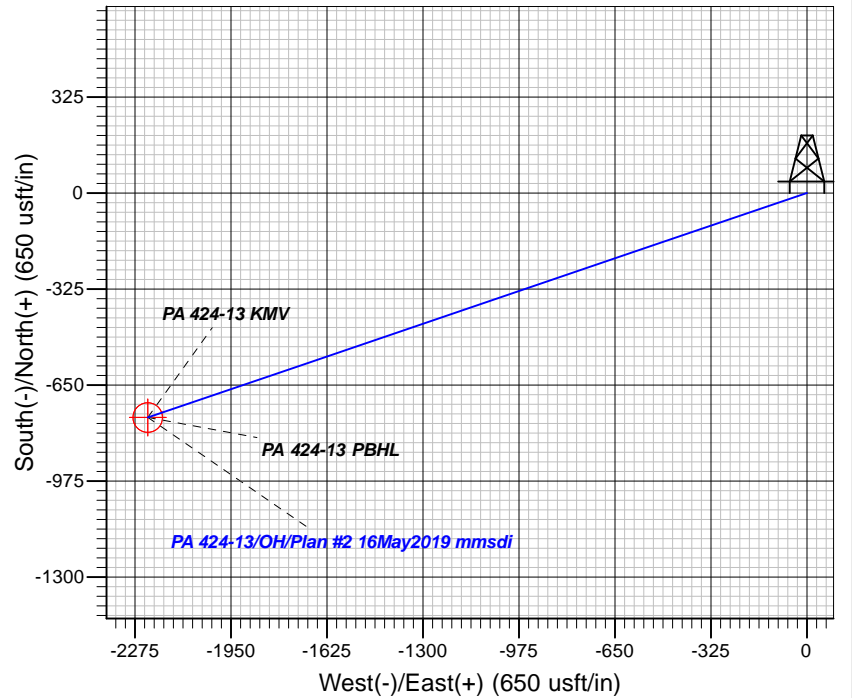
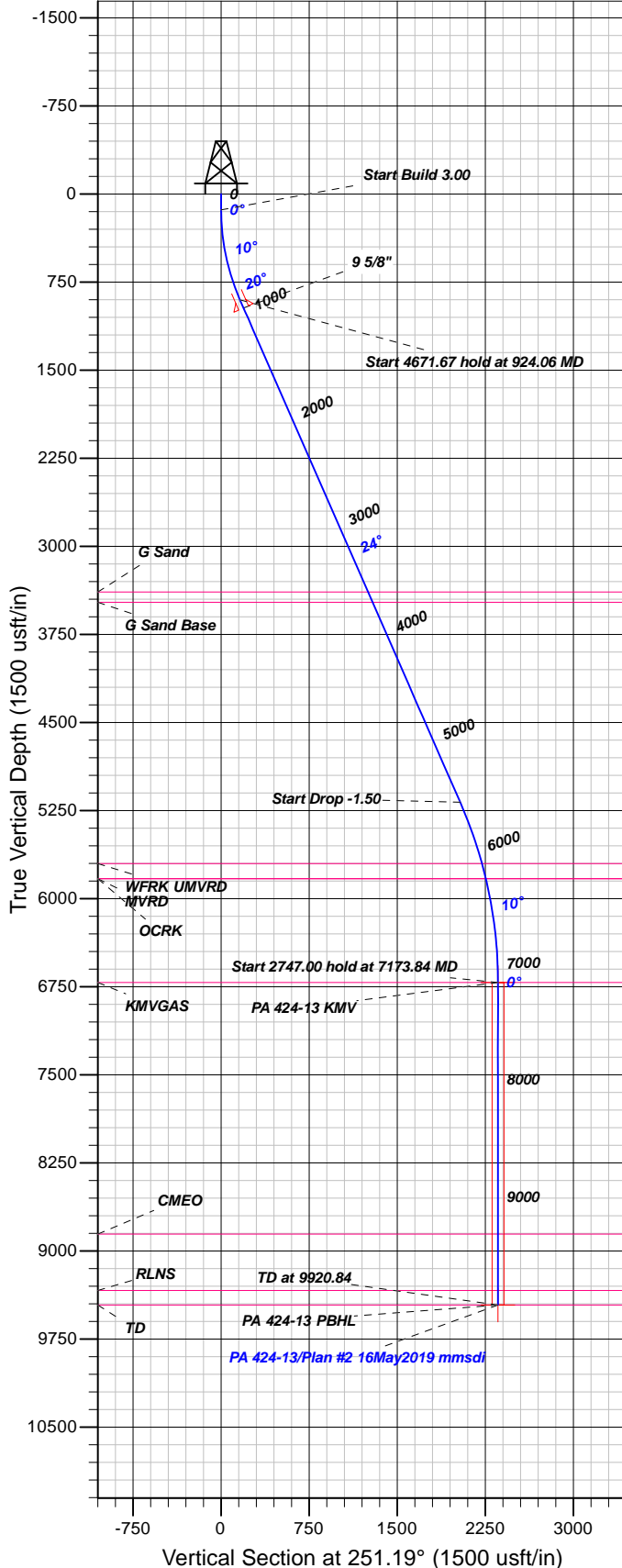


Well Details: PA 424-13

GL 6571.1' & RKB 24' @ 6595.10usft (H&P 318)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1623760.40	2311237.50	39.5205894	-107.9418321	PA 424-13 (B4)



FORMATION TOP DETAILS

TVDP	MD	Formation
3388.00	3638.66	G Sand
3477.00	3735.84	G Sand Base
5702.00	6149.61	WFRK UMVRD
5830.00	6281.75	OCRK
5830.00	6281.75	MVRD
6714.00	7173.84	KMGAS
8856.00	9315.84	CMEO
9336.00	9795.84	RLNS
9460.99	9920.83	TD

Plan: Plan #2 16May2019 mmsdi

12:51, May 20 2019
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
971.35	1000.00	9 5/8"	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	924.06	23.67	251.19	901.80	-51.82	-152.11	3.00	251.19	160.69	
4	5595.72	23.67	251.19	5180.40	-656.71	-1927.55	0.00	0.00	2036.35	
5	7173.84	0.00	0.00	6714.00	-760.35	-2231.77	1.50	180.00	2357.74	PA 424-13 KMV
6	9920.84	0.00	0.00	9461.00	-760.35	-2231.77	0.00	0.00	2357.74	PA 424-13 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PA 424-13 KMV	6714.00	-760.35	-2231.77	1623060.30	2308986.10	39.5185016	-107.9497431	Circle (Radius: 50.00)
- plan hits target center								
PA 424-13 PBHL	9461.00	-760.35	-2231.77	1623060.30	2308986.10	39.5185016	-107.9497431	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

PA 44-13 Pad

PA 424-13 - Slot PA 424-13 (B4)

OH

Plan: Plan #2 16May2019 mmsdi

Standard Planning Report

20 May, 2019



Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 424-13 - Slot PA 424-13 (B4)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6571.1' & RKB 24' @ 6595.10usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 6571.1' & RKB 24' @ 6595.10usft (H&P 318)
Site:	PA 44-13 Pad	North Reference:	True
Well:	PA 424-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 16May2019 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 44-13 Pad			
Site Position:		Northing:	1,623,813.70 usft	Latitude:	39.5207354
From:	Map	Easting:	2,311,233.50 usft	Longitude:	-107.9418514
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.54 °

Well	PA 424-13 - Slot PA 424-13 (B4)					
Well Position	+N/-S	-53.17 usft	Northing:	1,623,760.40 usft	Latitude:	39.5205894
	+E/-W	5.43 usft	Easting:	2,311,237.50 usft	Longitude:	-107.9418322
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,571.10 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/2/2019	9.32	65.75	51,492

Design	Plan #2 16May2019 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	251.19

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	
924.06	23.67	251.19	901.80	-51.82	-152.11	3.00	3.00	0.00	251.19	
5,595.72	23.67	251.19	5,180.40	-656.71	-1,927.55	0.00	0.00	0.00	0.00	
7,173.84	0.00	0.00	6,714.00	-760.35	-2,231.77	1.50	-1.50	0.00	180.00	PA 424-13 KMV
9,920.84	0.00	0.00	9,461.00	-760.35	-2,231.77	0.00	0.00	0.00	0.00	PA 424-13 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 424-13 - Slot PA 424-13 (B4)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6571.1' & RKB 24' @ 6595.10usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 6571.1' & RKB 24' @ 6595.10usft (H&P 318)
Site:	PA 44-13 Pad	North Reference:	True
Well:	PA 424-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 16May2019 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	251.19	199.99	-0.36	-1.05	1.11	3.00	3.00	0.00
300.00	4.95	251.19	299.79	-2.30	-6.74	7.12	3.00	3.00	0.00
400.00	7.95	251.19	399.15	-5.92	-17.37	18.36	3.00	3.00	0.00
500.00	10.95	251.19	497.78	-11.21	-32.91	34.77	3.00	3.00	0.00
600.00	13.95	251.19	595.42	-18.17	-53.32	56.33	3.00	3.00	0.00
700.00	16.95	251.19	691.79	-26.76	-78.53	82.97	3.00	3.00	0.00
800.00	19.95	251.19	786.64	-36.96	-108.49	114.61	3.00	3.00	0.00
900.00	22.95	251.19	879.71	-48.75	-143.10	151.17	3.00	3.00	0.00
924.06	23.67	251.19	901.80	-51.82	-152.11	160.69	3.00	3.00	0.00
Start 4671.67 hold at 924.06 MD									
1,000.00	23.67	251.19	971.35	-61.66	-180.97	191.18	0.00	0.00	0.00
9 5/8"									
1,100.00	23.67	251.19	1,062.94	-74.60	-218.97	231.33	0.00	0.00	0.00
1,200.00	23.67	251.19	1,154.53	-87.55	-256.98	271.48	0.00	0.00	0.00
1,300.00	23.67	251.19	1,246.11	-100.50	-294.98	311.63	0.00	0.00	0.00
1,400.00	23.67	251.19	1,337.70	-113.45	-332.99	351.78	0.00	0.00	0.00
1,500.00	23.67	251.19	1,429.28	-126.40	-370.99	391.93	0.00	0.00	0.00
1,600.00	23.67	251.19	1,520.87	-139.34	-409.00	432.08	0.00	0.00	0.00
1,700.00	23.67	251.19	1,612.46	-152.29	-447.00	472.23	0.00	0.00	0.00
1,800.00	23.67	251.19	1,704.04	-165.24	-485.01	512.38	0.00	0.00	0.00
1,900.00	23.67	251.19	1,795.63	-178.19	-523.01	552.53	0.00	0.00	0.00
2,000.00	23.67	251.19	1,887.21	-191.14	-561.02	592.68	0.00	0.00	0.00
2,100.00	23.67	251.19	1,978.80	-204.08	-599.02	632.83	0.00	0.00	0.00
2,200.00	23.67	251.19	2,070.39	-217.03	-637.02	672.98	0.00	0.00	0.00
2,300.00	23.67	251.19	2,161.97	-229.98	-675.03	713.13	0.00	0.00	0.00
2,400.00	23.67	251.19	2,253.56	-242.93	-713.03	753.28	0.00	0.00	0.00
2,500.00	23.67	251.19	2,345.14	-255.88	-751.04	793.43	0.00	0.00	0.00
2,600.00	23.67	251.19	2,436.73	-268.82	-789.04	833.58	0.00	0.00	0.00
2,700.00	23.67	251.19	2,528.32	-281.77	-827.05	873.73	0.00	0.00	0.00
2,800.00	23.67	251.19	2,619.90	-294.72	-865.05	913.88	0.00	0.00	0.00
2,900.00	23.67	251.19	2,711.49	-307.67	-903.06	954.03	0.00	0.00	0.00
3,000.00	23.67	251.19	2,803.07	-320.62	-941.06	994.18	0.00	0.00	0.00
3,100.00	23.67	251.19	2,894.66	-333.56	-979.07	1,034.33	0.00	0.00	0.00
3,200.00	23.67	251.19	2,986.25	-346.51	-1,017.07	1,074.48	0.00	0.00	0.00
3,300.00	23.67	251.19	3,077.83	-359.46	-1,055.07	1,114.63	0.00	0.00	0.00
3,400.00	23.67	251.19	3,169.42	-372.41	-1,093.08	1,154.78	0.00	0.00	0.00
3,500.00	23.67	251.19	3,261.00	-385.36	-1,131.08	1,194.93	0.00	0.00	0.00
3,600.00	23.67	251.19	3,352.59	-398.30	-1,169.09	1,235.08	0.00	0.00	0.00
3,638.66	23.67	251.19	3,388.00	-403.31	-1,183.78	1,250.60	0.00	0.00	0.00
G Sand									
3,700.00	23.67	251.19	3,444.18	-411.25	-1,207.09	1,275.23	0.00	0.00	0.00
3,735.84	23.67	251.19	3,477.00	-415.89	-1,220.71	1,289.61	0.00	0.00	0.00
G Sand Base									
3,800.00	23.67	251.19	3,535.76	-424.20	-1,245.10	1,315.37	0.00	0.00	0.00
3,900.00	23.67	251.19	3,627.35	-437.15	-1,283.10	1,355.52	0.00	0.00	0.00
4,000.00	23.67	251.19	3,718.94	-450.09	-1,321.11	1,395.67	0.00	0.00	0.00
4,100.00	23.67	251.19	3,810.52	-463.04	-1,359.11	1,435.82	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 424-13 - Slot PA 424-13 (B4)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6571.1' & RKB 24' @ 6595.10usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 6571.1' & RKB 24' @ 6595.10usft (H&P 318)
Site:	PA 44-13 Pad	North Reference:	True
Well:	PA 424-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 16May2019 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)
4,200.00	23.67	251.19	3,902.11	-475.99	-1,397.11	1,475.97	0.00	0.00	0.00
4,300.00	23.67	251.19	3,993.69	-488.94	-1,435.12	1,516.12	0.00	0.00	0.00
4,400.00	23.67	251.19	4,085.28	-501.89	-1,473.12	1,556.27	0.00	0.00	0.00
4,500.00	23.67	251.19	4,176.87	-514.83	-1,511.13	1,596.42	0.00	0.00	0.00
4,600.00	23.67	251.19	4,268.45	-527.78	-1,549.13	1,636.57	0.00	0.00	0.00
4,700.00	23.67	251.19	4,360.04	-540.73	-1,587.14	1,676.72	0.00	0.00	0.00
4,800.00	23.67	251.19	4,451.62	-553.68	-1,625.14	1,716.87	0.00	0.00	0.00
4,900.00	23.67	251.19	4,543.21	-566.63	-1,663.15	1,757.02	0.00	0.00	0.00
5,000.00	23.67	251.19	4,634.80	-579.57	-1,701.15	1,797.17	0.00	0.00	0.00
5,100.00	23.67	251.19	4,726.38	-592.52	-1,739.16	1,837.32	0.00	0.00	0.00
5,200.00	23.67	251.19	4,817.97	-605.47	-1,777.16	1,877.47	0.00	0.00	0.00
5,300.00	23.67	251.19	4,909.55	-618.42	-1,815.16	1,917.62	0.00	0.00	0.00
5,400.00	23.67	251.19	5,001.14	-631.37	-1,853.17	1,957.77	0.00	0.00	0.00
5,500.00	23.67	251.19	5,092.73	-644.31	-1,891.17	1,997.92	0.00	0.00	0.00
5,595.72	23.67	251.19	5,180.40	-656.71	-1,927.55	2,036.35	0.00	0.00	0.00
Start Drop -1.50									
5,600.00	23.61	251.19	5,184.31	-657.26	-1,929.18	2,038.07	1.50	-1.50	0.00
5,700.00	22.11	251.19	5,276.46	-669.79	-1,965.94	2,076.91	1.50	-1.50	0.00
5,800.00	20.61	251.19	5,369.59	-681.53	-2,000.42	2,113.33	1.50	-1.50	0.00
5,900.00	19.11	251.19	5,463.64	-692.49	-2,032.57	2,147.29	1.50	-1.50	0.00
6,000.00	17.61	251.19	5,558.55	-702.64	-2,062.38	2,178.79	1.50	-1.50	0.00
6,100.00	16.11	251.19	5,654.25	-712.00	-2,089.83	2,207.79	1.50	-1.50	0.00
6,149.61	15.36	251.19	5,702.00	-716.33	-2,102.57	2,221.24	1.50	-1.50	0.00
WFRK UMVRD									
6,200.00	14.61	251.19	5,750.67	-720.54	-2,114.90	2,234.27	1.50	-1.50	0.00
6,281.75	13.38	251.19	5,830.00	-726.91	-2,133.61	2,254.04	1.50	-1.50	0.00
OCRK - MVRD									
6,300.00	13.11	251.19	5,847.76	-728.26	-2,137.57	2,258.22	1.50	-1.50	0.00
6,400.00	11.61	251.19	5,945.44	-735.16	-2,157.83	2,279.62	1.50	-1.50	0.00
6,500.00	10.11	251.19	6,043.65	-741.24	-2,175.66	2,298.46	1.50	-1.50	0.00
6,600.00	8.61	251.19	6,142.31	-746.48	-2,191.05	2,314.72	1.50	-1.50	0.00
6,700.00	7.11	251.19	6,241.37	-750.89	-2,203.99	2,328.39	1.50	-1.50	0.00
6,800.00	5.61	251.19	6,340.75	-754.46	-2,214.47	2,339.46	1.50	-1.50	0.00
6,900.00	4.11	251.19	6,440.39	-757.19	-2,222.48	2,347.93	1.50	-1.50	0.00
7,000.00	2.61	251.19	6,540.22	-759.08	-2,228.03	2,353.79	1.50	-1.50	0.00
7,100.00	1.11	251.19	6,640.16	-760.12	-2,231.10	2,357.03	1.50	-1.50	0.00
7,173.84	0.00	0.00	6,714.00	-760.35	-2,231.77	2,357.74	1.50	-1.50	0.00
Start 2747.00 hold at 7173.84 MD - KMGAS - PA 424-13 KMV									
7,200.00	0.00	0.00	6,740.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00
7,300.00	0.00	0.00	6,840.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00
7,400.00	0.00	0.00	6,940.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00
7,500.00	0.00	0.00	7,040.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00
7,600.00	0.00	0.00	7,140.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00
7,700.00	0.00	0.00	7,240.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00
7,800.00	0.00	0.00	7,340.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00
7,900.00	0.00	0.00	7,440.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00
8,000.00	0.00	0.00	7,540.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00
8,100.00	0.00	0.00	7,640.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00
8,200.00	0.00	0.00	7,740.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00
8,300.00	0.00	0.00	7,840.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00
8,400.00	0.00	0.00	7,940.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00
8,500.00	0.00	0.00	8,040.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 424-13 - Slot PA 424-13 (B4)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6571.1' & RKB 24' @ 6595.10usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 6571.1' & RKB 24' @ 6595.10usft (H&P 318)
Site:	PA 44-13 Pad	North Reference:	True
Well:	PA 424-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 16May2019 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)	
8,600.00	0.00	0.00	8,140.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,240.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,340.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00	
8,900.00	0.00	0.00	8,440.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,540.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00	
9,100.00	0.00	0.00	8,640.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00	
9,200.00	0.00	0.00	8,740.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00	
9,300.00	0.00	0.00	8,840.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00	
9,315.84	0.00	0.00	8,856.00	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00	
CMEO										
9,400.00	0.00	0.00	8,940.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00	
9,500.00	0.00	0.00	9,040.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00	
9,600.00	0.00	0.00	9,140.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00	
9,700.00	0.00	0.00	9,240.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00	
9,795.84	0.00	0.00	9,336.00	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00	
RLNS										
9,800.00	0.00	0.00	9,340.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00	
9,900.00	0.00	0.00	9,440.16	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00	
9,920.83	0.00	0.00	9,460.99	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00	
TD										
9,920.84	0.00	0.00	9,461.00	-760.35	-2,231.77	2,357.74	0.00	0.00	0.00	
TD at 9920.84 - PA 424-13 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 424-13 KMV - plan hits target center - Circle (radius 50.00)	0.00	0.00	6,714.00	-760.35	-2,231.77	1,623,060.30	2,308,986.10	39.5185017	-107.9497432
PA 424-13 PBHL - plan hits target center - Point	0.00	0.00	9,461.00	-760.35	-2,231.77	1,623,060.30	2,308,986.10	39.5185017	-107.9497432

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (in)	Hole Diameter (in)
1,000.00	971.35	9 5/8"		9.62	12.25

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 424-13 - Slot PA 424-13 (B4)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6571.1' & RKB 24' @ 6595.10usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 6571.1' & RKB 24' @ 6595.10usft (H&P 318)
Site:	PA 44-13 Pad	North Reference:	True
Well:	PA 424-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 16May2019 mmsdi		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,638.66	3,388.00	G Sand		0.00	0.00
3,735.84	3,477.00	G Sand Base		0.00	0.00
6,149.61	5,702.00	WFRK UMVRD		0.00	0.00
6,281.75	5,830.00	OCRK		0.00	0.00
6,281.75	5,830.00	MVRD		0.00	0.00
7,173.84	6,714.00	KMVGAS		0.00	0.00
9,315.84	8,856.00	CMEO		0.00	0.00
9,795.84	9,336.00	RLNS		0.00	0.00
9,920.83	9,460.99	TD		0.00	0.00

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
924.06	901.80	-51.82	-152.11	Start 4671.67 hold at 924.06 MD
5,595.72	5,180.40	-656.71	-1,927.55	Start Drop -1.50
7,173.84	6,714.00	-760.35	-2,231.77	Start 2747.00 hold at 7173.84 MD
9,920.84	9,461.00	-760.35	-2,231.77	TD at 9920.84