

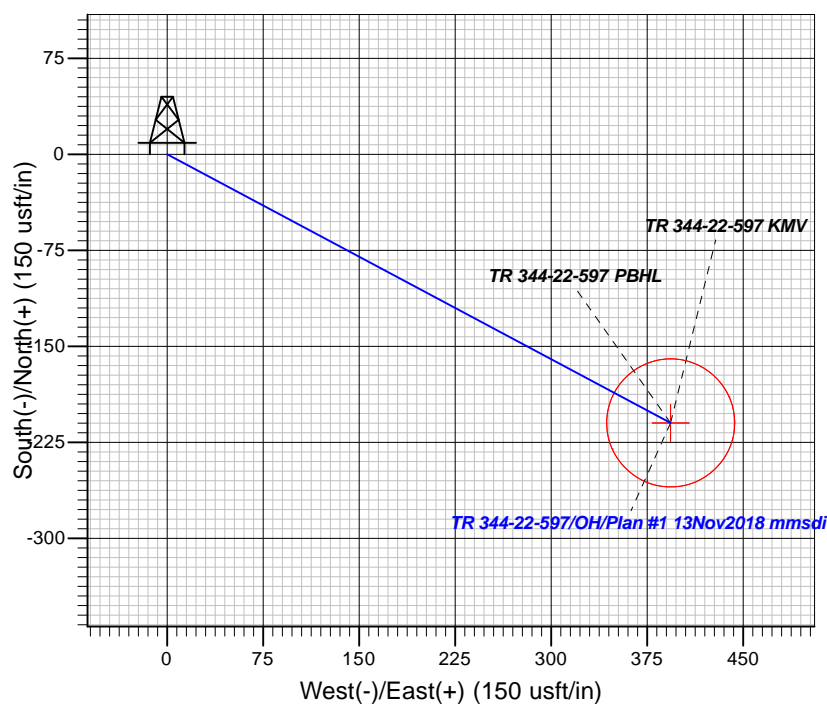
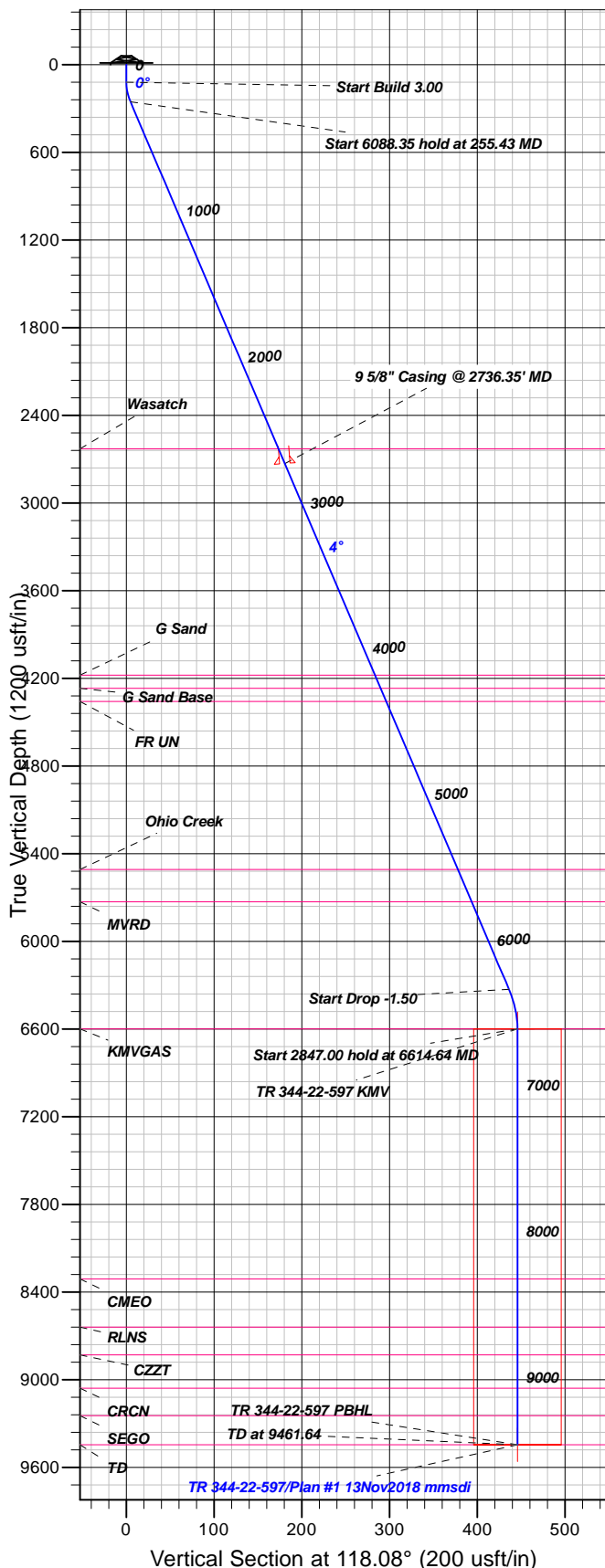


Asimuths to True North
Magnetic North: 9.67°

Magnetic Field
Strength: 51444.2snT
Dip Angle: 65.83°
Date: 11/13/2018
Model: HDGM

Well Details: TR 344-22-597

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1653659.23	2220869.37	39.5955307	-108.2652486	TR 344-22-597



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2630.00	2636.10	Wasatch
4179.00	4189.00	G Sand
4269.00	4279.23	G Sand Base
4359.00	4369.45	FR UN
5509.00	5522.35	Ohio Creek
5729.00	5742.90	MVRD
6599.00	6614.64	KMVGAS
8310.00	8325.64	CMEQ
8640.00	8655.64	RLNS
8830.00	8845.64	CZZT
9058.00	9073.64	CRCN
9246.00	9261.64	SEGO
9446.00	9461.64	TD

Plan: Plan #1 13Nov2018 mmsdi

12:46, 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
2730.00	2736.35	9 5/8" Casing @ 2736.35' MD	9.62

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	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	255.43	4.06	118.08	255.32	-2.26	4.24	3.00	118.08	4.80	
4	6343.78	4.06	118.08	6328.36	-205.28	384.85	0.00	0.00	436.17	
5	6614.64	0.00	0.00	6599.00	-209.80	393.32	1.50	180.00	445.77	TR 344-22-597 KMV
6	9461.64	0.00	0.00	9446.00	-209.80	393.32	0.00	0.00	445.77	TR 344-22-597 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
TR 344-22-597 KMV	6599.00	-209.80	393.32	1653437.56	2221256.12	39.5949547	-108.2638529	Circle (Radius: 50.00)
- plan hits target center								
TR 344-22-597 PBHL	9446.00	-209.80	393.32	1653437.56	2221256.12	39.5949547	-108.2638529	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

TR 23-22-597

TR 344-22-597 - Slot TR 344-22-597

OH

Plan: Plan #1 13Nov2018 mmsdi

Standard Planning Report

14 November, 2018



Database:	Grand Junction District	Local Co-ordinate Reference:	Well TR 344-22-597 - Slot TR 344-22-597
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 344-22-597	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 344-22-597 - Slot TR 344-22-597					
Well Position	+N/-S	-29.71 usft	Northing:	1,653,659.23 usft	Latitude:	39.5955307
	+E/-W	-22.86 usft	Easting:	2,220,869.37 usft	Longitude:	-108.2652487
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	118.08

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	
255.43	4.06	118.08	255.32	-2.26	4.24	3.00	3.00	0.00	118.08	
6,343.78	4.06	118.08	6,328.36	-205.28	384.85	0.00	0.00	0.00	0.00	
6,614.64	0.00	0.00	6,599.00	-209.80	393.32	1.50	-1.50	0.00	180.00	TR 344-22-597 KMV
9,461.64	0.00	0.00	9,446.00	-209.80	393.32	0.00	0.00	0.00	0.00	TR 344-22-597 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well TR 344-22-597 - Slot TR 344-22-597
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 344-22-597	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	118.08	199.98	-0.79	1.48	1.68	3.00	3.00	0.00
255.43	4.06	118.08	255.32	-2.26	4.24	4.80	3.00	3.00	0.00
Start 6088.35 hold at 255.43 MD									
300.00	4.06	118.08	299.77	-3.75	7.02	7.96	0.00	0.00	0.00
400.00	4.06	118.08	399.52	-7.08	13.27	15.04	0.00	0.00	0.00
500.00	4.06	118.08	499.27	-10.41	19.52	22.13	0.00	0.00	0.00
600.00	4.06	118.08	599.02	-13.75	25.78	29.21	0.00	0.00	0.00
700.00	4.06	118.08	698.77	-17.08	32.03	36.30	0.00	0.00	0.00
800.00	4.06	118.08	798.52	-20.42	38.28	43.38	0.00	0.00	0.00
900.00	4.06	118.08	898.27	-23.75	44.53	50.47	0.00	0.00	0.00
1,000.00	4.06	118.08	998.02	-27.09	50.78	57.55	0.00	0.00	0.00
1,100.00	4.06	118.08	1,097.76	-30.42	57.03	64.64	0.00	0.00	0.00
1,200.00	4.06	118.08	1,197.51	-33.76	63.28	71.72	0.00	0.00	0.00
1,300.00	4.06	118.08	1,297.26	-37.09	69.54	78.81	0.00	0.00	0.00
1,400.00	4.06	118.08	1,397.01	-40.43	75.79	85.90	0.00	0.00	0.00
1,500.00	4.06	118.08	1,496.76	-43.76	82.04	92.98	0.00	0.00	0.00
1,600.00	4.06	118.08	1,596.51	-47.09	88.29	100.07	0.00	0.00	0.00
1,700.00	4.06	118.08	1,696.26	-50.43	94.54	107.15	0.00	0.00	0.00
1,800.00	4.06	118.08	1,796.00	-53.76	100.79	114.24	0.00	0.00	0.00
1,900.00	4.06	118.08	1,895.75	-57.10	107.04	121.32	0.00	0.00	0.00
2,000.00	4.06	118.08	1,995.50	-60.43	113.30	128.41	0.00	0.00	0.00
2,100.00	4.06	118.08	2,095.25	-63.77	119.55	135.49	0.00	0.00	0.00
2,200.00	4.06	118.08	2,195.00	-67.10	125.80	142.58	0.00	0.00	0.00
2,300.00	4.06	118.08	2,294.75	-70.44	132.05	149.66	0.00	0.00	0.00
2,400.00	4.06	118.08	2,394.50	-73.77	138.30	156.75	0.00	0.00	0.00
2,500.00	4.06	118.08	2,494.25	-77.11	144.55	163.83	0.00	0.00	0.00
2,600.00	4.06	118.08	2,593.99	-80.44	150.81	170.92	0.00	0.00	0.00
2,636.10	4.06	118.08	2,630.00	-81.64	153.06	173.48	0.00	0.00	0.00
Wasatch									
2,700.00	4.06	118.08	2,693.74	-83.77	157.06	178.00	0.00	0.00	0.00
2,736.35	4.06	118.08	2,730.00	-84.99	159.33	180.58	0.00	0.00	0.00
9 5/8" Casing @ 2736.35' MD									
2,800.00	4.06	118.08	2,793.49	-87.11	163.31	185.09	0.00	0.00	0.00
2,900.00	4.06	118.08	2,893.24	-90.44	169.56	192.17	0.00	0.00	0.00
3,000.00	4.06	118.08	2,992.99	-93.78	175.81	199.26	0.00	0.00	0.00
3,100.00	4.06	118.08	3,092.74	-97.11	182.06	206.34	0.00	0.00	0.00
3,200.00	4.06	118.08	3,192.49	-100.45	188.31	213.43	0.00	0.00	0.00
3,300.00	4.06	118.08	3,292.24	-103.78	194.57	220.51	0.00	0.00	0.00
3,400.00	4.06	118.08	3,391.98	-107.12	200.82	227.60	0.00	0.00	0.00
3,500.00	4.06	118.08	3,491.73	-110.45	207.07	234.68	0.00	0.00	0.00
3,600.00	4.06	118.08	3,591.48	-113.79	213.32	241.77	0.00	0.00	0.00
3,700.00	4.06	118.08	3,691.23	-117.12	219.57	248.86	0.00	0.00	0.00
3,800.00	4.06	118.08	3,790.98	-120.45	225.82	255.94	0.00	0.00	0.00
3,900.00	4.06	118.08	3,890.73	-123.79	232.07	263.03	0.00	0.00	0.00
4,000.00	4.06	118.08	3,990.48	-127.12	238.33	270.11	0.00	0.00	0.00
4,100.00	4.06	118.08	4,090.22	-130.46	244.58	277.20	0.00	0.00	0.00
4,189.00	4.06	118.08	4,179.00	-133.43	250.14	283.50	0.00	0.00	0.00
G Sand									
4,200.00	4.06	118.08	4,189.97	-133.79	250.83	284.28	0.00	0.00	0.00
4,279.23	4.06	118.08	4,269.00	-136.44	255.78	289.89	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well TR 344-22-597 - Slot TR 344-22-597
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 344-22-597	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)
G Sand Base									
4,300.00	4.06	118.08	4,289.72	-137.13	257.08	291.37	0.00	0.00	0.00
4,369.45	4.06	118.08	4,359.00	-139.44	261.42	296.29	0.00	0.00	0.00
FR UN									
4,400.00	4.06	118.08	4,389.47	-140.46	263.33	298.45	0.00	0.00	0.00
4,500.00	4.06	118.08	4,489.22	-143.80	269.58	305.54	0.00	0.00	0.00
4,600.00	4.06	118.08	4,588.97	-147.13	275.84	312.62	0.00	0.00	0.00
4,700.00	4.06	118.08	4,688.72	-150.47	282.09	319.71	0.00	0.00	0.00
4,800.00	4.06	118.08	4,788.47	-153.80	288.34	326.79	0.00	0.00	0.00
4,900.00	4.06	118.08	4,888.21	-157.14	294.59	333.88	0.00	0.00	0.00
5,000.00	4.06	118.08	4,987.96	-160.47	300.84	340.96	0.00	0.00	0.00
5,100.00	4.06	118.08	5,087.71	-163.80	307.09	348.05	0.00	0.00	0.00
5,200.00	4.06	118.08	5,187.46	-167.14	313.34	355.13	0.00	0.00	0.00
5,300.00	4.06	118.08	5,287.21	-170.47	319.60	362.22	0.00	0.00	0.00
5,400.00	4.06	118.08	5,386.96	-173.81	325.85	369.30	0.00	0.00	0.00
5,500.00	4.06	118.08	5,486.71	-177.14	332.10	376.39	0.00	0.00	0.00
5,522.35	4.06	118.08	5,509.00	-177.89	333.50	377.97	0.00	0.00	0.00
Ohio Creek									
5,600.00	4.06	118.08	5,586.45	-180.48	338.35	383.47	0.00	0.00	0.00
5,700.00	4.06	118.08	5,686.20	-183.81	344.60	390.56	0.00	0.00	0.00
5,742.90	4.06	118.08	5,729.00	-185.24	347.28	393.60	0.00	0.00	0.00
MVRD									
5,800.00	4.06	118.08	5,785.95	-187.15	350.85	397.64	0.00	0.00	0.00
5,900.00	4.06	118.08	5,885.70	-190.48	357.10	404.73	0.00	0.00	0.00
6,000.00	4.06	118.08	5,985.45	-193.82	363.36	411.82	0.00	0.00	0.00
6,100.00	4.06	118.08	6,085.20	-197.15	369.61	418.90	0.00	0.00	0.00
6,200.00	4.06	118.08	6,184.95	-200.48	375.86	425.99	0.00	0.00	0.00
6,300.00	4.06	118.08	6,284.70	-203.82	382.11	433.07	0.00	0.00	0.00
6,343.78	4.06	118.08	6,328.36	-205.28	384.85	436.17	0.00	0.00	0.00
Start Drop -1.50									
6,400.00	3.22	118.08	6,384.47	-206.96	388.00	439.74	1.50	-1.50	0.00
6,500.00	1.72	118.08	6,484.38	-208.99	391.80	444.05	1.50	-1.50	0.00
6,600.00	0.22	118.08	6,584.36	-209.78	393.29	445.74	1.50	-1.50	0.00
6,614.64	0.00	0.00	6,599.00	-209.80	393.32	445.77	1.50	-1.50	0.00
Start 2847.00 hold at 6614.64 MD - KMGAS - TR 344-22-597 KMV									
6,700.00	0.00	0.00	6,684.36	-209.80	393.32	445.77	0.00	0.00	0.00
6,800.00	0.00	0.00	6,784.36	-209.80	393.32	445.77	0.00	0.00	0.00
6,900.00	0.00	0.00	6,884.36	-209.80	393.32	445.77	0.00	0.00	0.00
7,000.00	0.00	0.00	6,984.36	-209.80	393.32	445.77	0.00	0.00	0.00
7,100.00	0.00	0.00	7,084.36	-209.80	393.32	445.77	0.00	0.00	0.00
7,200.00	0.00	0.00	7,184.36	-209.80	393.32	445.77	0.00	0.00	0.00
7,300.00	0.00	0.00	7,284.36	-209.80	393.32	445.77	0.00	0.00	0.00
7,400.00	0.00	0.00	7,384.36	-209.80	393.32	445.77	0.00	0.00	0.00
7,500.00	0.00	0.00	7,484.36	-209.80	393.32	445.77	0.00	0.00	0.00
7,600.00	0.00	0.00	7,584.36	-209.80	393.32	445.77	0.00	0.00	0.00
7,700.00	0.00	0.00	7,684.36	-209.80	393.32	445.77	0.00	0.00	0.00
7,800.00	0.00	0.00	7,784.36	-209.80	393.32	445.77	0.00	0.00	0.00
7,900.00	0.00	0.00	7,884.36	-209.80	393.32	445.77	0.00	0.00	0.00
8,000.00	0.00	0.00	7,984.36	-209.80	393.32	445.77	0.00	0.00	0.00
8,100.00	0.00	0.00	8,084.36	-209.80	393.32	445.77	0.00	0.00	0.00
8,200.00	0.00	0.00	8,184.36	-209.80	393.32	445.77	0.00	0.00	0.00
8,300.00	0.00	0.00	8,284.36	-209.80	393.32	445.77	0.00	0.00	0.00
8,325.64	0.00	0.00	8,310.00	-209.80	393.32	445.77	0.00	0.00	0.00

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Project:	Garfield County, CO NAD83	MD Reference:	GL 8143' & RKB 24' @ 8167.00usft
Site:	TR 23-22-597	North Reference:	True
Well:	TR 344-22-597	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)
CME0									
8,400.00	0.00	0.00	8,384.36	-209.80	393.32	445.77	0.00	0.00	0.00
8,500.00	0.00	0.00	8,484.36	-209.80	393.32	445.77	0.00	0.00	0.00
8,600.00	0.00	0.00	8,584.36	-209.80	393.32	445.77	0.00	0.00	0.00
8,655.64	0.00	0.00	8,640.00	-209.80	393.32	445.77	0.00	0.00	0.00
RLNS									
8,700.00	0.00	0.00	8,684.36	-209.80	393.32	445.77	0.00	0.00	0.00
8,800.00	0.00	0.00	8,784.36	-209.80	393.32	445.77	0.00	0.00	0.00
8,845.64	0.00	0.00	8,830.00	-209.80	393.32	445.77	0.00	0.00	0.00
CZZT									
8,900.00	0.00	0.00	8,884.36	-209.80	393.32	445.77	0.00	0.00	0.00
9,000.00	0.00	0.00	8,984.36	-209.80	393.32	445.77	0.00	0.00	0.00
9,073.64	0.00	0.00	9,058.00	-209.80	393.32	445.77	0.00	0.00	0.00
CRCN									
9,100.00	0.00	0.00	9,084.36	-209.80	393.32	445.77	0.00	0.00	0.00
9,200.00	0.00	0.00	9,184.36	-209.80	393.32	445.77	0.00	0.00	0.00
9,261.64	0.00	0.00	9,246.00	-209.80	393.32	445.77	0.00	0.00	0.00
SEGO									
9,300.00	0.00	0.00	9,284.36	-209.80	393.32	445.77	0.00	0.00	0.00
9,400.00	0.00	0.00	9,384.36	-209.80	393.32	445.77	0.00	0.00	0.00
9,461.64	0.00	0.00	9,446.00	-209.80	393.32	445.77	0.00	0.00	0.00
TD at 9461.64 - TD - TR 344-22-597 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
TR 344-22-597 KMV - plan hits target center - Circle (radius 50.00)	0.00	0.00	6,599.00	-209.80	393.32	1,653,437.56	2,221,256.12	39.5949548	-108.2638530
TR 344-22-597 PBHL - plan hits target center - Point	0.00	0.00	9,446.00	-209.80	393.32	1,653,437.56	2,221,256.12	39.5949548	-108.2638530

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
2,736.35	2,730.00	9 5/8" Casing @ 2736.35' MD	9.62	13.50	

Database:	Grand Junction District	Local Co-ordinate Reference:	Well TR 344-22-597 - Slot TR 344-22-597
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 344-22-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 13Nov2018 mmsdi		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,636.10	2,630.00	Wasatch		0.00	0.00	
4,189.00	4,179.00	G Sand		0.00	0.00	
4,279.23	4,269.00	G Sand Base		0.00	0.00	
4,369.45	4,359.00	FR UN		0.00	0.00	
5,522.35	5,509.00	Ohio Creek		0.00	0.00	
5,742.90	5,729.00	MVRD		0.00	0.00	
6,614.64	6,599.00	KMVGAS		0.00	0.00	
8,325.64	8,310.00	CMEO		0.00	0.00	
8,655.64	8,640.00	RLNS		0.00	0.00	
8,845.64	8,830.00	CZZT		0.00	0.00	
9,073.64	9,058.00	CRCN		0.00	0.00	
9,261.64	9,246.00	SEGO		0.00	0.00	
9,461.64	9,446.00	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	
255.43	255.32	-2.26	4.24	Start 6088.35 hold at 255.43 MD	
6,343.78	6,328.36	-205.28	384.85	Start Drop -1.50	
6,614.64	6,599.00	-209.80	393.32	Start 2847.00 hold at 6614.64 MD	
9,461.64	9,446.00	-209.80	393.32	TD at 9461.64	