



Company: TEP Rocky Mountain LLC
Project: Garfield County, CO NAD83
Site: RGU 23-7-297 Pad
Well: Federal RG 412-7-297

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

Plan: Plan #2 7April2020 SB-SDI

Well Details: Federal RG 412-7-297

+N/-S +E/-W Northing Easting Longitude
0.00 0.00 1760885.0000 2206234.9000 39.8885126 -108.3290024 RGU 412-7-297

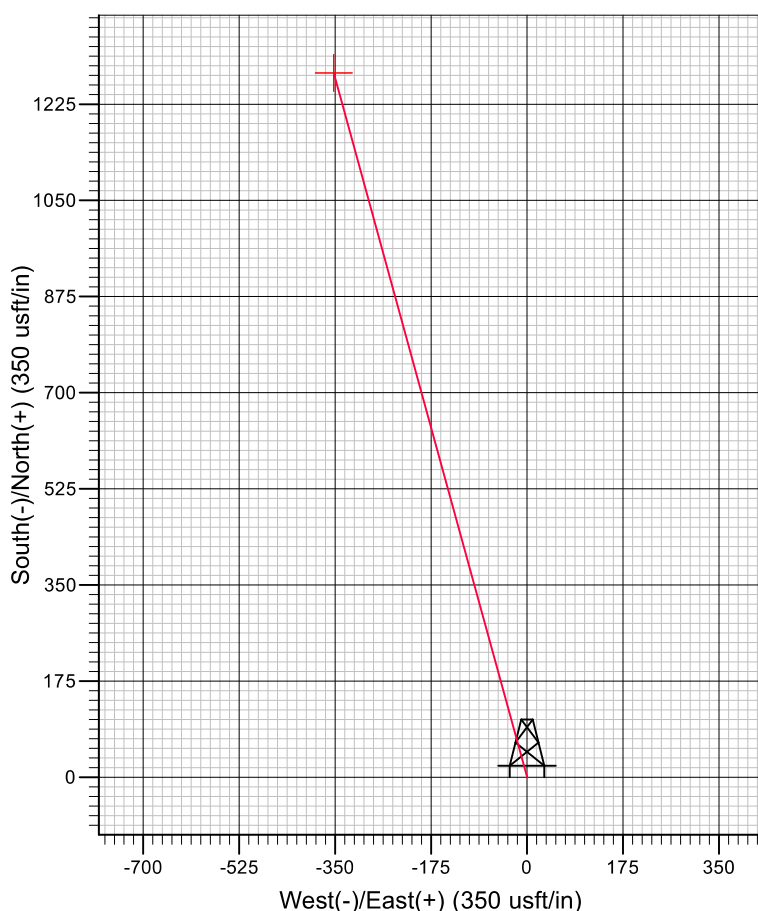
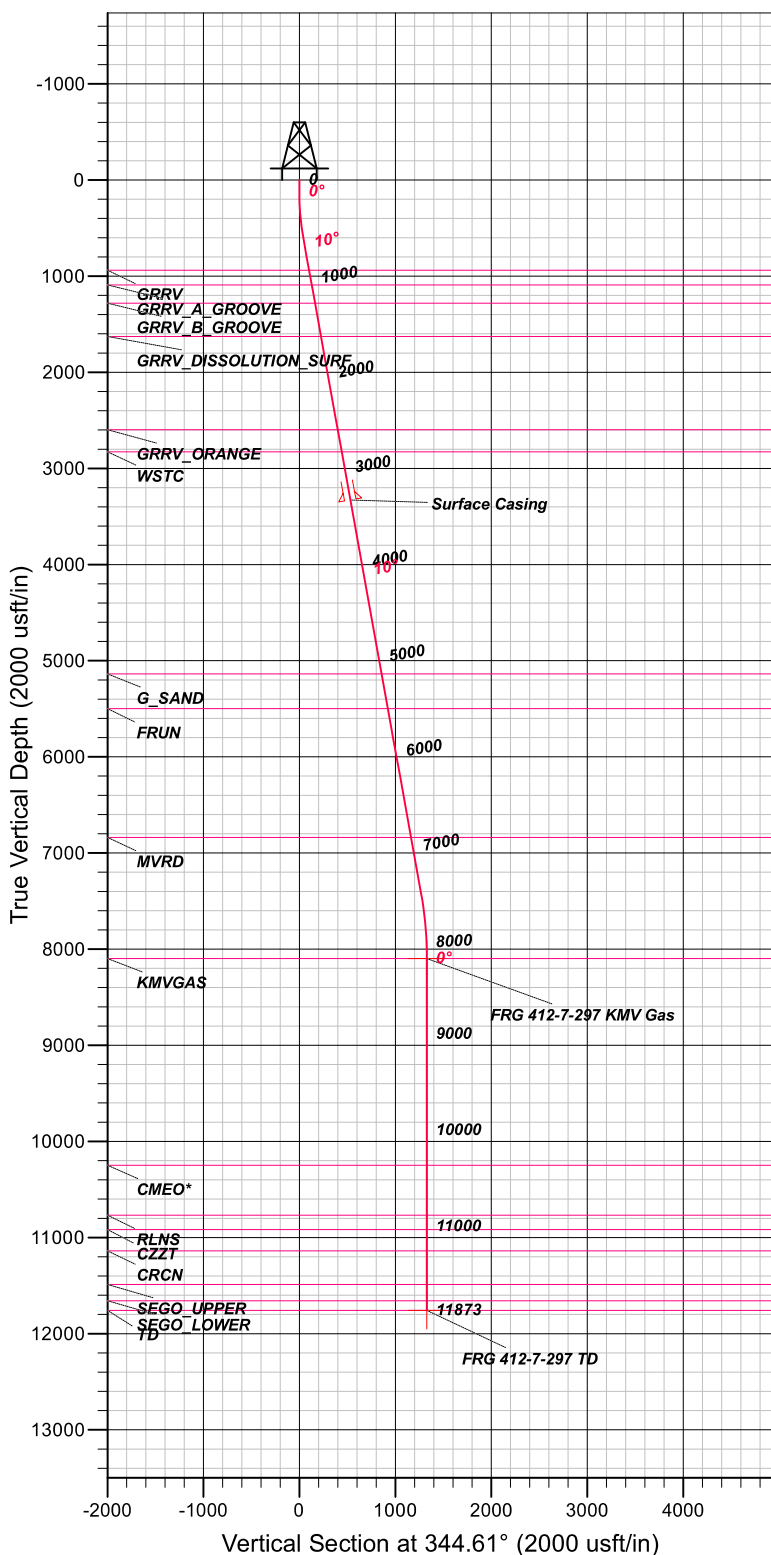


Azimuths to True North
Magnetic North: 9.28°

Magnetic Field
Strength: 51354.8nT
Dip Angle: 65.83°
Date: 4/7/2020
Model: HDGM_FILE

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
FRG 412-7-297 KMV Gas	8097.00	1281.84	-352.78	1762177.2000	2205922.2000	39.8920313	-108.3302596	Circle (Radius: 0.00)
FRG 412-7-297 TD	11757.00	1281.84	-352.78	1762177.2000	2205922.2000	39.8920313	-108.3302596	Point



FORMATION TOP DETAILS

TVDPth	MDPath	Formation
937.00	944.68	GRRV
1092.00	1102.17	GRRV_A GROOVE
1282.00	1295.23	GRRV_B GROOVE
1627.00	1645.78	GRRV DISSOLUTION SURF
2597.00	2631.40	GRRV_ORANGE
2827.00	2865.10	WSTC
5137.00	5212.29	G_SAND
5497.00	5578.08	FRUN
6837.00	6939.66	MVRD
8097.00	8212.64	KMGAS
10247.00	10362.64	CMEO*
10767.00	10882.64	RLNS
10917.00	11032.64	CZZT
11137.00	11252.64	CRCN
11487.00	11602.64	SEGO_UPPER
11657.00	11772.64	SEGO_LOWER
11757.00	11872.64	TD

CASING DETAILS

TVD	MD	Name
3327.00	3373.15	Surface Casing

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect
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
630.63	10.21	344.61	627.93	43.76	-12.04	2.00	344.61	45.39
7531.79	10.21	344.61	7419.76	1223.49	-336.72	0.00	0.00	1268.98
8212.64	0.00	0.00	8097.00	1281.84	-352.78	1.50	180.00	1329.50
11872.64	0.00	0.00	11757.00	1281.84	-352.78	0.00	0.00	1329.50

TEP Rocky Mountain LLC

Garfield County, CO NAD83

RGU 23-7-297 Pad

Federal RG 412-7-297 - Slot RGU 412-7-297

OH

Plan: Plan #2 7April2020 SB-SDI

Standard Planning Report

07 April, 2020



Scientific Drilling, Intl

Planning Report

Database:	Grand Junction	Local Co-ordinate Reference:	Well Federal RG 412-7-297 - Slot RGU 412-7-297
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6603' & KB 24' @ 6627.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 6603' & KB 24' @ 6627.00usft (H&P 318)
Site:	RGU 23-7-297 Pad	North Reference:	True
Well:	Federal RG 412-7-297	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 7April2020 SB-SDI		

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	RGU 23-7-297 Pad, Site Center : RGU 314-7-297			
Site Position:		Northing:	1,760,880.9000 usft	Latitude: 39.8884987
From: Map		Easting:	2,206,203.5000 usft	Longitude: -108.3291139
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence: -1.78 °

Well	Federal RG 412-7-297 - Slot RGU 412-7-297, 1808' FSL 1351' FWL Sec 7 T2S R97W			
Well Position	+N/-S	5.08 usft	Northing:	1,760,885.0000 usft
	+E/-W	31.26 usft	Easting:	2,206,234.9000 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	Ground Level: 6,603.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	4/7/2020	9.28	65.83	51,354.80000000

Design	Plan #2 7April2020 SB-SDI			
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	344.61

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	
630.63	10.21	344.61	627.93	43.76	-12.04	2.00	2.00	0.00	344.61	
7,531.79	10.21	344.61	7,419.76	1,223.49	-336.72	0.00	0.00	0.00	0.00	
8,212.64	0.00	0.00	8,097.00	1,281.84	-352.78	1.50	-1.50	0.00	180.00	FRG 412-7-297 KMV
11,872.64	0.00	0.00	11,757.00	1,281.84	-352.78	0.00	0.00	0.00	0.00	FRG 412-7-297 TD

Scientific Drilling, Intl

Planning Report

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Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6603' & KB 24' @ 6627.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 6603' & KB 24' @ 6627.00usft (H&P 318)
Site:	RGU 23-7-297 Pad	North Reference:	True
Well:	Federal RG 412-7-297	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 7April2020 SB-SDI		

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 2.00										
200.00	1.60	344.61	199.99	1.08	-0.30	1.12	2.00	2.00	0.00	
300.00	3.60	344.61	299.88	5.45	-1.50	5.65	2.00	2.00	0.00	
400.00	5.60	344.61	399.55	13.18	-3.63	13.67	2.00	2.00	0.00	
500.00	7.60	344.61	498.89	24.26	-6.68	25.17	2.00	2.00	0.00	
600.00	9.60	344.61	597.76	38.68	-10.65	40.12	2.00	2.00	0.00	
630.63	10.21	344.61	627.93	43.76	-12.04	45.39	2.00	2.00	0.00	
Start 6901.16 hold at 630.63 MD										
700.00	10.21	344.61	696.20	55.62	-15.31	57.69	0.00	0.00	0.00	
800.00	10.21	344.61	794.62	72.71	-20.01	75.42	0.00	0.00	0.00	
900.00	10.21	344.61	893.03	89.81	-24.72	93.15	0.00	0.00	0.00	
944.68	10.21	344.61	937.00	97.45	-26.82	101.07	0.00	0.00	0.00	
GRRV										
1,000.00	10.21	344.61	991.45	106.90	-29.42	110.88	0.00	0.00	0.00	
1,100.00	10.21	344.61	1,089.86	124.00	-34.13	128.61	0.00	0.00	0.00	
1,102.17	10.21	344.61	1,092.00	124.37	-34.23	128.99	0.00	0.00	0.00	
GRRV_A_GROOVE										
1,200.00	10.21	344.61	1,188.28	141.09	-38.83	146.34	0.00	0.00	0.00	
1,295.23	10.21	344.61	1,282.00	157.37	-43.31	163.22	0.00	0.00	0.00	
GRRV_B_GROOVE										
1,300.00	10.21	344.61	1,286.70	158.19	-43.54	164.07	0.00	0.00	0.00	
1,400.00	10.21	344.61	1,385.11	175.28	-48.24	181.80	0.00	0.00	0.00	
1,500.00	10.21	344.61	1,483.53	192.38	-52.94	199.53	0.00	0.00	0.00	
1,600.00	10.21	344.61	1,581.94	209.47	-57.65	217.26	0.00	0.00	0.00	
1,645.78	10.21	344.61	1,627.00	217.30	-59.80	225.38	0.00	0.00	0.00	
GRRV DISSOLUTION_SURF										
1,700.00	10.21	344.61	1,680.36	226.57	-62.35	234.99	0.00	0.00	0.00	
1,800.00	10.21	344.61	1,778.77	243.66	-67.06	252.72	0.00	0.00	0.00	
1,900.00	10.21	344.61	1,877.19	260.75	-71.76	270.45	0.00	0.00	0.00	
2,000.00	10.21	344.61	1,975.60	277.85	-76.47	288.18	0.00	0.00	0.00	
2,100.00	10.21	344.61	2,074.02	294.94	-81.17	305.91	0.00	0.00	0.00	
2,200.00	10.21	344.61	2,172.44	312.04	-85.88	323.64	0.00	0.00	0.00	
2,300.00	10.21	344.61	2,270.85	329.13	-90.58	341.37	0.00	0.00	0.00	
2,400.00	10.21	344.61	2,369.27	346.23	-95.29	359.10	0.00	0.00	0.00	
2,500.00	10.21	344.61	2,467.68	363.32	-99.99	376.83	0.00	0.00	0.00	
2,600.00	10.21	344.61	2,566.10	380.42	-104.70	394.56	0.00	0.00	0.00	
2,631.40	10.21	344.61	2,597.00	385.78	-106.17	400.13	0.00	0.00	0.00	
GRRV_ORANGE										
2,700.00	10.21	344.61	2,664.51	397.51	-109.40	412.29	0.00	0.00	0.00	
2,800.00	10.21	344.61	2,762.93	414.61	-114.11	430.02	0.00	0.00	0.00	
2,865.10	10.21	344.61	2,827.00	425.74	-117.17	441.56	0.00	0.00	0.00	
WSTC										
2,900.00	10.21	344.61	2,861.35	431.70	-118.81	447.75	0.00	0.00	0.00	
3,000.00	10.21	344.61	2,959.76	448.80	-123.52	465.48	0.00	0.00	0.00	
3,100.00	10.21	344.61	3,058.18	465.89	-128.22	483.21	0.00	0.00	0.00	
3,200.00	10.21	344.61	3,156.59	482.99	-132.93	500.94	0.00	0.00	0.00	
3,300.00	10.21	344.61	3,255.01	500.08	-137.63	518.67	0.00	0.00	0.00	
3,373.15	10.21	344.61	3,327.00	512.58	-141.07	531.64	0.00	0.00	0.00	
Surface Casing										

Scientific Drilling, Intl

Planning Report

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Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6603' & KB 24' @ 6627.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 6603' & KB 24' @ 6627.00usft (H&P 318)
Site:	RGU 23-7-297 Pad	North Reference:	True
Well:	Federal RG 412-7-297	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 7April2020 SB-SDI		

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)	
3,400.00	10.21	344.61	3,353.42	517.17	-142.33	536.40	0.00	0.00	0.00	
3,500.00	10.21	344.61	3,451.84	534.27	-147.04	554.13	0.00	0.00	0.00	
3,600.00	10.21	344.61	3,550.26	551.36	-151.74	571.86	0.00	0.00	0.00	
3,700.00	10.21	344.61	3,648.67	568.46	-156.45	589.59	0.00	0.00	0.00	
3,800.00	10.21	344.61	3,747.09	585.55	-161.15	607.32	0.00	0.00	0.00	
3,900.00	10.21	344.61	3,845.50	602.65	-165.86	625.05	0.00	0.00	0.00	
4,000.00	10.21	344.61	3,943.92	619.74	-170.56	642.78	0.00	0.00	0.00	
4,100.00	10.21	344.61	4,042.33	636.84	-175.27	660.51	0.00	0.00	0.00	
4,200.00	10.21	344.61	4,140.75	653.93	-179.97	678.24	0.00	0.00	0.00	
4,300.00	10.21	344.61	4,239.16	671.03	-184.68	695.98	0.00	0.00	0.00	
4,400.00	10.21	344.61	4,337.58	688.12	-189.38	713.71	0.00	0.00	0.00	
4,500.00	10.21	344.61	4,436.00	705.22	-194.09	731.44	0.00	0.00	0.00	
4,600.00	10.21	344.61	4,534.41	722.31	-198.79	749.17	0.00	0.00	0.00	
4,700.00	10.21	344.61	4,632.83	739.40	-203.50	766.90	0.00	0.00	0.00	
4,800.00	10.21	344.61	4,731.24	756.50	-208.20	784.63	0.00	0.00	0.00	
4,900.00	10.21	344.61	4,829.66	773.59	-212.91	802.36	0.00	0.00	0.00	
5,000.00	10.21	344.61	4,928.07	790.69	-217.61	820.09	0.00	0.00	0.00	
5,100.00	10.21	344.61	5,026.49	807.78	-222.31	837.82	0.00	0.00	0.00	
5,200.00	10.21	344.61	5,124.91	824.88	-227.02	855.55	0.00	0.00	0.00	
5,212.29	10.21	344.61	5,137.00	826.98	-227.60	857.73	0.00	0.00	0.00	
G_SAND										
5,300.00	10.21	344.61	5,223.32	841.97	-231.72	873.28	0.00	0.00	0.00	
5,400.00	10.21	344.61	5,321.74	859.07	-236.43	891.01	0.00	0.00	0.00	
5,500.00	10.21	344.61	5,420.15	876.16	-241.13	908.74	0.00	0.00	0.00	
5,578.08	10.21	344.61	5,497.00	889.51	-244.81	922.58	0.00	0.00	0.00	
FRUN										
5,600.00	10.21	344.61	5,518.57	893.26	-245.84	926.47	0.00	0.00	0.00	
5,700.00	10.21	344.61	5,616.98	910.35	-250.54	944.20	0.00	0.00	0.00	
5,800.00	10.21	344.61	5,715.40	927.45	-255.25	961.93	0.00	0.00	0.00	
5,900.00	10.21	344.61	5,813.82	944.54	-259.95	979.66	0.00	0.00	0.00	
6,000.00	10.21	344.61	5,912.23	961.63	-264.66	997.39	0.00	0.00	0.00	
6,100.00	10.21	344.61	6,010.65	978.73	-269.36	1,015.12	0.00	0.00	0.00	
6,200.00	10.21	344.61	6,109.06	995.82	-274.07	1,032.85	0.00	0.00	0.00	
6,300.00	10.21	344.61	6,207.48	1,012.92	-278.77	1,050.58	0.00	0.00	0.00	
6,400.00	10.21	344.61	6,305.89	1,030.01	-283.48	1,068.31	0.00	0.00	0.00	
6,500.00	10.21	344.61	6,404.31	1,047.11	-288.18	1,086.04	0.00	0.00	0.00	
6,600.00	10.21	344.61	6,502.72	1,064.20	-292.89	1,103.77	0.00	0.00	0.00	
6,700.00	10.21	344.61	6,601.14	1,081.30	-297.59	1,121.50	0.00	0.00	0.00	
6,800.00	10.21	344.61	6,699.56	1,098.39	-302.29	1,139.23	0.00	0.00	0.00	
6,900.00	10.21	344.61	6,797.97	1,115.49	-307.00	1,156.96	0.00	0.00	0.00	
6,939.66	10.21	344.61	6,837.00	1,122.27	-308.86	1,163.99	0.00	0.00	0.00	
MVRD										
7,000.00	10.21	344.61	6,896.39	1,132.58	-311.70	1,174.69	0.00	0.00	0.00	
7,100.00	10.21	344.61	6,994.80	1,149.68	-316.41	1,192.42	0.00	0.00	0.00	
7,200.00	10.21	344.61	7,093.22	1,166.77	-321.11	1,210.15	0.00	0.00	0.00	
7,300.00	10.21	344.61	7,191.63	1,183.86	-325.82	1,227.88	0.00	0.00	0.00	
7,400.00	10.21	344.61	7,290.05	1,200.96	-330.52	1,245.61	0.00	0.00	0.00	
7,500.00	10.21	344.61	7,388.47	1,218.05	-335.23	1,263.34	0.00	0.00	0.00	
7,531.79	10.21	344.61	7,419.76	1,223.49	-336.72	1,268.98	0.00	0.00	0.00	
Start Drop -1.50										
7,600.00	9.19	344.61	7,486.99	1,234.57	-339.77	1,280.47	1.50	-1.50	0.00	
7,700.00	7.69	344.61	7,585.90	1,248.72	-343.67	1,295.15	1.50	-1.50	0.00	

Scientific Drilling, Intl

Planning Report

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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)
7,800.00	6.19	344.61	7,685.16	1,260.37	-346.87	1,307.23	1.50	-1.50	0.00
7,900.00	4.69	344.61	7,784.71	1,269.51	-349.39	1,316.71	1.50	-1.50	0.00
8,000.00	3.19	344.61	7,884.47	1,276.13	-351.21	1,323.58	1.50	-1.50	0.00
8,100.00	1.69	344.61	7,984.38	1,280.24	-352.34	1,327.84	1.50	-1.50	0.00
8,200.00	0.19	344.61	8,084.36	1,281.82	-352.78	1,329.48	1.50	-1.50	0.00
8,212.64	0.00	0.00	8,097.00	1,281.84	-352.78	1,329.50	1.50	-1.50	0.00
Start 3660.00 hold at 8212.64 MD - KMV GAS									
8,300.00	0.00	0.00	8,184.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
8,400.00	0.00	0.00	8,284.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
8,500.00	0.00	0.00	8,384.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
8,600.00	0.00	0.00	8,484.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
8,700.00	0.00	0.00	8,584.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
8,800.00	0.00	0.00	8,684.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
8,900.00	0.00	0.00	8,784.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
9,000.00	0.00	0.00	8,884.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
9,100.00	0.00	0.00	8,984.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
9,200.00	0.00	0.00	9,084.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
9,300.00	0.00	0.00	9,184.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
9,400.00	0.00	0.00	9,284.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
9,500.00	0.00	0.00	9,384.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
9,600.00	0.00	0.00	9,484.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
9,700.00	0.00	0.00	9,584.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
9,800.00	0.00	0.00	9,684.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
9,900.00	0.00	0.00	9,784.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
10,000.00	0.00	0.00	9,884.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
10,100.00	0.00	0.00	9,984.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
10,200.00	0.00	0.00	10,084.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
10,300.00	0.00	0.00	10,184.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
10,362.64	0.00	0.00	10,247.00	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
CMEO*									
10,400.00	0.00	0.00	10,284.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
10,500.00	0.00	0.00	10,384.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
10,600.00	0.00	0.00	10,484.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
10,700.00	0.00	0.00	10,584.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
10,800.00	0.00	0.00	10,684.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
10,882.64	0.00	0.00	10,767.00	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
RLNS									
10,900.00	0.00	0.00	10,784.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
11,000.00	0.00	0.00	10,884.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
11,032.64	0.00	0.00	10,917.00	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
CZZT									
11,100.00	0.00	0.00	10,984.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
11,200.00	0.00	0.00	11,084.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
11,252.64	0.00	0.00	11,137.00	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
CRCN									
11,300.00	0.00	0.00	11,184.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
11,400.00	0.00	0.00	11,284.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
11,500.00	0.00	0.00	11,384.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
11,600.00	0.00	0.00	11,484.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
11,602.64	0.00	0.00	11,487.00	1,281.84	-352.78	1,329.50	0.00	0.00	0.00
SEGO_UPPER									
11,700.00	0.00	0.00	11,584.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00

Scientific Drilling, Intl

Planning Report

Database:	Grand Junction	Local Co-ordinate Reference:	Well Federal RG 412-7-297 - Slot RGU 412-7-297
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6603' & KB 24' @ 6627.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 6603' & KB 24' @ 6627.00usft (H&P 318)
Site:	RGU 23-7-297 Pad	North Reference:	True
Well:	Federal RG 412-7-297	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 7April2020 SB-SDI		

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)	
11,772.64	0.00	0.00	11,657.00	1,281.84	-352.78	1,329.50	0.00	0.00	0.00	
SEGO_LOWER										
11,800.00	0.00	0.00	11,684.36	1,281.84	-352.78	1,329.50	0.00	0.00	0.00	
11,872.64	0.00	0.00	11,757.00	1,281.84	-352.78	1,329.50	0.00	0.00	0.00	
TD at 11872.64 - TD										

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										
FRG 412-7-297 KMV Gæ	0.00	0.00	8,097.00	1,281.84	-352.78	1,762,177.2000	2,205,922.2000	39.8920314	-108.3302597	
- plan hits target center										
- Circle (radius 0.00)										
FRG 412-7-297 TD	0.00	0.00	11,757.00	1,281.84	-352.78	1,762,177.2000	2,205,922.2000	39.8920314	-108.3302597	
- plan hits target center										
- Point										

Casing Points									
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)					
3,373.15	3,327.00	Surface Casing	0.00	0.00					

Formations								
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)			
944.68	937.00	GRRV		0.00				
1,102.17	1,092.00	GRRV_A_GROOVE		0.00				
1,295.23	1,282.00	GRRV_B_GROOVE		0.00				
1,645.78	1,627.00	GRRV_DISSOLUTION_SURF		0.00				
2,631.40	2,597.00	GRRV_ORANGE		0.00				
2,865.10	2,827.00	WSTC		0.00				
5,212.29	5,137.00	G_SAND		0.00				
5,578.08	5,497.00	FRUN		0.00				
6,939.66	6,837.00	MVRD		0.00				
8,212.64	8,097.00	KMVGAS		0.00				
10,362.64	10,247.00	CME0*		0.00				
10,882.64	10,767.00	RLNS		0.00				
11,032.64	10,917.00	CZZT		0.00				
11,252.64	11,137.00	CRCN		0.00				
11,602.64	11,487.00	SEGO_UPPER		0.00				
11,772.64	11,657.00	SEGO_LOWER		0.00				
11,872.64	11,757.00	TD		0.00				

Scientific Drilling, Intl

Planning Report

Database:	Grand Junction	Local Co-ordinate Reference:	Well Federal RG 412-7-297 - Slot RGU 412-7-297
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6603' & KB 24' @ 6627.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 6603' & KB 24' @ 6627.00usft (H&P 318)
Site:	RGU 23-7-297 Pad	North Reference:	True
Well:	Federal RG 412-7-297	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 7April2020 SB-SDI		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
120.00	120.00	0.00	0.00	Start Build 2.00
630.63	627.93	43.76	-12.04	Start 6901.16 hold at 630.63 MD
7,531.79	7,419.76	1,223.49	-336.72	Start Drop -1.50
8,212.64	8,097.00	1,281.84	-352.78	Start 3660.00 hold at 8212.64 MD
11,872.64	11,757.00	1,281.84	-352.78	TD at 11872.64