



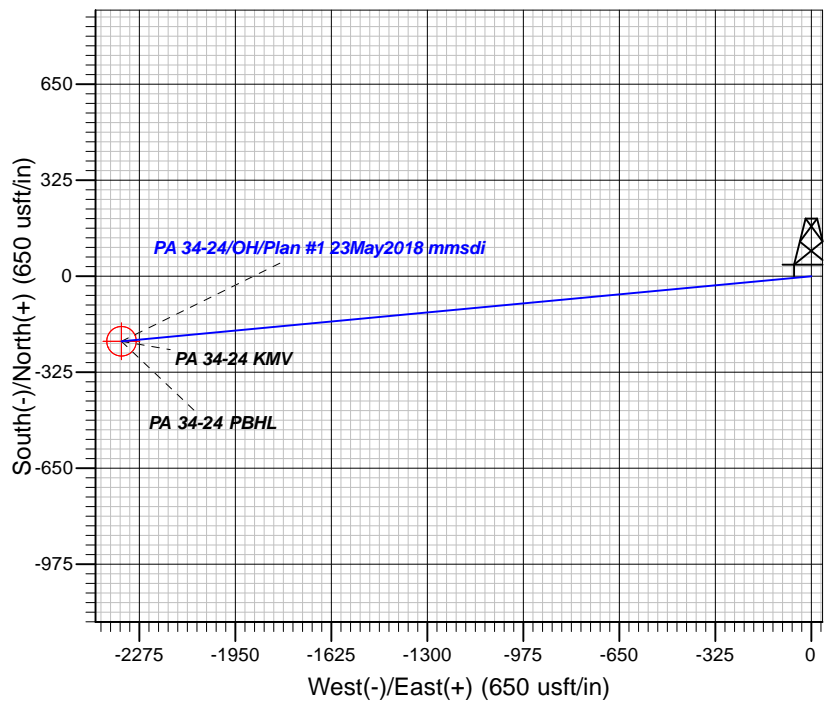
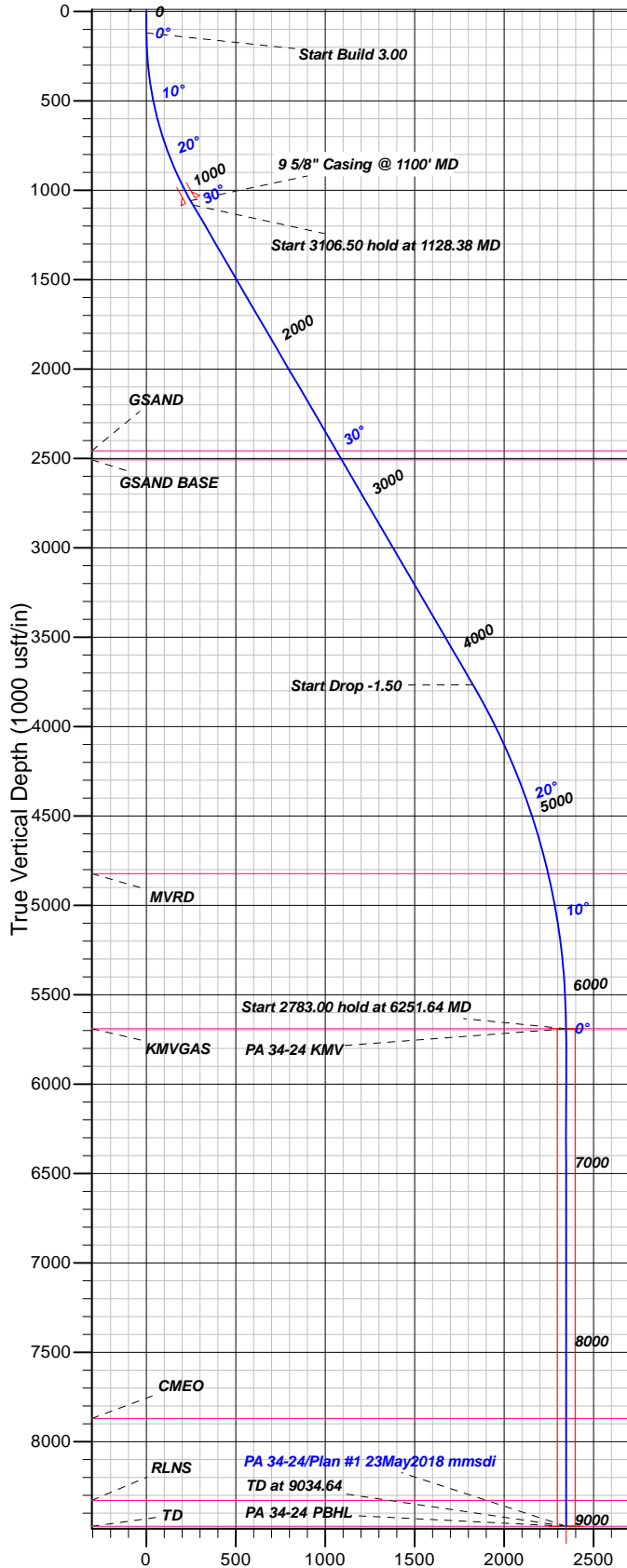
Azimuths to True North
Magnetic North: 9.38°

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

Well Details: PA 34-24

GL 5733' & RKB 24' @ 5757.00usft

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1618778.70	2312547.20	39.5070140	-107.9367176	PA 34-24 (A8)



FORMATION TOP DETAILS

TVDP	MD	Formation
2457.00	2719.93	GSAND
2507.00	2777.82	GSAND BASE
4822.00	5375.99	MVRD
5690.00	6251.64	KMVGAS
7870.00	8431.64	CMEO
8328.00	8889.64	RLNS
8473.00	9034.64	TD

Plan: Plan #1 23May2018 mmsdi

17:46, 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
1057.56	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	120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	
3	1128.38	30.25	264.62	1082.18	-24.39	-258.93	3.00	264.62	260.08	
4	4234.88	30.25	264.62	3765.65	-171.13	-1817.08	0.00	0.00	1825.12	
5	6251.64	0.00	0.00	5690.00	-219.90	-2334.94	1.50	180.00	2345.27	PA 34-24 KMV
6	9034.64	0.00	0.00	8473.00	-219.90	-2334.94	0.00	0.00	2345.27	PA 34-24 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PA 34-24 KMV	5690.00	-219.90	-2334.94	1618621.50	2310207.20	39.5064099	-107.9449928	Circle (Radius: 50.00)
- plan hits target center								
PA 34-24 PBHL	8473.00	-219.90	-2334.94	1618621.50	2310207.20	39.5064099	-107.9449928	Point
- plan hits target center								



TEP Rocky Mountain LLC

**Garfield County, CO NAD83
RWF 13-19 Pad
PA 34-24 - Slot PA 34-24 (A8)**

OH

Plan: Plan #1 23May2018 mmsdi

Standard Planning Report

04 June, 2018



Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 34-24 - Slot PA 34-24 (A8)
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 34-24	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 34-24 - Slot PA 34-24 (A8)					
Well Position	+N/-S	-13.48 usft	Northing:	1,618,778.70 usft	Latitude:	39.5070140
	+E/-W	11.97 usft	Easting:	2,312,547.20 usft	Longitude:	-107.9367176
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	264.62

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	
1,128.38	30.25	264.62	1,082.18	-24.39	-258.93	3.00	3.00	0.00	264.62	
4,234.88	30.25	264.62	3,765.65	-171.13	-1,817.08	0.00	0.00	0.00	0.00	
6,251.64	0.00	0.00	5,690.00	-219.90	-2,334.94	1.50	-1.50	0.00	180.00	PA 34-24 KMV
9,034.64	0.00	0.00	8,473.00	-219.90	-2,334.94	0.00	0.00	0.00	0.00	PA 34-24 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 34-24 - Slot PA 34-24 (A8)
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 34-24	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
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.00									
200.00	2.40	264.62	199.98	-0.16	-1.67	1.68	3.00	3.00	0.00
300.00	5.40	264.62	299.73	-0.79	-8.44	8.48	3.00	3.00	0.00
400.00	8.40	264.62	399.00	-1.92	-20.40	20.49	3.00	3.00	0.00
500.00	11.40	264.62	497.50	-3.53	-37.51	37.68	3.00	3.00	0.00
600.00	14.40	264.62	594.96	-5.63	-59.74	60.00	3.00	3.00	0.00
700.00	17.40	264.62	691.13	-8.19	-87.01	87.39	3.00	3.00	0.00
800.00	20.40	264.62	785.72	-11.23	-119.25	119.78	3.00	3.00	0.00
900.00	23.40	264.62	878.50	-14.73	-156.39	157.08	3.00	3.00	0.00
1,000.00	26.40	264.62	969.19	-18.68	-198.30	199.18	3.00	3.00	0.00
1,100.00	29.40	264.62	1,057.56	-23.06	-244.88	245.96	3.00	3.00	0.00
9 5/8" Casing @ 1100' MD									
1,128.38	30.25	264.62	1,082.18	-24.39	-258.93	260.08	3.00	3.00	0.00
Start 3106.50 hold at 1128.38 MD									
1,200.00	30.25	264.62	1,144.04	-27.77	-294.86	296.16	0.00	0.00	0.00
1,300.00	30.25	264.62	1,230.43	-32.49	-345.01	346.54	0.00	0.00	0.00
1,400.00	30.25	264.62	1,316.81	-37.22	-395.17	396.92	0.00	0.00	0.00
1,500.00	30.25	264.62	1,403.19	-41.94	-445.33	447.30	0.00	0.00	0.00
1,600.00	30.25	264.62	1,489.57	-46.66	-495.49	497.68	0.00	0.00	0.00
1,700.00	30.25	264.62	1,575.96	-51.39	-545.64	548.06	0.00	0.00	0.00
1,800.00	30.25	264.62	1,662.34	-56.11	-595.80	598.44	0.00	0.00	0.00
1,900.00	30.25	264.62	1,748.72	-60.84	-645.96	648.82	0.00	0.00	0.00
2,000.00	30.25	264.62	1,835.10	-65.56	-696.12	699.20	0.00	0.00	0.00
2,100.00	30.25	264.62	1,921.49	-70.28	-746.27	749.58	0.00	0.00	0.00
2,200.00	30.25	264.62	2,007.87	-75.01	-796.43	799.96	0.00	0.00	0.00
2,300.00	30.25	264.62	2,094.25	-79.73	-846.59	850.33	0.00	0.00	0.00
2,400.00	30.25	264.62	2,180.63	-84.45	-896.75	900.71	0.00	0.00	0.00
2,500.00	30.25	264.62	2,267.02	-89.18	-946.90	951.09	0.00	0.00	0.00
2,600.00	30.25	264.62	2,353.40	-93.90	-997.06	1,001.47	0.00	0.00	0.00
2,700.00	30.25	264.62	2,439.78	-98.63	-1,047.22	1,051.85	0.00	0.00	0.00
2,719.94	30.25	264.62	2,457.00	-99.57	-1,057.22	1,061.90	0.00	0.00	0.00
GSAND									
2,777.82	30.25	264.62	2,507.00	-102.30	-1,086.25	1,091.06	0.00	0.00	0.00
GSAND BASE									
2,800.00	30.25	264.62	2,526.16	-103.35	-1,097.38	1,102.23	0.00	0.00	0.00
2,900.00	30.25	264.62	2,612.54	-108.07	-1,147.53	1,152.61	0.00	0.00	0.00
3,000.00	30.25	264.62	2,698.93	-112.80	-1,197.69	1,202.99	0.00	0.00	0.00
3,100.00	30.25	264.62	2,785.31	-117.52	-1,247.85	1,253.37	0.00	0.00	0.00
3,200.00	30.25	264.62	2,871.69	-122.24	-1,298.01	1,303.75	0.00	0.00	0.00
3,300.00	30.25	264.62	2,958.07	-126.97	-1,348.16	1,354.13	0.00	0.00	0.00
3,400.00	30.25	264.62	3,044.46	-131.69	-1,398.32	1,404.51	0.00	0.00	0.00
3,500.00	30.25	264.62	3,130.84	-136.42	-1,448.48	1,454.89	0.00	0.00	0.00
3,600.00	30.25	264.62	3,217.22	-141.14	-1,498.64	1,505.27	0.00	0.00	0.00
3,700.00	30.25	264.62	3,303.60	-145.86	-1,548.79	1,555.65	0.00	0.00	0.00
3,800.00	30.25	264.62	3,389.99	-150.59	-1,598.95	1,606.03	0.00	0.00	0.00
3,900.00	30.25	264.62	3,476.37	-155.31	-1,649.11	1,656.41	0.00	0.00	0.00
4,000.00	30.25	264.62	3,562.75	-160.03	-1,699.27	1,706.79	0.00	0.00	0.00
4,100.00	30.25	264.62	3,649.13	-164.76	-1,749.42	1,757.17	0.00	0.00	0.00
4,200.00	30.25	264.62	3,735.51	-169.48	-1,799.58	1,807.55	0.00	0.00	0.00
4,234.88	30.25	264.62	3,765.65	-171.13	-1,817.08	1,825.12	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 34-24 - Slot PA 34-24 (A8)
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 34-24	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	29.27	264.62	3,822.17	-174.16	-1,849.26	1,857.44	1.50	-1.50	0.00
4,400.00	27.77	264.62	3,910.03	-178.64	-1,896.80	1,905.20	1.50	-1.50	0.00
4,500.00	26.27	264.62	3,999.11	-182.90	-1,942.04	1,950.63	1.50	-1.50	0.00
4,600.00	24.77	264.62	4,089.35	-186.94	-1,984.94	1,993.72	1.50	-1.50	0.00
4,700.00	23.27	264.62	4,180.68	-190.75	-2,025.47	2,034.43	1.50	-1.50	0.00
4,800.00	21.77	264.62	4,273.05	-194.35	-2,063.61	2,072.74	1.50	-1.50	0.00
4,900.00	20.27	264.62	4,366.39	-197.71	-2,099.33	2,108.61	1.50	-1.50	0.00
5,000.00	18.77	264.62	4,460.64	-200.84	-2,132.60	2,142.04	1.50	-1.50	0.00
5,100.00	17.27	264.62	4,555.73	-203.75	-2,163.40	2,172.98	1.50	-1.50	0.00
5,200.00	15.77	264.62	4,651.60	-206.41	-2,191.72	2,201.42	1.50	-1.50	0.00
5,300.00	14.27	264.62	4,748.17	-208.84	-2,217.53	2,227.34	1.50	-1.50	0.00
5,375.99	13.13	264.62	4,822.00	-210.53	-2,235.45	2,245.34	1.50	-1.50	0.00
MVRD									
5,400.00	12.77	264.62	4,845.40	-211.04	-2,240.81	2,250.73	1.50	-1.50	0.00
5,500.00	11.27	264.62	4,943.20	-212.99	-2,261.55	2,271.56	1.50	-1.50	0.00
5,600.00	9.77	264.62	5,041.52	-214.70	-2,279.74	2,289.82	1.50	-1.50	0.00
5,700.00	8.27	264.62	5,140.28	-216.17	-2,295.35	2,305.51	1.50	-1.50	0.00
5,800.00	6.77	264.62	5,239.41	-217.40	-2,308.39	2,318.60	1.50	-1.50	0.00
5,900.00	5.27	264.62	5,338.86	-218.38	-2,318.84	2,329.10	1.50	-1.50	0.00
6,000.00	3.77	264.62	5,438.54	-219.12	-2,326.69	2,336.99	1.50	-1.50	0.00
6,100.00	2.27	264.62	5,538.40	-219.62	-2,331.95	2,342.26	1.50	-1.50	0.00
6,200.00	0.77	264.62	5,638.36	-219.87	-2,334.59	2,344.93	1.50	-1.50	0.00
6,251.64	0.00	0.00	5,690.00	-219.90	-2,334.94	2,345.27	1.50	-1.50	0.00
Start 2783.00 hold at 6251.64 MD - KMGAS - PA 34-24 KMW									
6,300.00	0.00	0.00	5,738.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
6,400.00	0.00	0.00	5,838.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
6,500.00	0.00	0.00	5,938.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
6,600.00	0.00	0.00	6,038.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
6,700.00	0.00	0.00	6,138.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
6,800.00	0.00	0.00	6,238.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
6,900.00	0.00	0.00	6,338.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
7,000.00	0.00	0.00	6,438.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
7,100.00	0.00	0.00	6,538.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
7,200.00	0.00	0.00	6,638.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
7,300.00	0.00	0.00	6,738.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
7,400.00	0.00	0.00	6,838.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
7,500.00	0.00	0.00	6,938.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
7,600.00	0.00	0.00	7,038.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
7,700.00	0.00	0.00	7,138.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
7,800.00	0.00	0.00	7,238.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
7,900.00	0.00	0.00	7,338.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
8,000.00	0.00	0.00	7,438.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
8,100.00	0.00	0.00	7,538.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
8,200.00	0.00	0.00	7,638.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
8,300.00	0.00	0.00	7,738.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
8,400.00	0.00	0.00	7,838.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
8,431.64	0.00	0.00	7,870.00	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
CMEO									
8,500.00	0.00	0.00	7,938.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
8,600.00	0.00	0.00	8,038.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
8,700.00	0.00	0.00	8,138.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
8,800.00	0.00	0.00	8,238.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 34-24 - Slot PA 34-24 (A8)
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 34-24	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)
8,889.64	0.00	0.00	8,328.00	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
RLNS									
8,900.00	0.00	0.00	8,338.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
9,000.00	0.00	0.00	8,438.36	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
9,034.64	0.00	0.00	8,473.00	-219.90	-2,334.94	2,345.27	0.00	0.00	0.00
TD at 9034.64 - TD - PA 34-24 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 34-24 KMV - plan hits target center - Circle (radius 50.00)	0.00	0.00	5,690.00	-219.90	-2,334.94	1,618,621.50	2,310,207.20	39.5064100	-107.9449929
PA 34-24 PBHL - plan hits target center - Point	0.00	0.00	8,473.00	-219.90	-2,334.94	1,618,621.50	2,310,207.20	39.5064100	-107.9449929

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,100.00	1,057.56	9 5/8" Casing @ 1100' MD	9.62	13.50	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,719.94	2,457.00	GSAND		0.00	0.00
2,777.82	2,507.00	GSAND BASE		0.00	0.00
5,375.99	4,822.00	MVRD		0.00	0.00
6,251.64	5,690.00	KMVGAS		0.00	0.00
8,431.64	7,870.00	CMEQ		0.00	0.00
8,889.64	8,328.00	RLNS		0.00	0.00
9,034.64	8,473.00	TD		0.00	0.00

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
120.00	120.00	0.00	0.00	Start Build 3.00
1,128.38	1,082.18	-24.39	-258.93	Start 3106.50 hold at 1128.38 MD
4,234.88	3,765.65	-171.13	-1,817.08	Start Drop -1.50
6,251.64	5,690.00	-219.90	-2,334.94	Start 2783.00 hold at 6251.64 MD
9,034.64	8,473.00	-219.90	-2,334.94	TD at 9034.64