



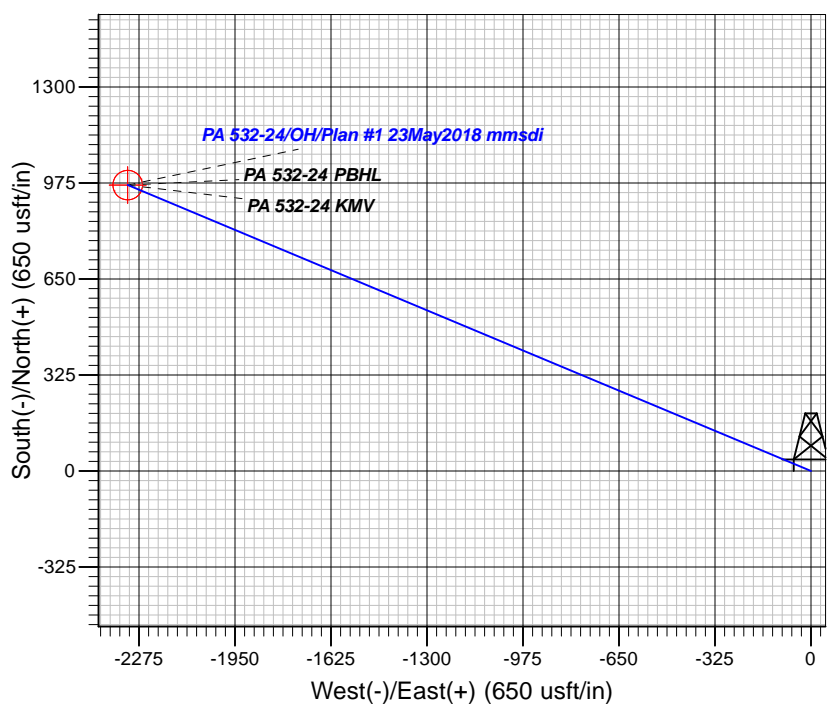
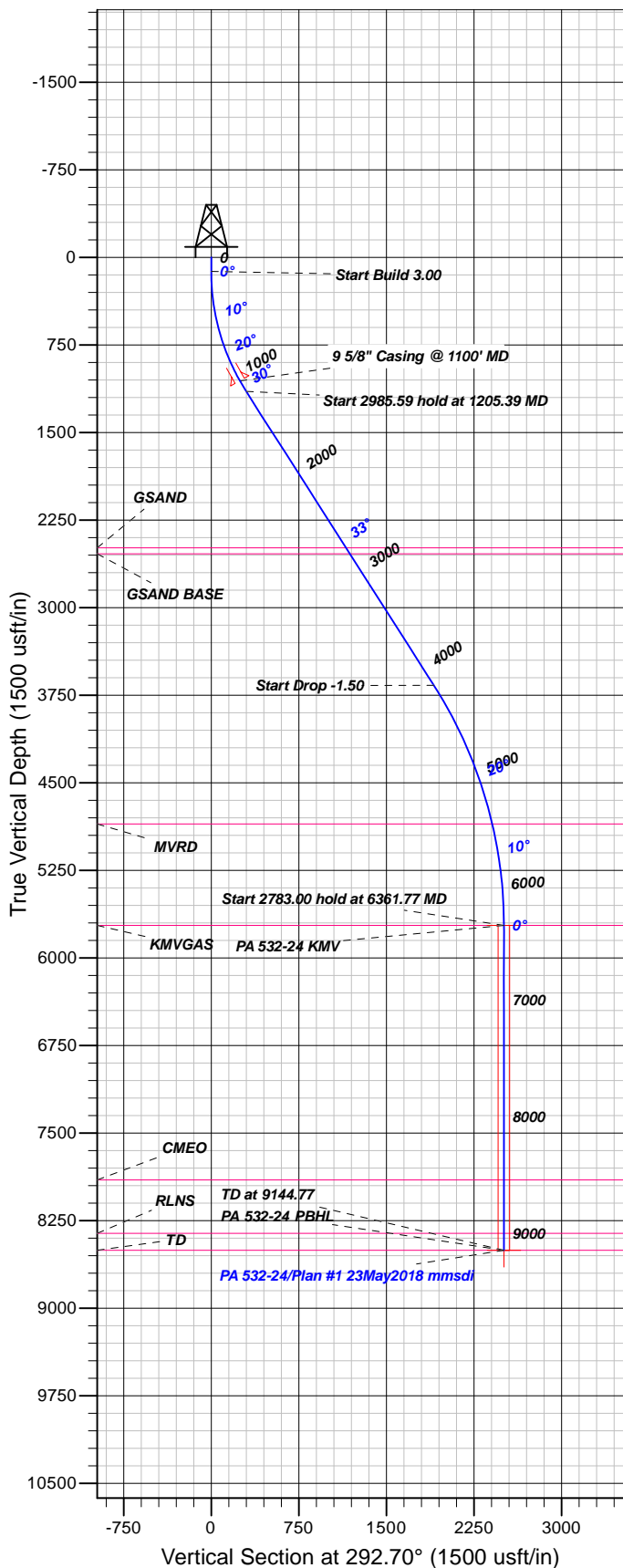
Azimuths to True North
Magnetic North: 9.38°

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

Well Details: PA 532-24

GL 5733' & RKB 24' @ 5757.00usft

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1618791.30	2312504.00	39.5070454	-107.9368718	PA 532-24 (A2)



FORMATION TOP DETAILS

TVDPATH	MDPATH	FORMATION
2487.00	2794.24	GSAND
2537.00	2853.56	GSAND BASE
4852.00	5486.12	MVRD
5720.00	6361.77	KMVGAS
7900.00	8541.77	CMEO
8358.00	8999.77	RLNS
8503.00	9144.77	TD

Plan: Plan #1 23May2018 mmsdi

11:09, June 05 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	1205.39	32.56	292.70	1147.90	115.85	-276.96	3.00	292.70	300.21	
4	4190.98	32.56	292.70	3664.19	735.91	-1759.37	0.00	0.00	1907.08	
5	6361.77	0.00	0.00	5720.00	967.60	-2313.28	1.50	180.00	2507.50	PA 532-24 KMV
6	9144.77	0.00	0.00	8503.00	967.60	-2313.28	0.00	0.00	2507.50	PA 532-24 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PA 532-24 KMV	5720.00	967.60	-2313.28	1618791.30	2310217.50	39.5097016	-107.9450707	Circle (Radius: 50.00)
- plan hits target center								
PA 532-24 PBHL	8503.00	967.60	-2313.28	1618791.30	2310217.50	39.5097016	-107.9450707	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

RWF 13-19 Pad

PA 532-24 - Slot PA 532-24 (A2)

OH

Plan: Plan #1 23May2018 mmsdi

Standard Planning Report

05 June, 2018



Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 532-24 - Slot PA 532-24 (A2)
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 532-24	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 532-24 - Slot PA 532-24 (A2)					
Well Position	+N/-S	-2.05 usft	Northing:	1,618,791.30 usft	Latitude:	39.5070454
	+E/-W	-31.56 usft	Easting:	2,312,504.00 usft	Longitude:	-107.9368718
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	292.70

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	
1,205.39	32.56	292.70	1,147.90	115.85	-276.96	3.00	3.00	0.00	292.70	
4,190.98	32.56	292.70	3,664.19	735.91	-1,759.37	0.00	0.00	0.00	0.00	
6,361.77	0.00	0.00	5,720.00	967.60	-2,313.28	1.50	-1.50	0.00	180.00	PA 532-24 KMV
9,144.77	0.00	0.00	8,503.00	967.60	-2,313.28	0.00	0.00	0.00	0.00	PA 532-24 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 532-24 - Slot PA 532-24 (A2)
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 532-24	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
200.00	2.40	292.70	199.98	0.65	-1.55	1.68	3.00	3.00	0.00
300.00	5.40	292.70	299.73	3.27	-7.82	8.48	3.00	3.00	0.00
400.00	8.40	292.70	399.00	7.91	-18.90	20.49	3.00	3.00	0.00
500.00	11.40	292.70	497.50	14.54	-34.76	37.68	3.00	3.00	0.00
600.00	14.40	292.70	594.96	23.15	-55.35	60.00	3.00	3.00	0.00
700.00	17.40	292.70	691.13	33.72	-80.63	87.39	3.00	3.00	0.00
800.00	20.40	292.70	785.72	46.22	-110.51	119.78	3.00	3.00	0.00
900.00	23.40	292.70	878.50	60.61	-144.91	157.08	3.00	3.00	0.00
1,000.00	26.40	292.70	969.19	76.86	-183.75	199.18	3.00	3.00	0.00
1,100.00	29.40	292.70	1,057.56	94.91	-226.91	245.96	3.00	3.00	0.00
9 5/8" Casing @ 1100' MD									
1,200.00	32.40	292.70	1,143.35	114.73	-274.28	297.31	3.00	3.00	0.00
1,205.39	32.56	292.70	1,147.90	115.85	-276.96	300.21	3.00	3.00	0.00
1,300.00	32.56	292.70	1,227.64	135.49	-323.93	351.13	0.00	0.00	0.00
1,400.00	32.56	292.70	1,311.92	156.26	-373.58	404.95	0.00	0.00	0.00
1,500.00	32.56	292.70	1,396.20	177.03	-423.24	458.77	0.00	0.00	0.00
1,600.00	32.56	292.70	1,480.48	197.80	-472.89	512.59	0.00	0.00	0.00
1,700.00	32.56	292.70	1,564.76	218.57	-522.54	566.41	0.00	0.00	0.00
1,800.00	32.56	292.70	1,649.04	239.34	-572.19	620.23	0.00	0.00	0.00
1,900.00	32.56	292.70	1,733.33	260.11	-621.84	674.05	0.00	0.00	0.00
2,000.00	32.56	292.70	1,817.61	280.87	-671.50	727.87	0.00	0.00	0.00
2,100.00	32.56	292.70	1,901.89	301.64	-721.15	781.69	0.00	0.00	0.00
2,200.00	32.56	292.70	1,986.17	322.41	-770.80	835.51	0.00	0.00	0.00
2,300.00	32.56	292.70	2,070.45	343.18	-820.45	889.34	0.00	0.00	0.00
2,400.00	32.56	292.70	2,154.73	363.95	-870.11	943.16	0.00	0.00	0.00
2,500.00	32.56	292.70	2,239.01	384.72	-919.76	996.98	0.00	0.00	0.00
2,600.00	32.56	292.70	2,323.29	405.49	-969.41	1,050.80	0.00	0.00	0.00
2,700.00	32.56	292.70	2,407.57	426.26	-1,019.06	1,104.62	0.00	0.00	0.00
2,794.24	32.56	292.70	2,487.00	445.83	-1,065.85	1,155.34	0.00	0.00	0.00
GSAND									
2,800.00	32.56	292.70	2,491.86	447.02	-1,068.72	1,158.44	0.00	0.00	0.00
2,853.56	32.56	292.70	2,537.00	458.15	-1,095.31	1,187.27	0.00	0.00	0.00
GSAND BASE									
2,900.00	32.56	292.70	2,576.14	467.79	-1,118.37	1,212.26	0.00	0.00	0.00
3,000.00	32.56	292.70	2,660.42	488.56	-1,168.02	1,266.08	0.00	0.00	0.00
3,100.00	32.56	292.70	2,744.70	509.33	-1,217.67	1,319.90	0.00	0.00	0.00
3,200.00	32.56	292.70	2,828.98	530.10	-1,267.33	1,373.72	0.00	0.00	0.00
3,300.00	32.56	292.70	2,913.26	550.87	-1,316.98	1,427.54	0.00	0.00	0.00
3,400.00	32.56	292.70	2,997.54	571.64	-1,366.63	1,481.37	0.00	0.00	0.00
3,500.00	32.56	292.70	3,081.82	592.40	-1,416.28	1,535.19	0.00	0.00	0.00
3,600.00	32.56	292.70	3,166.10	613.17	-1,465.93	1,589.01	0.00	0.00	0.00
3,700.00	32.56	292.70	3,250.39	633.94	-1,515.59	1,642.83	0.00	0.00	0.00
3,800.00	32.56	292.70	3,334.67	654.71	-1,565.24	1,696.65	0.00	0.00	0.00
3,900.00	32.56	292.70	3,418.95	675.48	-1,614.89	1,750.47	0.00	0.00	0.00
4,000.00	32.56	292.70	3,503.23	696.25	-1,664.54	1,804.29	0.00	0.00	0.00
4,100.00	32.56	292.70	3,587.51	717.02	-1,714.20	1,858.11	0.00	0.00	0.00
4,190.98	32.56	292.70	3,664.19	735.91	-1,759.37	1,907.08	0.00	0.00	0.00
4,200.00	32.43	292.70	3,671.80	737.78	-1,763.84	1,911.92	1.50	-1.50	0.00
4,300.00	30.93	292.70	3,756.90	758.04	-1,812.28	1,964.44	1.50	-1.50	0.00
4,400.00	29.43	292.70	3,843.34	777.44	-1,858.66	2,014.70	1.50	-1.50	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 532-24 - Slot PA 532-24 (A2)
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 532-24	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)
4,500.00	27.93	292.70	3,931.07	795.96	-1,902.92	2,062.69	1.50	-1.50	0.00
4,600.00	26.43	292.70	4,020.03	813.58	-1,945.06	2,108.36	1.50	-1.50	0.00
4,700.00	24.93	292.70	4,110.16	830.30	-1,985.03	2,151.69	1.50	-1.50	0.00
4,800.00	23.43	292.70	4,201.38	846.10	-2,022.81	2,192.64	1.50	-1.50	0.00
4,900.00	21.93	292.70	4,293.65	860.98	-2,058.38	2,231.19	1.50	-1.50	0.00
5,000.00	20.43	292.70	4,386.89	874.92	-2,091.70	2,267.31	1.50	-1.50	0.00
5,100.00	18.93	292.70	4,481.05	887.91	-2,122.77	2,300.98	1.50	-1.50	0.00
5,200.00	17.43	292.70	4,576.06	899.95	-2,151.54	2,332.18	1.50	-1.50	0.00
5,300.00	15.93	292.70	4,671.85	911.02	-2,178.02	2,360.87	1.50	-1.50	0.00
5,400.00	14.43	292.70	4,768.36	921.13	-2,202.17	2,387.05	1.50	-1.50	0.00
5,486.12	13.13	292.70	4,852.00	929.04	-2,221.09	2,407.57	1.50	-1.50	0.00
MVRD									
5,500.00	12.93	292.70	4,865.52	930.25	-2,223.98	2,410.70	1.50	-1.50	0.00
5,600.00	11.43	292.70	4,963.27	938.39	-2,243.44	2,431.79	1.50	-1.50	0.00
5,700.00	9.93	292.70	5,061.53	945.54	-2,260.53	2,450.31	1.50	-1.50	0.00
5,800.00	8.43	292.70	5,160.25	951.69	-2,275.24	2,466.26	1.50	-1.50	0.00
5,900.00	6.93	292.70	5,259.35	956.85	-2,287.57	2,479.62	1.50	-1.50	0.00
6,000.00	5.43	292.70	5,358.77	961.00	-2,297.49	2,490.38	1.50	-1.50	0.00
6,100.00	3.93	292.70	5,458.43	964.14	-2,305.01	2,498.53	1.50	-1.50	0.00
6,200.00	2.43	292.70	5,558.28	966.28	-2,310.12	2,504.07	1.50	-1.50	0.00
6,300.00	0.93	292.70	5,658.23	967.41	-2,312.82	2,507.00	1.50	-1.50	0.00
6,361.77	0.00	0.00	5,720.00	967.60	-2,313.28	2,507.50	1.50	-1.50	108.95
KMVGAS - PA 532-24 KMV									
6,400.00	0.00	0.00	5,758.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
6,500.00	0.00	0.00	5,858.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
6,600.00	0.00	0.00	5,958.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
6,700.00	0.00	0.00	6,058.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
6,800.00	0.00	0.00	6,158.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
6,900.00	0.00	0.00	6,258.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
7,000.00	0.00	0.00	6,358.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
7,100.00	0.00	0.00	6,458.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
7,200.00	0.00	0.00	6,558.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
7,300.00	0.00	0.00	6,658.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
7,400.00	0.00	0.00	6,758.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
7,500.00	0.00	0.00	6,858.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
7,600.00	0.00	0.00	6,958.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
7,700.00	0.00	0.00	7,058.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
7,800.00	0.00	0.00	7,158.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
7,900.00	0.00	0.00	7,258.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
8,000.00	0.00	0.00	7,358.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
8,100.00	0.00	0.00	7,458.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
8,200.00	0.00	0.00	7,558.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
8,300.00	0.00	0.00	7,658.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
8,400.00	0.00	0.00	7,758.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
8,500.00	0.00	0.00	7,858.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
8,541.77	0.00	0.00	7,900.00	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
CME0									
8,600.00	0.00	0.00	7,958.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
8,700.00	0.00	0.00	8,058.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
8,800.00	0.00	0.00	8,158.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
8,900.00	0.00	0.00	8,258.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
8,999.77	0.00	0.00	8,358.00	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
RLNS									
9,000.00	0.00	0.00	8,358.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00

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Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5733' & RKB 24' @ 5757.00usft
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Site:	RWF 13-19 Pad	North Reference:	True
Well:	PA 532-24	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)
9,100.00	0.00	0.00	8,458.23	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
9,144.77	0.00	0.00	8,503.00	967.60	-2,313.28	2,507.50	0.00	0.00	0.00
TD - PA 532-24 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 532-24 KMV	0.00	0.00	5,720.00	967.60	-2,313.28	1,619,820.60	2,310,217.50	39.5097016	-107.9450707
- plan hits target									
- Circle (radius 50.00)									
PA 532-24 PBHL	0.00	0.00	8,503.00	967.60	-2,313.28	1,619,820.60	2,310,217.50	39.5097016	-107.9450707
- plan hits target center									
- Point									

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 (°)
2,794.24	2,487.00	GSAND		0.00	0.00
2,853.56	2,537.00	GSAND BASE		0.00	0.00
5,486.12	4,852.00	MVRD		0.00	0.00
6,361.77	5,720.00	KMVGAS		0.00	0.00
8,541.77	7,900.00	CMEQ		0.00	0.00
8,999.77	8,358.00	RLNS		0.00	0.00
9,144.77	8,503.00	TD		0.00	0.00