	16.80	285.97	593.15	19.22	-67.17	69.87	3.50	3.50	0.00
700.00	20.30	285.97	687.94	27.98	-97.75	101.68	3.50	3.50	0.00
800.00	23.80	285.97	780.61	38.30	-133.84	139.21	3.50	3.50	0.00
900.00	27.30	285.97	870.82	50.17	-175.30	182.34	3.50	3.50	0.00
1,000.00	30.80	285.97	958.23	63.53	-221.97	230.89	3.50	3.50	0.00
1,048.86	32.51	285.97	999.81	70.58	-246.63	256.53	3.50	3.50	0.00
1,054.62	32.51	285.97	1,004.67	71.43	-249.60	259.62	0.00	0.00	0.00
Start 4072.73 hold at 1054.62 MD									
1,100.00	32.51	285.97	1,042.94	78.14	-273.05	284.01	0.00	0.00	0.00
9 5/8" Casing @ 1100' MD									
1,200.00	32.51	285.97	1,127.27	92.93	-324.72	337.76	0.00	0.00	0.00
1,300.00	32.51	285.97	1,211.60	107.72	-376.39	391.50	0.00	0.00	0.00
1,400.00	32.51	285.97	1,295.93	122.51	-428.06	445.25	0.00	0.00	0.00
1,500.00	32.51	285.97	1,380.26	137.29	-479.73	498.99	0.00	0.00	0.00
1,600.00	32.51	285.97	1,464.59	152.08	-531.40	552.74	0.00	0.00	0.00
1,700.00	32.51	285.97	1,548.92	166.87	-583.07	606.48	0.00	0.00	0.00
1,800.00	32.51	285.97	1,633.25	181.66	-634.74	660.23	0.00	0.00	0.00
1,900.00	32.51	285.97	1,717.58	196.44	-686.41	713.97	0.00	0.00	0.00
2,000.00	32.51	285.97	1,801.91	211.23	-738.08	767.71	0.00	0.00	0.00
2,100.00	32.51	285.97	1,886.24	226.02	-789.75	821.46	0.00	0.00	0.00
2,200.00	32.51	285.97	1,970.57	240.81	-841.42	875.20	0.00	0.00	0.00
2,300.00	32.51	285.97	2,054.90	255.59	-893.10	928.95	0.00	0.00	0.00
2,400.00	32.51	285.97	2,139.23	270.38	-944.77	982.69	0.00	0.00	0.00
2,436.49	32.51	285.97	2,170.00	275.78	-963.62	1,002.31	0.00	0.00	0.00
G Sand									
2,466.14	32.51	285.97	2,195.00	280.16	-978.94	1,018.24	0.00	0.00	0.00
G Sand Base									
2,500.00	32.51	285.97	2,223.56	285.17	-996.44	1,036.44	0.00	0.00	0.00
2,600.00	32.51	285.97	2,307.89	299.95	-1,048.11	1,090.18	0.00	0.00	0.00
2,700.00	32.51	285.97	2,392.22	314.74	-1,099.78	1,143.93	0.00	0.00	0.00
2,800.00	32.51	285.97	2,476.55	329.53	-1,151.45	1,197.67	0.00	0.00	0.00
2,900.00	32.51	285.97	2,560.88	344.32	-1,203.12	1,251.42	0.00	0.00	0.00
3,000.00	32.51	285.97	2,645.21	359.10	-1,254.79	1,305.16	0.00	0.00	0.00
3,100.00	32.51	285.97	2,729.54	373.89	-1,306.46	1,358.91	0.00	0.00	0.00
3,200.00	32.51	285.97	2,813.86	388.68	-1,358.13	1,412.65	0.00	0.00	0.00
3,300.00	32.51	285.97	2,898.19	403.47	-1,409.80	1,466.40	0.00	0.00	0.00
3,400.00	32.51	285.97	2,982.52	418.25	-1,461.47	1,520.14	0.00	0.00	0.00
3,500.00	32.51	285.97	3,066.85	433.04	-1,513.14	1,573.89	0.00	0.00	0.00
3,600.00	32.51	285.97	3,151.18	447.83	-1,564.81	1,627.63	0.00	0.00	0.00
3,700.00	32.51	285.97	3,235.51	462.62	-1,616.48	1,681.38	0.00	0.00	0.00
3,800.00	32.51	285.97	3,319.84	477.40	-1,668.15	1,735.12	0.00	0.00	0.00
3,900.00	32.51	285.97	3,404.17	492.19	-1,719.82	1,788.87	0.00	0.00	0.00
4,000.00	32.51	285.97	3,488.50	506.98	-1,771.49	1,842.61	0.00	0.00	0.00
4,100.00	32.51	285.97	3,572.83	521.77	-1,823.16	1,896.35	0.00	0.00	0.00
4,200.00	32.51	285.97	3,657.16	536.55	-1,874.83	1,950.10	0.00	0.00	0.00
4,300.00	32.51	285.97	3,741.49	551.34	-1,926.50	2,003.84	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 413-24 - Slot PA 413-24 (A3)
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 5371.00usft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 5371.00usft (Original Well Elev)
Site:	PA 34-24 Pad	North Reference:	True
Well:	PA 413-24	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	32.51	285.97	3,825.82	566.13	-1,978.17	2,057.59	0.00	0.00	0.00
4,500.00	32.51	285.97	3,910.15	580.92	-2,029.84	2,111.33	0.00	0.00	0.00
4,600.00	32.51	285.97	3,994.48	595.70	-2,081.51	2,165.08	0.00	0.00	0.00
4,700.00	32.51	285.97	4,078.81	610.49	-2,133.19	2,218.82	0.00	0.00	0.00
4,800.00	32.51	285.97	4,163.14	625.28	-2,184.86	2,272.57	0.00	0.00	0.00
4,900.00	32.51	285.97	4,247.47	640.07	-2,236.53	2,326.31	0.00	0.00	0.00
5,000.00	32.51	285.97	4,331.80	654.85	-2,288.20	2,380.06	0.00	0.00	0.00
5,100.00	32.51	285.97	4,416.13	669.64	-2,339.87	2,433.80	0.00	0.00	0.00
5,126.24	32.51	285.97	4,438.26	673.52	-2,353.43	2,447.91	0.00	0.00	0.00
5,127.35	32.48	285.97	4,439.20	673.69	-2,354.00	2,448.50	2.50	-2.50	0.00
Start Drop -2.50									
5,175.41	31.28	285.97	4,480.00	680.67	-2,378.40	2,473.88	2.50	-2.50	0.00
OCRK									
5,200.00	30.67	285.97	4,501.09	684.15	-2,390.57	2,486.54	2.50	-2.50	0.00
5,285.02	28.54	285.97	4,575.00	695.71	-2,430.94	2,528.53	2.50	-2.50	0.00
UMVRD									
5,300.00	28.17	285.97	4,588.19	697.66	-2,437.78	2,535.65	2.50	-2.50	0.00
5,400.00	25.67	285.97	4,677.35	710.12	-2,481.30	2,580.92	2.50	-2.50	0.00
5,500.00	23.17	285.97	4,768.40	721.49	-2,521.04	2,622.25	2.50	-2.50	0.00
5,600.00	20.67	285.97	4,861.16	731.76	-2,556.92	2,659.57	2.50	-2.50	0.00
5,700.00	18.17	285.97	4,955.47	740.90	-2,588.88	2,692.81	2.50	-2.50	0.00
5,800.00	15.67	285.97	5,051.13	748.91	-2,616.85	2,721.91	2.50	-2.50	0.00
5,900.00	13.17	285.97	5,147.98	755.76	-2,640.78	2,746.80	2.50	-2.50	0.00
6,000.00	10.67	285.97	5,245.81	761.44	-2,660.63	2,767.45	2.50	-2.50	0.00
6,100.00	8.17	285.97	5,344.46	765.94	-2,676.36	2,783.81	2.50	-2.50	0.00
6,200.00	5.67	285.97	5,443.72	769.25	-2,687.94	2,795.85	2.50	-2.50	0.00
6,300.00	3.17	285.97	5,543.42	771.37	-2,695.34	2,803.55	2.50	-2.50	0.00
6,400.00	0.67	285.97	5,643.35	772.29	-2,698.55	2,806.89	2.50	-2.50	0.00
6,426.65	0.00	0.00	5,670.00	772.33	-2,698.70	2,807.04	2.50	-2.50	0.00
KMVGAS - PA 413-24 BTV									
6,435.82	0.00	0.00	5,679.17	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
Start 2535.00 hold at 6435.82 MD									
6,500.00	0.00	0.00	5,743.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
6,600.00	0.00	0.00	5,843.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
6,700.00	0.00	0.00	5,943.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
6,800.00	0.00	0.00	6,043.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
6,900.00	0.00	0.00	6,143.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
7,000.00	0.00	0.00	6,243.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
7,100.00	0.00	0.00	6,343.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
7,200.00	0.00	0.00	6,443.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
7,300.00	0.00	0.00	6,543.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
7,400.00	0.00	0.00	6,643.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
7,500.00	0.00	0.00	6,743.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
7,600.00	0.00	0.00	6,843.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
7,700.00	0.00	0.00	6,943.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
7,800.00	0.00	0.00	7,043.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
7,861.65	0.00	0.00	7,105.00	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
CME0									
7,900.00	0.00	0.00	7,143.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
8,000.00	0.00	0.00	7,243.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
8,100.00	0.00	0.00	7,343.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
8,200.00	0.00	0.00	7,443.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
8,300.00	0.00	0.00	7,543.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 413-24 - Slot PA 413-24 (A3)
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 5371.00usft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 5371.00usft (Original Well Elev)
Site:	PA 34-24 Pad	North Reference:	True
Well:	PA 413-24	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)
8,400.00	0.00	0.00	7,643.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
8,500.00	0.00	0.00	7,743.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
8,600.00	0.00	0.00	7,843.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
8,700.00	0.00	0.00	7,943.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
8,800.00	0.00	0.00	8,043.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
8,811.65	0.00	0.00	8,055.00	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
RLNS									
8,900.00	0.00	0.00	8,143.35	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
8,961.65	0.00	0.00	8,205.00	772.33	-2,698.70	2,807.04	0.00	0.00	0.00
TD - PA 413-24 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 413-24 BTV - plan hits target center - Circle (radius 50.00)	0.00	0.00	5,670.00	772.33	-2,698.70	1,619,215.80	2,307,788.70	39.5078620	-107.9536180
PA 413-24 PBHL - plan hits target center - Point	0.00	0.00	8,205.00	772.33	-2,698.70	1,619,215.80	2,307,788.70	39.5078620	-107.9536180

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,100.00	1,042.94	9 5/8" Casing @ 1100' MD	9.62	13.50	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,436.49	2,194.00	G Sand		0.00	0.00	
2,466.14	2,219.00	G Sand Base		0.00	0.00	
5,175.41	4,504.00	OCRK		0.00	0.00	
5,285.02	4,599.00	UMVRD		0.00	0.00	
6,426.65	5,694.00	KMVGAS		0.00	0.00	
7,861.65	7,129.00	CME0		0.00	0.00	
8,811.65	8,079.00	RLNS		0.00	0.00	
8,961.65	8,229.00	TD		0.00	0.00	

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 413-24 - Slot PA 413-24 (A3)
Company:	TEP Rocky Mountain LLC	TVD Reference:	WELL @ 5371.00usft (Original Well Elev)
Project:	Garfield County, CO NAD83	MD Reference:	WELL @ 5371.00usft (Original Well Elev)
Site:	PA 34-24 Pad	North Reference:	True
Well:	PA 413-24	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)	
120.00	120.00	0.00	0.00	Start Build 3.50
1,054.62	1,004.67	71.43	-249.60	Start 4072.73 hold at 1054.62 MD
5,127.35	4,439.20	673.69	-2,354.00	Start Drop -2.50
6,435.82	5,679.17	772.33	-2,698.70	Start 2535.00 hold at 6435.82 MD
8,970.82				TD at 8970.82