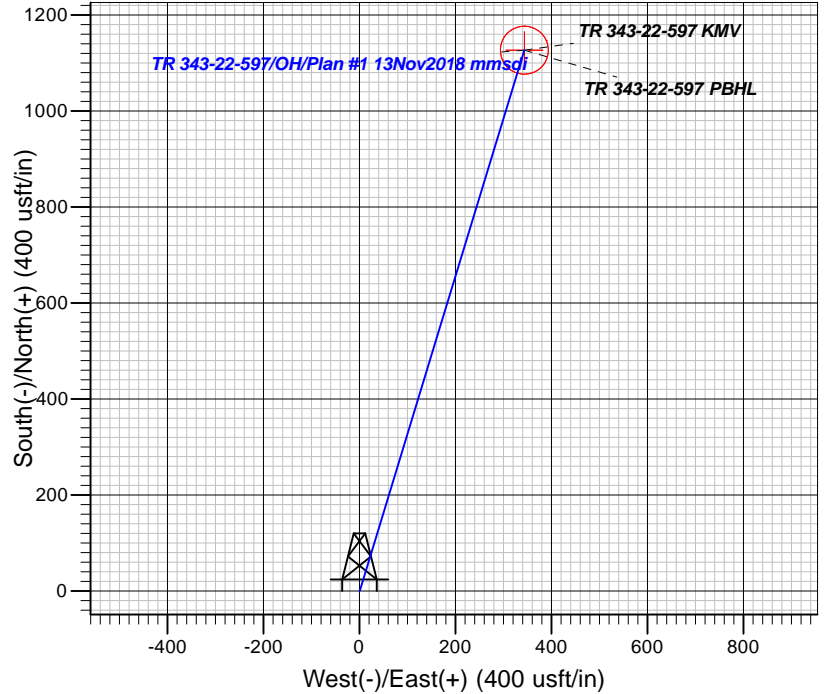
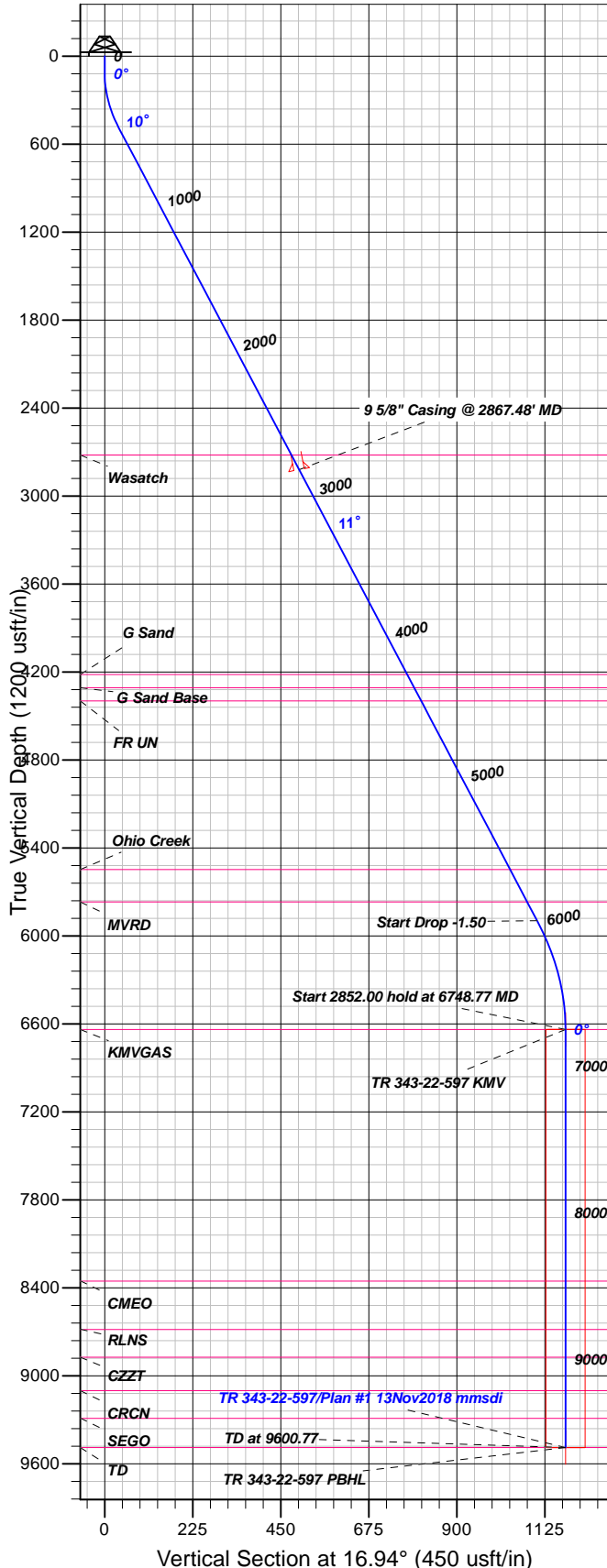




Azimuths to True North
Magnetic North: 9.67°
Magnetic Field
Strength: 51444.2snT
Dip Angle: 65.83°
Date: 11/13/2018
Model: HDGM

Well Details: TR 343-22-597

GL 8143' & RKB 24' @ 8167.00usft
+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.00 0.00 1653688.23 2220893.12 39.5956123 -108.2651675 TR 343-22-597



FORMATION TOP DETAILS

TVDP	MD	Formation
2720.00	2765.54	Wasatch
4217.00	4291.53	G Sand
4307.00	4383.27	G Sand Base
4397.00	4475.02	FR UN
5547.00	5647.29	Ohio Creek
5767.00	5871.55	MVRD
6637.00	6748.77	KMVGAS
8354.00	8465.77	CMEO
8684.00	8795.77	RLNS
8873.00	8984.77	CZZT
9101.00	9212.77	CRCN
9289.00	9400.77	SEGO
9489.00	9600.77	TD

Plan: Plan #1 13Nov2018 mmsdi

12:41, November 14 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
2820.00	2867.48	Casing @ 2867.48' 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	492.87	11.19	16.94	490.51	34.71	10.57	3.00	16.94	36.28	
4	6003.03	11.19	16.94	5895.99	1057.26	322.10	0.00	0.001105.24		
5	6748.77	0.00	0.00	6637.00	1126.68	343.25	1.50	180.001177.80		TR 343-22-597 KMV
6	9600.77	0.00	0.00	9489.00	1126.68	343.25	0.00	0.001177.80		TR 343-22-597 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
TR 343-22-597 KMV	6637.00	1126.68	343.25	1654803.94	2221270.50	39.5987054	-108.2639494	Circle (Radius: 50.00)
- plan hits target center								
TR 343-22-597 PBHL	9489.00	1126.68	343.25	1654803.94	2221270.50	39.5987054	-108.2639494	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

TR 23-22-597

TR 343-22-597 - Slot TR 343-22-597

OH

Plan: Plan #1 13Nov2018 mmsdi

Standard Planning Report

14 November, 2018



Database:	Grand Junction District	Local Co-ordinate Reference:	Well TR 343-22-597 - Slot TR 343-22-597
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 8143' & RKB 24' @ 8167.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 8143' & RKB 24' @ 8167.00usft
Site:	TR 23-22-597	North Reference:	True
Well:	TR 343-22-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 13Nov2018 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	TR 23-22-597			
Site Position:		Northing:	1,653,688.23 usft	Latitude: 39.5956123
From: Map		Easting:	2,220,893.12 usft	Longitude: -108.2651676
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence: -1.74 °

Well	TR 343-22-597 - Slot TR 343-22-597			
Well Position	+N/-S	0.00 usft	Northing:	1,653,688.23 usft
	+E/-W	0.00 usft	Easting:	2,220,893.12 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft
			Ground Level:	8,143.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	11/13/2018	9.67	65.83	51,444

Design	Plan #1 13Nov2018 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	16.94

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	
492.87	11.19	16.94	490.51	34.71	10.57	3.00	3.00	0.00	16.94	
6,003.03	11.19	16.94	5,895.99	1,057.26	322.10	0.00	0.00	0.00	0.00	
6,748.77	0.00	0.00	6,637.00	1,126.68	343.25	1.50	-1.50	0.00	180.00	TR 343-22-597 KMV
9,600.77	0.00	0.00	9,489.00	1,126.68	343.25	0.00	0.00	0.00	0.00	TR 343-22-597 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well TR 343-22-597 - Slot TR 343-22-597
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 8143' & RKB 24' @ 8167.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 8143' & RKB 24' @ 8167.00usft
Site:	TR 23-22-597	North Reference:	True
Well:	TR 343-22-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 13Nov2018 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	16.94	199.98	1.60	0.49	1.68	3.00	3.00	0.00
300.00	5.40	16.94	299.73	8.11	2.47	8.48	3.00	3.00	0.00
400.00	8.40	16.94	399.00	19.60	5.97	20.49	3.00	3.00	0.00
492.87	11.19	16.94	490.51	34.71	10.57	36.28	3.00	3.00	0.00
Start 5510.16 hold at 492.87 MD									
500.00	11.19	16.94	497.50	36.03	10.98	37.67	0.00	0.00	0.00
600.00	11.19	16.94	595.60	54.59	16.63	57.07	0.00	0.00	0.00
700.00	11.19	16.94	693.70	73.15	22.28	76.47	0.00	0.00	0.00
800.00	11.19	16.94	791.80	91.70	27.94	95.87	0.00	0.00	0.00
900.00	11.19	16.94	889.90	110.26	33.59	115.27	0.00	0.00	0.00
1,000.00	11.19	16.94	988.00	128.82	39.25	134.66	0.00	0.00	0.00
1,100.00	11.19	16.94	1,086.10	147.38	44.90	154.06	0.00	0.00	0.00
1,200.00	11.19	16.94	1,184.20	165.93	50.55	173.46	0.00	0.00	0.00
1,300.00	11.19	16.94	1,282.30	184.49	56.21	192.86	0.00	0.00	0.00
1,400.00	11.19	16.94	1,380.40	203.05	61.86	212.26	0.00	0.00	0.00
1,500.00	11.19	16.94	1,478.50	221.61	67.51	231.66	0.00	0.00	0.00
1,600.00	11.19	16.94	1,576.60	240.16	73.17	251.06	0.00	0.00	0.00
1,700.00	11.19	16.94	1,674.70	258.72	78.82	270.46	0.00	0.00	0.00
1,800.00	11.19	16.94	1,772.80	277.28	84.48	289.86	0.00	0.00	0.00
1,900.00	11.19	16.94	1,870.90	295.84	90.13	309.26	0.00	0.00	0.00
2,000.00	11.19	16.94	1,969.00	314.40	95.78	328.66	0.00	0.00	0.00
2,100.00	11.19	16.94	2,067.10	332.95	101.44	348.06	0.00	0.00	0.00
2,200.00	11.19	16.94	2,165.20	351.51	107.09	367.46	0.00	0.00	0.00
2,300.00	11.19	16.94	2,263.30	370.07	112.74	386.86	0.00	0.00	0.00
2,400.00	11.19	16.94	2,361.40	388.63	118.40	406.26	0.00	0.00	0.00
2,500.00	11.19	16.94	2,459.50	407.18	124.05	425.66	0.00	0.00	0.00
2,600.00	11.19	16.94	2,557.60	425.74	129.70	445.06	0.00	0.00	0.00
2,700.00	11.19	16.94	2,655.70	444.30	135.36	464.46	0.00	0.00	0.00
2,765.54	11.19	16.94	2,720.00	456.46	139.06	477.17	0.00	0.00	0.00
Wasatch									
2,800.00	11.19	16.94	2,753.81	462.86	141.01	483.86	0.00	0.00	0.00
2,867.48	11.19	16.94	2,820.00	475.38	144.83	496.95	0.00	0.00	0.00
9 5/8" Casing @ 2867.48' MD									
2,900.00	11.19	16.94	2,851.91	481.41	146.67	503.26	0.00	0.00	0.00
3,000.00	11.19	16.94	2,950.01	499.97	152.32	522.66	0.00	0.00	0.00
3,100.00	11.19	16.94	3,048.11	518.53	157.97	542.06	0.00	0.00	0.00
3,200.00	11.19	16.94	3,146.21	537.09	163.63	561.46	0.00	0.00	0.00
3,300.00	11.19	16.94	3,244.31	555.64	169.28	580.86	0.00	0.00	0.00
3,400.00	11.19	16.94	3,342.41	574.20	174.93	600.26	0.00	0.00	0.00
3,500.00	11.19	16.94	3,440.51	592.76	180.59	619.66	0.00	0.00	0.00
3,600.00	11.19	16.94	3,538.61	611.32	186.24	639.06	0.00	0.00	0.00
3,700.00	11.19	16.94	3,636.71	629.87	191.90	658.46	0.00	0.00	0.00
3,800.00	11.19	16.94	3,734.81	648.43	197.55	677.86	0.00	0.00	0.00
3,900.00	11.19	16.94	3,832.91	666.99	203.20	697.26	0.00	0.00	0.00
4,000.00	11.19	16.94	3,931.01	685.55	208.86	716.66	0.00	0.00	0.00
4,100.00	11.19	16.94	4,029.11	704.10	214.51	736.06	0.00	0.00	0.00
4,200.00	11.19	16.94	4,127.21	722.66	220.16	755.46	0.00	0.00	0.00
4,291.53	11.19	16.94	4,217.00	739.65	225.34	773.21	0.00	0.00	0.00
G Sand									
4,300.00	11.19	16.94	4,225.31	741.22	225.82	774.86	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well TR 343-22-597 - Slot TR 343-22-597
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 8143' & RKB 24' @ 8167.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 8143' & RKB 24' @ 8167.00usft
Site:	TR 23-22-597	North Reference:	True
Well:	TR 343-22-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 13Nov2018 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)
4,383.27	11.19	16.94	4,307.00	756.67	230.53	791.01	0.00	0.00	0.00
G Sand Base									
4,400.00	11.19	16.94	4,323.41	759.78	231.47	794.25	0.00	0.00	0.00
4,475.02	11.19	16.94	4,397.00	773.70	235.71	808.81	0.00	0.00	0.00
FR UN									
4,500.00	11.19	16.94	4,421.51	778.34	237.13	813.65	0.00	0.00	0.00
4,600.00	11.19	16.94	4,519.61	796.89	242.78	833.05	0.00	0.00	0.00
4,700.00	11.19	16.94	4,617.71	815.45	248.43	852.45	0.00	0.00	0.00
4,800.00	11.19	16.94	4,715.81	834.01	254.09	871.85	0.00	0.00	0.00
4,900.00	11.19	16.94	4,813.91	852.57	259.74	891.25	0.00	0.00	0.00
5,000.00	11.19	16.94	4,912.01	871.12	265.39	910.65	0.00	0.00	0.00
5,100.00	11.19	16.94	5,010.11	889.68	271.05	930.05	0.00	0.00	0.00
5,200.00	11.19	16.94	5,108.21	908.24	276.70	949.45	0.00	0.00	0.00
5,300.00	11.19	16.94	5,206.31	926.80	282.36	968.85	0.00	0.00	0.00
5,400.00	11.19	16.94	5,304.41	945.35	288.01	988.25	0.00	0.00	0.00
5,500.00	11.19	16.94	5,402.51	963.91	293.66	1,007.65	0.00	0.00	0.00
5,600.00	11.19	16.94	5,500.61	982.47	299.32	1,027.05	0.00	0.00	0.00
5,647.29	11.19	16.94	5,547.00	991.24	301.99	1,036.23	0.00	0.00	0.00
Ohio Creek									
5,700.00	11.19	16.94	5,598.71	1,001.03	304.97	1,046.45	0.00	0.00	0.00
5,800.00	11.19	16.94	5,696.81	1,019.58	310.62	1,065.85	0.00	0.00	0.00
5,871.55	11.19	16.94	5,767.00	1,032.86	314.67	1,079.73	0.00	0.00	0.00
MVRD									
5,900.00	11.19	16.94	5,794.91	1,038.14	316.28	1,085.25	0.00	0.00	0.00
6,000.00	11.19	16.94	5,893.01	1,056.70	321.93	1,104.65	0.00	0.00	0.00
6,003.03	11.19	16.94	5,895.99	1,057.26	322.10	1,105.24	0.00	0.00	0.00
Start Drop -1.50									
6,100.00	9.73	16.94	5,991.34	1,074.10	327.23	1,122.84	1.50	-1.50	0.00
6,200.00	8.23	16.94	6,090.11	1,089.03	331.78	1,138.45	1.50	-1.50	0.00
6,300.00	6.73	16.94	6,189.26	1,101.49	335.58	1,151.47	1.50	-1.50	0.00
6,400.00	5.23	16.94	6,288.71	1,111.46	338.61	1,161.89	1.50	-1.50	0.00
6,500.00	3.73	16.94	6,388.40	1,118.93	340.89	1,169.71	1.50	-1.50	0.00
6,600.00	2.23	16.94	6,488.26	1,123.91	342.41	1,174.91	1.50	-1.50	0.00
6,700.00	0.73	16.94	6,588.23	1,126.38	343.16	1,177.49	1.50	-1.50	0.00
6,748.77	0.00	0.00	6,637.00	1,126.68	343.25	1,177.80	1.50	-1.50	0.00
Start 2852.00 hold at 6748.77 MD - KMGAS - TR 343-22-597 KMV									
6,800.00	0.00	0.00	6,688.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00
6,900.00	0.00	0.00	6,788.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00
7,000.00	0.00	0.00	6,888.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00
7,100.00	0.00	0.00	6,988.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00
7,200.00	0.00	0.00	7,088.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00
7,300.00	0.00	0.00	7,188.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00
7,400.00	0.00	0.00	7,288.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00
7,500.00	0.00	0.00	7,388.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00
7,600.00	0.00	0.00	7,488.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00
7,700.00	0.00	0.00	7,588.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00
7,800.00	0.00	0.00	7,688.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00
7,900.00	0.00	0.00	7,788.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00
8,000.00	0.00	0.00	7,888.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00
8,100.00	0.00	0.00	7,988.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00
8,200.00	0.00	0.00	8,088.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00
8,300.00	0.00	0.00	8,188.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00
8,400.00	0.00	0.00	8,288.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well TR 343-22-597 - Slot TR 343-22-597
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 8143' & RKB 24' @ 8167.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 8143' & RKB 24' @ 8167.00usft
Site:	TR 23-22-597	North Reference:	True
Well:	TR 343-22-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 13Nov2018 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)	
8,465.77	0.00	0.00	8,354.00	1,126.68	343.25	1,177.80	0.00	0.00	0.00	
CME0										
8,500.00	0.00	0.00	8,388.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,488.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,588.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00	
8,795.77	0.00	0.00	8,684.00	1,126.68	343.25	1,177.80	0.00	0.00	0.00	
RLNS										
8,800.00	0.00	0.00	8,688.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00	
8,900.00	0.00	0.00	8,788.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00	
8,984.77	0.00	0.00	8,873.00	1,126.68	343.25	1,177.80	0.00	0.00	0.00	
CZZT										
9,000.00	0.00	0.00	8,888.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00	
9,100.00	0.00	0.00	8,988.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00	
9,200.00	0.00	0.00	9,088.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00	
9,212.77	0.00	0.00	9,101.00	1,126.68	343.25	1,177.80	0.00	0.00	0.00	
CRCN										
9,300.00	0.00	0.00	9,188.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00	
9,400.00	0.00	0.00	9,288.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00	
9,400.77	0.00	0.00	9,289.00	1,126.68	343.25	1,177.80	0.00	0.00	0.00	
SEGO										
9,500.00	0.00	0.00	9,388.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00	
9,600.00	0.00	0.00	9,488.23	1,126.68	343.25	1,177.80	0.00	0.00	0.00	
9,600.77	0.00	0.00	9,489.00	1,126.68	343.25	1,177.80	0.00	0.00	0.00	
TD at 9600.77 - TD - TR 343-22-597 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										
TR 343-22-597 KMV	0.00	0.00	6,637.00	1,126.68	343.25	1,654,803.94	2,221,270.50	39.5987054	-108.2639495	
- plan hits target center										
- Circle (radius 50.00)										
TR 343-22-597 PBHL	0.00	0.00	9,489.00	1,126.68	343.25	1,654,803.94	2,221,270.50	39.5987054	-108.2639495	
- plan hits target center										
- Point										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
2,867.48	2,820.00	9 5/8" Casing @ 2867.48' MD	9.62	12.25	

Database:	Grand Junction District	Local Co-ordinate Reference:	Well TR 343-22-597 - Slot TR 343-22-597
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 8143' & RKB 24' @ 8167.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 8143' & RKB 24' @ 8167.00usft
Site:	TR 23-22-597	North Reference:	True
Well:	TR 343-22-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 13Nov2018 mmsdi		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,765.54	857.00	Wasatch		0.00	0.00	
4,291.53	2,354.00	G Sand		0.00	0.00	
4,383.27	2,444.00	G Sand Base		0.00	0.00	
4,475.02	2,534.00	FR UN		0.00	0.00	
5,647.29	3,684.00	Ohio Creek		0.00	0.00	
5,871.55	3,904.00	MVRD		0.00	0.00	
6,748.77	4,774.00	KMVGAS		0.00	0.00	
8,465.77	6,491.00	CMEO		0.00	0.00	
8,795.77	6,821.00	RLNS		0.00	0.00	
8,984.77	7,010.00	CZZT		0.00	0.00	
9,212.77	7,238.00	CRCN		0.00	0.00	
9,400.77	7,426.00	SEGO		0.00	0.00	
9,600.77	7,626.00	TD		0.00	0.00	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
120.00	120.00	0.00	0.00	Start Build 3.00	
492.87	490.51	34.71	10.57	Start 5510.16 hold at 492.87 MD	
6,003.03	5,895.99	1,057.26	322.10	Start Drop -1.50	
6,748.77	6,637.00	1,126.68	343.25	Start 2852.00 hold at 6748.77 MD	
9,600.77	9,489.00	1,126.68	343.25	TD at 9600.77	