



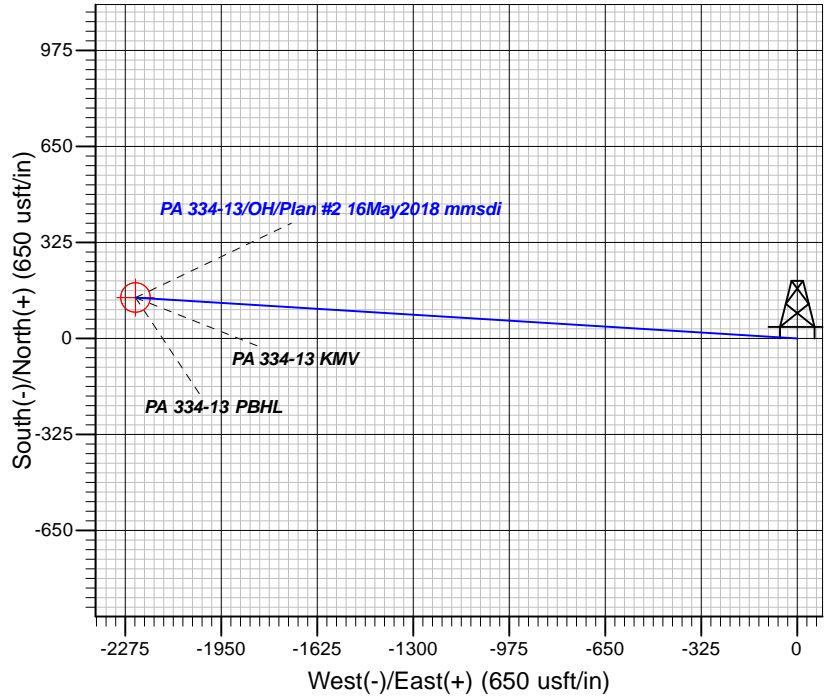
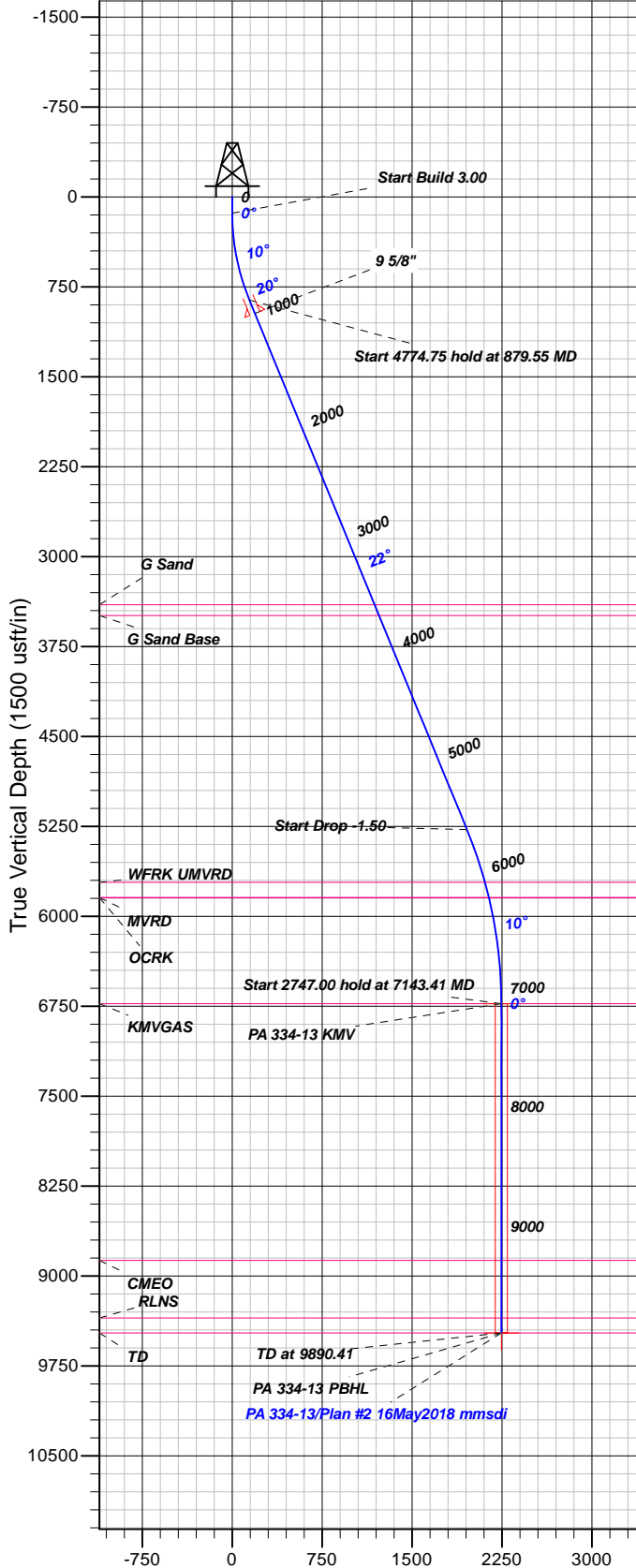
Azimuths to True North
Magnetic North: 9.32°

Magnetic Field
Strength: 51491.8snT
Dip Angle: 65.75°
Date: 5/2/2019
Model: HDGM

Well Details: PA 334-13

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

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1623770.20	2311245.20	39.5206169	-107.9418058	PA 334-13 (A5)



FORMATION TOP DETAILS

TVDPATH	MDPATH	FORMATION
3403.00	3627.94	G Sand
3492.00	3724.16	G Sand Base
5717.00	6119.18	WFRK UMVRD
5845.00	6251.33	OCRK
5845.00	6251.33	MVRD
6729.00	7143.41	KMGAS
8871.00	9285.41	CMEO
9351.00	9765.41	RLNS
9476.00	9890.41	TD

Plan: Plan #2 16May2018 mmsdi

12:38, 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
972.25	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	879.55	22.34	273.55	860.84	8.86	-143.03	3.00	273.55	143.30	
4	5654.31	22.34	273.55	5277.33	121.11	-1954.18	0.00	0.00	1957.93	
5	7143.41	0.00	0.00	6729.00	138.84	-2240.24	1.50	180.00	2244.54	PA 334-13 KMV
6	9890.41	0.00	0.00	9476.00	138.84	-2240.24	0.00	0.00	2244.54	PA 334-13 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PA 334-13 KMV	6729.00	138.84	-2240.24	1623969.20	2309009.50	39.5209978	-107.9497471	Circle (Radius: 50.00)
- plan hits target center								
PA 334-13 PBHL	9476.00	138.84	-2240.24	1623969.20	2309009.50	39.5209978	-107.9497471	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

PA 44-13 Pad

PA 334-13 - Slot PA 334-13 (A5)

OH

Plan: Plan #2 16May2018 mmsdi

Standard Planning Report

20 May, 2019



Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 334-13 - Slot PA 334-13 (A5)
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 334-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 16May2018 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 334-13 - Slot PA 334-13 (A5)					
Well Position	+N/-S	-43.17 usft	Northing:	1,623,770.20 usft	Latitude:	39.5206169
	+E/-W	12.86 usft	Easting:	2,311,245.20 usft	Longitude:	-107.9418058
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 16May2018 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	273.55

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	
879.55	22.34	273.55	860.84	8.86	-143.03	3.00	3.00	0.00	273.55	
5,654.31	22.34	273.55	5,277.33	121.11	-1,954.18	0.00	0.00	0.00	0.00	
7,143.41	0.00	0.00	6,729.00	138.84	-2,240.24	1.50	-1.50	0.00	180.00	PA 334-13 KMH
9,890.41	0.00	0.00	9,476.00	138.84	-2,240.24	0.00	0.00	0.00	0.00	PA 334-13 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 334-13 - Slot PA 334-13 (A5)
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 334-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 16May2018 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	273.55	199.99	0.07	-1.10	1.11	3.00	3.00	0.00	
300.00	4.95	273.55	299.79	0.44	-7.11	7.12	3.00	3.00	0.00	
400.00	7.95	273.55	399.15	1.14	-18.32	18.36	3.00	3.00	0.00	
500.00	10.95	273.55	497.78	2.15	-34.71	34.77	3.00	3.00	0.00	
600.00	13.95	273.55	595.42	3.48	-56.22	56.33	3.00	3.00	0.00	
700.00	16.95	273.55	691.79	5.13	-82.81	82.97	3.00	3.00	0.00	
800.00	19.95	273.55	786.64	7.09	-114.39	114.61	3.00	3.00	0.00	
879.55	22.34	273.55	860.84	8.86	-143.03	143.30	3.00	3.00	0.00	
Start 4774.75 hold at 879.55 MD										
900.00	22.34	273.55	879.75	9.35	-150.78	151.07	0.00	0.00	0.00	
1,000.00	22.34	273.55	972.25	11.70	-188.72	189.08	0.00	0.00	0.00	
9 5/8"										
1,100.00	22.34	273.55	1,064.74	14.05	-226.65	227.08	0.00	0.00	0.00	
1,200.00	22.34	273.55	1,157.24	16.40	-264.58	265.09	0.00	0.00	0.00	
1,300.00	22.34	273.55	1,249.74	18.75	-302.51	303.09	0.00	0.00	0.00	
1,400.00	22.34	273.55	1,342.23	21.10	-340.44	341.10	0.00	0.00	0.00	
1,500.00	22.34	273.55	1,434.73	23.45	-378.38	379.10	0.00	0.00	0.00	
1,600.00	22.34	273.55	1,527.23	25.80	-416.31	417.11	0.00	0.00	0.00	
1,700.00	22.34	273.55	1,619.72	28.15	-454.24	455.11	0.00	0.00	0.00	
1,800.00	22.34	273.55	1,712.22	30.50	-492.17	493.12	0.00	0.00	0.00	
1,900.00	22.34	273.55	1,804.72	32.85	-530.10	531.12	0.00	0.00	0.00	
2,000.00	22.34	273.55	1,897.21	35.21	-568.04	569.12	0.00	0.00	0.00	
2,100.00	22.34	273.55	1,989.71	37.56	-605.97	607.13	0.00	0.00	0.00	
2,200.00	22.34	273.55	2,082.21	39.91	-643.90	645.13	0.00	0.00	0.00	
2,300.00	22.34	273.55	2,174.70	42.26	-681.83	683.14	0.00	0.00	0.00	
2,400.00	22.34	273.55	2,267.20	44.61	-719.76	721.14	0.00	0.00	0.00	
2,500.00	22.34	273.55	2,359.70	46.96	-757.69	759.15	0.00	0.00	0.00	
2,600.00	22.34	273.55	2,452.19	49.31	-795.63	797.15	0.00	0.00	0.00	
2,700.00	22.34	273.55	2,544.69	51.66	-833.56	835.16	0.00	0.00	0.00	
2,800.00	22.34	273.55	2,637.19	54.01	-871.49	873.16	0.00	0.00	0.00	
2,900.00	22.34	273.55	2,729.68	56.36	-909.42	911.17	0.00	0.00	0.00	
3,000.00	22.34	273.55	2,822.18	58.71	-947.35	949.17	0.00	0.00	0.00	
3,100.00	22.34	273.55	2,914.68	61.07	-985.29	987.18	0.00	0.00	0.00	
3,200.00	22.34	273.55	3,007.17	63.42	-1,023.22	1,025.18	0.00	0.00	0.00	
3,300.00	22.34	273.55	3,099.67	65.77	-1,061.15	1,063.19	0.00	0.00	0.00	
3,400.00	22.34	273.55	3,192.17	68.12	-1,099.08	1,101.19	0.00	0.00	0.00	
3,500.00	22.34	273.55	3,284.66	70.47	-1,137.01	1,139.20	0.00	0.00	0.00	
3,600.00	22.34	273.55	3,377.16	72.82	-1,174.95	1,177.20	0.00	0.00	0.00	
3,627.94	22.34	273.55	3,403.00	73.48	-1,185.54	1,187.82	0.00	0.00	0.00	
G Sand										
3,700.00	22.34	273.55	3,469.66	75.17	-1,212.88	1,215.21	0.00	0.00	0.00	
3,724.16	22.34	273.55	3,492.00	75.74	-1,222.04	1,224.39	0.00	0.00	0.00	
G Sand Base										
3,800.00	22.34	273.55	3,562.15	77.52	-1,250.81	1,253.21	0.00	0.00	0.00	
3,900.00	22.34	273.55	3,654.65	79.87	-1,288.74	1,291.21	0.00	0.00	0.00	
4,000.00	22.34	273.55	3,747.15	82.22	-1,326.67	1,329.22	0.00	0.00	0.00	
4,100.00	22.34	273.55	3,839.64	84.57	-1,364.61	1,367.22	0.00	0.00	0.00	

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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 334-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 16May2018 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	22.34	273.55	3,932.14	86.92	-1,402.54	1,405.23	0.00	0.00	0.00
4,300.00	22.34	273.55	4,024.64	89.28	-1,440.47	1,443.23	0.00	0.00	0.00
4,400.00	22.34	273.55	4,117.13	91.63	-1,478.40	1,481.24	0.00	0.00	0.00
4,500.00	22.34	273.55	4,209.63	93.98	-1,516.33	1,519.24	0.00	0.00	0.00
4,600.00	22.34	273.55	4,302.13	96.33	-1,554.27	1,557.25	0.00	0.00	0.00
4,700.00	22.34	273.55	4,394.62	98.68	-1,592.20	1,595.25	0.00	0.00	0.00
4,800.00	22.34	273.55	4,487.12	101.03	-1,630.13	1,633.26	0.00	0.00	0.00
4,900.00	22.34	273.55	4,579.62	103.38	-1,668.06	1,671.26	0.00	0.00	0.00
5,000.00	22.34	273.55	4,672.11	105.73	-1,705.99	1,709.27	0.00	0.00	0.00
5,100.00	22.34	273.55	4,764.61	108.08	-1,743.93	1,747.27	0.00	0.00	0.00
5,200.00	22.34	273.55	4,857.11	110.43	-1,781.86	1,785.28	0.00	0.00	0.00
5,300.00	22.34	273.55	4,949.60	112.78	-1,819.79	1,823.28	0.00	0.00	0.00
5,400.00	22.34	273.55	5,042.10	115.14	-1,857.72	1,861.29	0.00	0.00	0.00
5,500.00	22.34	273.55	5,134.60	117.49	-1,895.65	1,899.29	0.00	0.00	0.00
5,600.00	22.34	273.55	5,227.09	119.84	-1,933.59	1,937.30	0.00	0.00	0.00
5,654.31	22.34	273.55	5,277.33	121.11	-1,954.18	1,957.93	0.00	0.00	0.00
Start Drop -1.50									
5,700.00	21.65	273.55	5,319.69	122.17	-1,971.26	1,975.05	1.50	-1.50	0.00
5,800.00	20.15	273.55	5,413.11	124.38	-2,006.87	2,010.72	1.50	-1.50	0.00
5,900.00	18.65	273.55	5,507.43	126.43	-2,040.02	2,043.94	1.50	-1.50	0.00
6,000.00	17.15	273.55	5,602.59	128.34	-2,070.70	2,074.68	1.50	-1.50	0.00
6,100.00	15.65	273.55	5,698.51	130.08	-2,098.88	2,102.91	1.50	-1.50	0.00
6,119.18	15.36	273.55	5,717.00	130.40	-2,104.00	2,108.04	1.50	-1.50	0.00
WFRK UMVRD									
6,200.00	14.15	273.55	5,795.15	131.67	-2,124.55	2,128.63	1.50	-1.50	0.00
6,251.33	13.38	273.55	5,845.00	132.43	-2,136.74	2,140.84	1.50	-1.50	0.00
OCRK - MVRD									
6,300.00	12.65	273.55	5,892.42	133.11	-2,147.68	2,151.80	1.50	-1.50	0.00
6,400.00	11.15	273.55	5,990.27	134.38	-2,168.26	2,172.42	1.50	-1.50	0.00
6,500.00	9.65	273.55	6,088.62	135.50	-2,186.28	2,190.48	1.50	-1.50	0.00
6,600.00	8.15	273.55	6,187.42	136.46	-2,201.73	2,205.95	1.50	-1.50	0.00
6,700.00	6.65	273.55	6,286.58	137.25	-2,214.58	2,218.83	1.50	-1.50	0.00
6,800.00	5.15	273.55	6,386.05	137.89	-2,224.84	2,229.11	1.50	-1.50	0.00
6,900.00	3.65	273.55	6,485.75	138.36	-2,232.50	2,236.79	1.50	-1.50	0.00
7,000.00	2.15	273.55	6,585.62	138.68	-2,237.55	2,241.85	1.50	-1.50	0.00
7,100.00	0.65	273.55	6,685.59	138.83	-2,239.99	2,244.29	1.50	-1.50	0.00
7,143.41	0.00	0.00	6,729.00	138.84	-2,240.24	2,244.54	1.50	-1.50	199.14
Start 2747.00 hold at 7143.41 MD - KMGAS - PA 334-13 KMV									
7,200.00	0.00	0.00	6,785.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00
7,300.00	0.00	0.00	6,885.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00
7,400.00	0.00	0.00	6,985.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00
7,500.00	0.00	0.00	7,085.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00
7,600.00	0.00	0.00	7,185.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00
7,700.00	0.00	0.00	7,285.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00
7,800.00	0.00	0.00	7,385.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00
7,900.00	0.00	0.00	7,485.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00
8,000.00	0.00	0.00	7,585.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00
8,100.00	0.00	0.00	7,685.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00
8,200.00	0.00	0.00	7,785.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00
8,300.00	0.00	0.00	7,885.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00
8,400.00	0.00	0.00	7,985.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00
8,500.00	0.00	0.00	8,085.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00

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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 334-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 16May2018 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	8,185.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,285.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,385.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00	
8,900.00	0.00	0.00	8,485.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,585.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00	
9,100.00	0.00	0.00	8,685.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00	
9,200.00	0.00	0.00	8,785.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00	
9,285.41	0.00	0.00	8,871.00	138.84	-2,240.24	2,244.54	0.00	0.00	0.00	
CMEO										
9,300.00	0.00	0.00	8,885.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00	
9,400.00	0.00	0.00	8,985.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00	
9,500.00	0.00	0.00	9,085.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00	
9,600.00	0.00	0.00	9,185.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00	
9,700.00	0.00	0.00	9,285.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00	
9,765.41	0.00	0.00	9,351.00	138.84	-2,240.24	2,244.54	0.00	0.00	0.00	
RLNS										
9,800.00	0.00	0.00	9,385.59	138.84	-2,240.24	2,244.54	0.00	0.00	0.00	
9,890.41	0.00	0.00	9,476.00	138.84	-2,240.24	2,244.54	0.00	0.00	0.00	
TD at 9890.41 - TD - PA 334-13 PBHL										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PA 334-13 KMV	0.00	0.00	6,729.00	138.84	-2,240.24	1,623,969.20	2,309,009.50	39.5209978	-107.9497471
- plan hits target center									
- Circle (radius 50.00)									
PA 334-13 PBHL	0.00	0.00	9,476.00	138.84	-2,240.24	1,623,969.20	2,309,009.50	39.5209978	-107.9497471
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (in)	Hole Diameter (in)
1,000.00	972.25	9 5/8"		9.62	12.25

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 334-13 - Slot PA 334-13 (A5)
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 334-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 16May2018 mmsdi		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,627.94	3,403.00	G Sand		0.00	0.00
3,724.16	3,492.00	G Sand Base		0.00	0.00
6,119.18	5,717.00	WFRK UMVRD		0.00	0.00
6,251.33	5,845.00	OCRK		0.00	0.00
6,251.33	5,845.00	MVRD		0.00	0.00
7,143.41	6,729.00	KMVGAS		0.00	0.00
9,285.41	8,871.00	CMEO		0.00	0.00
9,765.41	9,351.00	RLNS		0.00	0.00
9,890.41	9,476.00	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
879.55	860.84	8.86	-143.03	Start 4774.75 hold at 879.55 MD
5,654.31	5,277.33	121.11	-1,954.18	Start Drop -1.50
7,143.41	6,729.00	138.84	-2,240.24	Start 2747.00 hold at 7143.41 MD
9,890.41	9,476.00	138.84	-2,240.24	TD at 9890.41