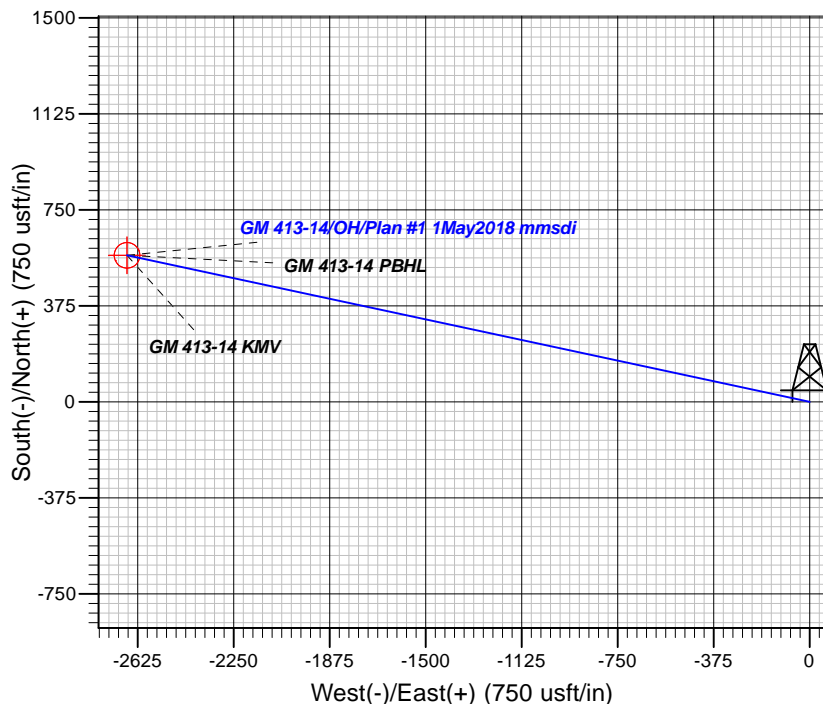




Magnetic Field
Strength: 51710.5nT
Dip Angle: 65.65°
Date: 5/3/2018
Model: HDGM

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1592870.90	2272801.30	39.4329025	-108.0749237	GM 413-14 (B8)



TVDPATH	MDPATH	FORMATION
909.00	955.59	GSAND
1009.00	1079.07	GSAND BASE
2681.00	3637.44	MVRD
3801.00	4856.18	KMVGAS
5084.00	6141.71	CMEQ
5549.00	6606.71	RLNS
5649.00	6706.71	TD

14:08, May 07 2018
Created By: Mel Mireles

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
945.68	1000.00	5/8" Casing @ 1000' MD	9.62

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSept	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	1462.95	53.72	282.10	1274.68	122.62	-571.76	4.00	282.10	584.76	
4	2670.27	53.72	282.10	1989.11	326.70	-1523.36	0.00	0.00	1558.00	
5	4856.18	10.00	282.10	3801.00	562.82	-2624.33	2.00	180.00	2684.00	
6	5356.18	0.00	0.00	4298.47	571.95	-2666.88	2.00	180.00	2727.53	
7	6706.71	0.00	0.00	5649.00	571.95	-2666.88	0.00	0.00	2727.53	GM 413-14 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
GM 413-14 KMW	3801.0	571.95	-2666.88	1593518.20	2270151.70	39.4344724	-108.0843657	Circle (Radius: 50.00)
plan misses target center by 42.87usft at 4863.40usft MWD (3808.12 TVD, 563.08 N, -2625.55 E)								
GM 413-14 PBHL	5649.0	571.95	-2666.88	1593518.20	2270151.70	39.4344724	-108.0843657	Point
plan misses target center by 0.01usft at 6706.71usft MWD (5649.00 TVD, 571.95 N, -2666.88 E)								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

GM 34-14 Pad

GM 413-14 - Slot GM 413-14 (B8)

OH

Plan: Plan #1 1May2018 mmsdi

Standard Planning Report

07 May, 2018



Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 413-14 - Slot GM 413-14 (B8)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5172' & RKB 24' @ 5196.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5172' & RKB 24' @ 5196.00usft
Site:	GM 34-14 Pad	North Reference:	True
Well:	GM 413-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 1May2018 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		GM 34-14 Pad			
Site Position:		Northing:	1,592,890.50 usft	Latitude:	39.4329552
From:	Map	Easting:	2,272,786.40 usft	Longitude:	-108.0749784
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.62 °

Well	GM 413-14 - Slot GM 413-14 (B8)					
Well Position	+N/-S	-19.17 usft	Northing:	1,592,870.90 usft	Latitude:	39.4329026
	+E/-W	15.45 usft	Easting:	2,272,801.30 usft	Longitude:	-108.0749237
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,172.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/3/2018	9.42	65.65	51,711

Design	Plan #1 1May2018 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	282.10

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	
1,462.95	53.72	282.10	1,274.68	122.62	-571.76	4.00	4.00	0.00	282.10	
2,670.27	53.72	282.10	1,989.11	326.70	-1,523.36	0.00	0.00	0.00	0.00	
4,856.18	10.00	282.10	3,801.00	562.82	-2,624.33	2.00	-2.00	0.00	180.00	
5,356.18	0.00	0.00	4,298.47	571.95	-2,666.89	2.00	-2.00	15.58	180.00	
6,706.71	0.00	0.00	5,649.00	571.95	-2,666.89	0.00	0.00	0.00	0.00	GM 413-14 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 413-14 - Slot GM 413-14 (B8)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5172' & RKB 24' @ 5196.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5172' & RKB 24' @ 5196.00usft
Site:	GM 34-14 Pad	North Reference:	True
Well:	GM 413-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 1May2018 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	3.20	282.10	199.96	0.47	-2.18	2.23	4.00	4.00	0.00
300.00	7.20	282.10	299.53	2.37	-11.04	11.29	4.00	4.00	0.00
400.00	11.20	282.10	398.22	5.72	-26.67	27.28	4.00	4.00	0.00
500.00	15.20	282.10	495.56	10.51	-49.00	50.11	4.00	4.00	0.00
600.00	19.20	282.10	591.07	16.71	-77.90	79.67	4.00	4.00	0.00
700.00	23.20	282.10	684.28	24.29	-113.25	115.83	4.00	4.00	0.00
800.00	27.20	282.10	774.74	33.22	-154.88	158.40	4.00	4.00	0.00
900.00	31.20	282.10	862.02	43.44	-202.57	207.18	4.00	4.00	0.00
955.59	33.42	282.10	909.00	49.67	-231.62	236.89	4.00	4.00	0.00
GSAND									
1,000.00	35.20	282.10	945.68	54.92	-256.10	261.92	4.00	4.00	0.00
9 5/8" Casing @ 1000' MD									
1,079.07	38.36	282.10	1,009.00	64.85	-302.38	309.26	4.00	4.00	0.00
GSAND BASE									
1,100.00	39.20	282.10	1,025.32	67.60	-315.20	322.37	4.00	4.00	0.00
1,200.00	43.20	282.10	1,100.54	81.41	-379.59	388.22	4.00	4.00	0.00
1,300.00	47.20	282.10	1,170.99	96.28	-448.96	459.17	4.00	4.00	0.00
1,400.00	51.20	282.10	1,236.32	112.16	-522.96	534.85	4.00	4.00	0.00
1,462.95	53.72	282.10	1,274.68	122.62	-571.76	584.76	4.00	4.00	0.00
1,500.00	53.72	282.10	1,296.60	128.88	-600.96	614.63	0.00	0.00	0.00
1,600.00	53.72	282.10	1,355.77	145.79	-679.78	695.24	0.00	0.00	0.00
1,700.00	53.72	282.10	1,414.95	162.69	-758.60	775.85	0.00	0.00	0.00
1,800.00	53.72	282.10	1,474.13	179.60	-837.42	856.46	0.00	0.00	0.00
1,900.00	53.72	282.10	1,533.30	196.50	-916.24	937.07	0.00	0.00	0.00
2,000.00	53.72	282.10	1,592.48	213.40	-995.06	1,017.69	0.00	0.00	0.00
2,100.00	53.72	282.10	1,651.65	230.31	-1,073.88	1,098.30	0.00	0.00	0.00
2,200.00	53.72	282.10	1,710.83	247.21	-1,152.70	1,178.91	0.00	0.00	0.00
2,300.00	53.72	282.10	1,770.00	264.11	-1,231.52	1,259.52	0.00	0.00	0.00
2,400.00	53.72	282.10	1,829.18	281.02	-1,310.34	1,340.13	0.00	0.00	0.00
2,500.00	53.72	282.10	1,888.36	297.92	-1,389.16	1,420.74	0.00	0.00	0.00
2,600.00	53.72	282.10	1,947.53	314.83	-1,467.97	1,501.35	0.00	0.00	0.00
2,670.27	53.72	282.10	1,989.11	326.70	-1,523.36	1,558.00	0.00	0.00	0.00
2,700.00	53.12	282.10	2,006.83	331.71	-1,546.70	1,581.87	2.00	-2.00	0.00
2,800.00	51.12	282.10	2,068.23	348.26	-1,623.88	1,660.80	2.00	-2.00	0.00
2,900.00	49.12	282.10	2,132.34	364.35	-1,698.91	1,737.54	2.00	-2.00	0.00
3,000.00	47.12	282.10	2,199.08	379.97	-1,771.71	1,812.00	2.00	-2.00	0.00
3,100.00	45.12	282.10	2,268.39	395.08	-1,842.19	1,884.08	2.00	-2.00	0.00
3,200.00	43.12	282.10	2,340.17	409.68	-1,910.26	1,953.69	2.00	-2.00	0.00
3,300.00	41.12	282.10	2,414.34	423.74	-1,975.84	2,020.76	2.00	-2.00	0.00
3,400.00	39.12	282.10	2,490.80	437.26	-2,038.84	2,085.20	2.00	-2.00	0.00
3,500.00	37.12	282.10	2,569.46	450.20	-2,099.20	2,146.94	2.00	-2.00	0.00
3,600.00	35.12	282.10	2,650.24	462.56	-2,156.84	2,205.89	2.00	-2.00	0.00
3,637.44	34.37	282.10	2,681.00	467.04	-2,177.71	2,227.23	2.00	-2.00	0.00
MVRD									
3,700.00	33.12	282.10	2,733.01	474.32	-2,211.69	2,261.98	2.00	-2.00	0.00
3,800.00	31.12	282.10	2,817.70	485.47	-2,263.68	2,315.15	2.00	-2.00	0.00
3,900.00	29.12	282.10	2,904.19	496.00	-2,312.75	2,365.34	2.00	-2.00	0.00
4,000.00	27.12	282.10	2,992.38	505.88	-2,358.84	2,412.47	2.00	-2.00	0.00
4,100.00	25.12	282.10	3,082.16	515.11	-2,401.89	2,456.50	2.00	-2.00	0.00
4,200.00	23.12	282.10	3,173.42	523.68	-2,441.85	2,497.37	2.00	-2.00	0.00
4,300.00	21.12	282.10	3,266.05	531.58	-2,478.67	2,535.03	2.00	-2.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 413-14 - Slot GM 413-14 (B8)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5172' & RKB 24' @ 5196.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5172' & RKB 24' @ 5196.00usft
Site:	GM 34-14 Pad	North Reference:	True
Well:	GM 413-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 1May2018 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)
4,400.00	19.12	282.10	3,359.94	538.79	-2,512.31	2,569.43	2.00	-2.00	0.00
4,500.00	17.12	282.10	3,454.98	545.32	-2,542.72	2,600.54	2.00	-2.00	0.00
4,600.00	15.12	282.10	3,551.04	551.14	-2,569.87	2,628.31	2.00	-2.00	0.00
4,700.00	13.12	282.10	3,648.01	556.26	-2,593.73	2,652.71	2.00	-2.00	0.00
4,800.00	11.12	282.10	3,745.78	560.66	-2,614.26	2,673.71	2.00	-2.00	0.00
4,856.18	10.00	282.10	3,801.00	562.82	-2,624.33	2,684.00	2.00	-2.00	0.00
KMVGAS									
4,863.40	9.86	282.10	3,808.12	563.08	-2,625.55	2,685.25	2.00	-2.00	0.00
GM 413-14 KMV									
4,900.00	9.12	282.10	3,844.22	564.35	-2,631.45	2,691.28	2.00	-2.00	0.00
5,000.00	7.12	282.10	3,943.21	567.31	-2,645.26	2,705.41	2.00	-2.00	0.00
5,100.00	5.12	282.10	4,042.63	569.55	-2,655.69	2,716.08	2.00	-2.00	0.00
5,200.00	3.12	282.10	4,142.37	571.05	-2,662.72	2,723.27	2.00	-2.00	0.00
5,300.00	1.12	282.10	4,242.29	571.83	-2,666.35	2,726.98	2.00	-2.00	0.00
5,356.18	0.00	0.00	4,298.47	571.95	-2,666.89	2,727.53	2.00	-2.00	138.67
5,400.00	0.00	0.00	4,342.29	571.95	-2,666.89	2,727.53	0.00	0.00	0.00
5,500.00	0.00	0.00	4,442.29	571.95	-2,666.89	2,727.53	0.00	0.00	0.00
5,600.00	0.00	0.00	4,542.29	571.95	-2,666.89	2,727.53	0.00	0.00	0.00
5,700.00	0.00	0.00	4,642.29	571.95	-2,666.89	2,727.53	0.00	0.00	0.00
5,800.00	0.00	0.00	4,742.29	571.95	-2,666.89	2,727.53	0.00	0.00	0.00
5,900.00	0.00	0.00	4,842.29	571.95	-2,666.89	2,727.53	0.00	0.00	0.00
6,000.00	0.00	0.00	4,942.29	571.95	-2,666.89	2,727.53	0.00	0.00	0.00
6,100.00	0.00	0.00	5,042.29	571.95	-2,666.89	2,727.53	0.00	0.00	0.00
6,141.71	0.00	0.00	5,084.00	571.95	-2,666.89	2,727.53	0.00	0.00	0.00
CME0									
6,200.00	0.00	0.00	5,142.29	571.95	-2,666.89	2,727.53	0.00	0.00	0.00
6,300.00	0.00	0.00	5,242.29	571.95	-2,666.89	2,727.53	0.00	0.00	0.00
6,400.00	0.00	0.00	5,342.29	571.95	-2,666.89	2,727.53	0.00	0.00	0.00
6,500.00	0.00	0.00	5,442.29	571.95	-2,666.89	2,727.53	0.00	0.00	0.00
6,600.00	0.00	0.00	5,542.29	571.95	-2,666.89	2,727.53	0.00	0.00	0.00
6,606.71	0.00	0.00	5,549.00	571.95	-2,666.89	2,727.53	0.00	0.00	0.00
RLNS									
6,700.00	0.00	0.00	5,642.29	571.95	-2,666.89	2,727.53	0.00	0.00	0.00
6,706.71	0.00	0.00	5,649.00	571.95	-2,666.89	2,727.53	0.00	0.00	0.00
TD - GM 413-14 PBHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
GM 413-14 KMV	0.00	0.00	3,801.00	571.95	-2,666.88	1,593,518.20	2,270,151.70	39.4344725	-108.0843657
- hit/miss target									
- Shape									
- plan misses target center by 42.87usft at 4863.40usft MD (3808.12 TVD, 563.08 N, -2625.55 E)									
- Circle (radius 50.00)									
GM 413-14 PBHL	0.00	0.00	5,649.00	571.95	-2,666.88	1,593,518.20	2,270,151.70	39.4344725	-108.0843657
- hit/miss target									
- Shape									
- plan misses target center by 0.01usft at 6706.71usft MD (5649.00 TVD, 571.95 N, -2666.88 E)									
- Point									

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 413-14 - Slot GM 413-14 (B8)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5172' & RKB 24' @ 5196.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5172' & RKB 24' @ 5196.00usft
Site:	GM 34-14 Pad	North Reference:	True
Well:	GM 413-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 1May2018 mmsdi		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,000.00	945.68	9 5/8" Casing @ 1000' MD	9.62	13.50	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
955.59	909.00	GSAND		0.00	0.00	
1,079.07	1,009.00	GSAND BASE		0.00	0.00	
3,637.44	2,681.00	MVRD		0.00	0.00	
4,856.18	3,801.00	KMVGAS		0.00	0.00	
6,141.71	5,084.00	CMEQ		0.00	0.00	
6,606.71	5,549.00	RLNS		0.00	0.00	
6,706.71	5,649.00	TD		0.00	0.00	