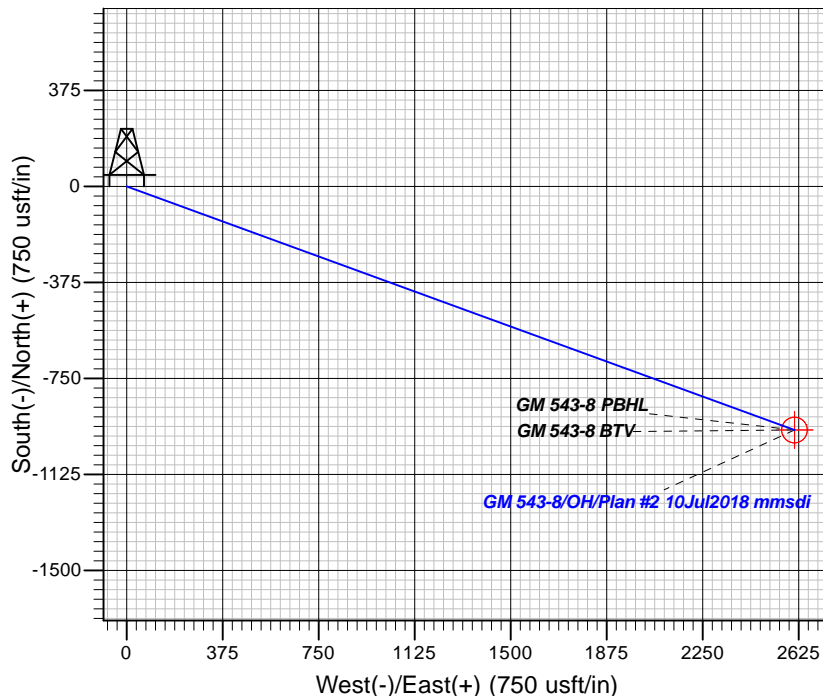




Magnetic Field
Strength: 51679.1snT
Dip Angle: 65.68°
Date: 6/21/2018
Model: HDGM

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1599844.69	2256693.81	39.4507738	-108.1326422	GM 543-8 (A7)



TVDPATH	MDPATH	FORMATION
2085.00	2419.69	GSAND
2190.00	2550.56	GSAND BASE
2535.00	2980.56	FRUN
3618.00	4329.84	MVRD
3618.00	4329.84	OCRK
4778.00	5597.33	KMVGAS
6057.00	6878.86	CMEQ
6521.00	7342.86	RLNS
6671.00	7492.86	TD

17:20, July 10 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	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	1036.18	36.65	110.04	974.98	-97.04	266.00	4.00	110.04	283.15	
4	4264.96	36.65	110.04	3565.51	-757.57	2076.49	0.00	0.00	2210.37	
5	5597.33	10.00	110.04	4778.00	-936.74	2567.60	2.00	180.00	2733.14	
6	6097.33	0.00	0.00	5275.47	-951.66	2608.49	2.00	-180.00	2277.66	
7	7492.86	0.00	0.00	6671.00	-951.66	2608.49	0.00	0.00	2776.66	GM 543-8 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
GM 543-8 BTV	4778.00	-951.65	2608.56	1598817.86	2259273.70	39.4481607	-108.1234048	Circle (Radius: 50.00)
plan misses target center by 42.94usft at 2604.51usft MD (4784.68 FTD, -937.14 N, 2568.70 E)								
GM 543-8 PBHL	6671.00	-951.65	2608.56	1598817.86	2259273.70	39.4481607	-108.1234048	Point
plan misses target center by 0.07usft at 7492.86usft MD (6671.00 TVD, -951.66 N, 2608.49 F)								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

GV 1-8 Pad

GM 543-8 - Slot GM 543-8 (A7)

OH

Plan: Plan #2 10Jul2018 mmsdi

Standard Planning Report

10 July, 2018



Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 543-8 - Slot GM 543-8 (A7)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6280'; & RKB 24' @ 6304.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 6280'; & RKB 24' @ 6304.00usft
Site:	GV 1-8 Pad	North Reference:	True
Well:	GM 543-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 10Jul2018 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		GV 1-8 Pad			
Site Position:		Northing:	1,599,836.41 usft	Latitude:	39.4507498
From:	Map	Easting:	2,256,677.81 usft	Longitude:	-108.1326980
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.66 °

Well	GM 543-8 - Slot GM 543-8 (A7)					
Well Position	+N/-S	8.74 usft	Northing:	1,599,844.69 usft	Latitude:	39.4507738
	+E/-W	15.75 usft	Easting:	2,256,693.81 usft	Longitude:	-108.1326422
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,280.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	6/21/2018	9.52	65.68	51,679

Design	Plan #2 10Jul2018 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	110.04

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	
1,036.18	36.65	110.04	974.98	-97.04	266.00	4.00	4.00	0.00	110.04	
4,264.96	36.65	110.04	3,565.51	-757.57	2,076.49	0.00	0.00	0.00	0.00	
5,597.33	10.00	110.04	4,778.00	-936.74	2,567.60	2.00	-2.00	0.00	180.00	
6,097.33	0.00	0.00	5,275.47	-951.66	2,608.49	2.00	-2.00	-22.01	-180.00	
7,492.86	0.00	0.00	6,671.00	-951.66	2,608.49	0.00	0.00	0.00	0.00	GM 543-8 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 543-8 - Slot GM 543-8 (A7)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6280'; & RKB 24' @ 6304.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 6280'; & RKB 24' @ 6304.00usft
Site:	GV 1-8 Pad	North Reference:	True
Well:	GM 543-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 10Jul2018 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 4.00									
200.00	3.20	110.04	199.96	-0.77	2.10	2.23	4.00	4.00	0.00
300.00	7.20	110.04	299.53	-3.87	10.61	11.29	4.00	4.00	0.00
400.00	11.20	110.04	398.22	-9.35	25.63	27.28	4.00	4.00	0.00
500.00	15.20	110.04	495.56	-17.17	47.08	50.11	4.00	4.00	0.00
600.00	19.20	110.04	591.07	-27.31	74.85	79.67	4.00	4.00	0.00
700.00	23.20	110.04	684.28	-39.70	108.81	115.83	4.00	4.00	0.00
800.00	27.20	110.04	774.74	-54.29	148.81	158.40	4.00	4.00	0.00
900.00	31.20	110.04	862.02	-71.01	194.63	207.18	4.00	4.00	0.00
1,000.00	35.20	110.04	945.68	-89.77	246.06	261.92	4.00	4.00	0.00
9 5/8" Casing @ 1000' MD									
1,036.18	36.65	110.04	974.98	-97.04	266.00	283.15	4.00	4.00	0.00
Start 3228.78 hold at 1036.18 MD									
1,100.00	36.65	110.04	1,026.18	-110.10	301.78	321.24	0.00	0.00	0.00
1,200.00	36.65	110.04	1,106.41	-130.56	357.86	380.93	0.00	0.00	0.00
1,300.00	36.65	110.04	1,186.65	-151.01	413.93	440.62	0.00	0.00	0.00
1,400.00	36.65	110.04	1,266.88	-171.47	470.00	500.31	0.00	0.00	0.00
1,500.00	36.65	110.04	1,347.11	-191.93	526.08	560.00	0.00	0.00	0.00
1,600.00	36.65	110.04	1,427.34	-212.39	582.15	619.68	0.00	0.00	0.00
1,700.00	36.65	110.04	1,507.58	-232.84	638.22	679.37	0.00	0.00	0.00
1,800.00	36.65	110.04	1,587.81	-253.30	694.30	739.06	0.00	0.00	0.00
1,900.00	36.65	110.04	1,668.04	-273.76	750.37	798.75	0.00	0.00	0.00
2,000.00	36.65	110.04	1,748.27	-294.22	806.45	858.44	0.00	0.00	0.00
2,100.00	36.65	110.04	1,828.51	-314.67	862.52	918.13	0.00	0.00	0.00
2,200.00	36.65	110.04	1,908.74	-335.13	918.59	977.82	0.00	0.00	0.00
2,300.00	36.65	110.04	1,988.97	-355.59	974.67	1,037.50	0.00	0.00	0.00
2,400.00	36.65	110.04	2,069.20	-376.05	1,030.74	1,097.19	0.00	0.00	0.00
2,419.69	36.65	110.04	2,085.00	-380.07	1,041.78	1,108.95	0.00	0.00	0.00
GSAND									
2,500.00	36.65	110.04	2,149.44	-396.50	1,086.81	1,156.88	0.00	0.00	0.00
2,550.56	36.65	110.04	2,190.00	-406.85	1,115.16	1,187.06	0.00	0.00	0.00
GSAND BASE									
2,600.00	36.65	110.04	2,229.67	-416.96	1,142.89	1,216.57	0.00	0.00	0.00
2,700.00	36.65	110.04	2,309.90	-437.42	1,198.96	1,276.26	0.00	0.00	0.00
2,800.00	36.65	110.04	2,390.13	-457.88	1,255.03	1,335.95	0.00	0.00	0.00
2,900.00	36.65	110.04	2,470.37	-478.33	1,311.11	1,395.64	0.00	0.00	0.00
2,980.56	36.65	110.04	2,535.00	-494.81	1,356.28	1,443.72	0.00	0.00	0.00
FRUN									
3,000.00	36.65	110.04	2,550.60	-498.79	1,367.18	1,455.33	0.00	0.00	0.00
3,100.00	36.65	110.04	2,630.83	-519.25	1,423.25	1,515.01	0.00	0.00	0.00
3,200.00	36.65	110.04	2,711.06	-539.70	1,479.33	1,574.70	0.00	0.00	0.00
3,300.00	36.65	110.04	2,791.30	-560.16	1,535.40	1,634.39	0.00	0.00	0.00
3,400.00	36.65	110.04	2,871.53	-580.62	1,591.47	1,694.08	0.00	0.00	0.00
3,500.00	36.65	110.04	2,951.76	-601.08	1,647.55	1,753.77	0.00	0.00	0.00
3,600.00	36.65	110.04	3,031.99	-621.53	1,703.62	1,813.46	0.00	0.00	0.00
3,700.00	36.65	110.04	3,112.23	-641.99	1,759.70	1,873.15	0.00	0.00	0.00
3,800.00	36.65	110.04	3,192.46	-662.45	1,815.77	1,932.84	0.00	0.00	0.00
3,900.00	36.65	110.04	3,272.69	-682.91	1,871.84	1,992.52	0.00	0.00	0.00
4,000.00	36.65	110.04	3,352.92	-703.36	1,927.92	2,052.21	0.00	0.00	0.00
4,100.00	36.65	110.04	3,433.16	-723.82	1,983.99	2,111.90	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 543-8 - Slot GM 543-8 (A7)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6280'; & RKB 24' @ 6304.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 6280'; & RKB 24' @ 6304.00usft
Site:	GV 1-8 Pad	North Reference:	True
Well:	GM 543-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 10Jul2018 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)	
4,200.00	36.65	110.04	3,513.39	-744.28	2,040.06	2,171.59	0.00	0.00	0.00	
4,264.96	36.65	110.04	3,565.51	-757.57	2,076.49	2,210.37	0.00	0.00	0.00	
Start Drop -2.00										
4,300.00	35.95	110.04	3,593.75	-764.68	2,095.97	2,231.11	2.00	-2.00	0.00	
4,329.84	35.35	110.04	3,618.00	-770.64	2,112.31	2,248.50	2.00	-2.00	0.00	
OCRK - MVRD										
4,400.00	33.95	110.04	3,675.71	-784.31	2,149.78	2,288.39	2.00	-2.00	0.00	
4,500.00	31.95	110.04	3,759.63	-802.95	2,200.87	2,342.77	2.00	-2.00	0.00	
4,600.00	29.95	110.04	3,845.39	-820.57	2,249.18	2,394.19	2.00	-2.00	0.00	
4,700.00	27.95	110.04	3,932.89	-837.16	2,294.64	2,442.59	2.00	-2.00	0.00	
4,800.00	25.95	110.04	4,022.03	-852.69	2,337.21	2,487.90	2.00	-2.00	0.00	
4,900.00	23.95	110.04	4,112.69	-867.14	2,376.83	2,530.07	2.00	-2.00	0.00	
5,000.00	21.95	110.04	4,204.78	-880.50	2,413.46	2,569.06	2.00	-2.00	0.00	
5,100.00	19.95	110.04	4,298.16	-892.76	2,447.04	2,604.81	2.00	-2.00	0.00	
5,200.00	17.95	110.04	4,392.74	-903.88	2,477.54	2,637.27	2.00	-2.00	0.00	
5,300.00	15.95	110.04	4,488.39	-913.87	2,504.92	2,666.42	2.00	-2.00	0.00	
5,400.00	13.95	110.04	4,585.01	-922.71	2,529.15	2,692.21	2.00	-2.00	0.00	
5,500.00	11.95	110.04	4,682.46	-930.39	2,550.20	2,714.61	2.00	-2.00	0.00	
5,597.33	10.00	110.04	4,778.00	-936.74	2,567.60	2,733.14	2.00	-2.00	0.00	
Start DLS 2.00 TFO -180.00 - KMGAS										
5,600.00	9.95	110.04	4,780.63	-936.90	2,568.04	2,733.60	2.00	-2.00	0.00	
5,604.11	9.86	110.04	4,784.68	-937.14	2,568.70	2,734.31	2.00	-2.00	0.00	
GM 543-8 BTV										
5,700.00	7.95	110.04	4,879.41	-942.23	2,582.64	2,749.15	2.00	-2.00	0.00	
5,800.00	5.95	110.04	4,978.67	-946.37	2,594.00	2,761.25	2.00	-2.00	0.00	
5,900.00	3.95	110.04	5,078.30	-949.33	2,602.10	2,769.87	2.00	-2.00	0.00	
6,000.00	1.95	110.04	5,178.16	-951.09	2,606.93	2,775.01	2.00	-2.00	0.00	
6,097.33	0.00	0.00	5,275.47	-951.66	2,608.49	2,776.66	2.00	-2.00	-113.07	
Start 1395.53 hold at 6097.33 MD										
6,100.00	0.00	0.00	5,278.14	-951.66	2,608.49	2,776.66	0.00	0.00	0.00	
6,200.00	0.00	0.00	5,378.14	-951.66	2,608.49	2,776.66	0.00	0.00	0.00	
6,300.00	0.00	0.00	5,478.14	-951.66	2,608.49	2,776.66	0.00	0.00	0.00	
6,400.00	0.00	0.00	5,578.14	-951.66	2,608.49	2,776.66	0.00	0.00	0.00	
6,500.00	0.00	0.00	5,678.14	-951.66	2,608.49	2,776.66	0.00	0.00	0.00	
6,600.00	0.00	0.00	5,778.14	-951.66	2,608.49	2,776.66	0.00	0.00	0.00	
6,700.00	0.00	0.00	5,878.14	-951.66	2,608.49	2,776.66	0.00	0.00	0.00	
6,800.00	0.00	0.00	5,978.14	-951.66	2,608.49	2,776.66	0.00	0.00	0.00	
6,878.86	0.00	0.00	6,057.00	-951.66	2,608.49	2,776.66	0.00	0.00	0.00	
CMEQ										
6,900.00	0.00	0.00	6,078.14	-951.66	2,608.49	2,776.66	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,178.14	-951.66	2,608.49	2,776.66	0.00	0.00	0.00	
7,100.00	0.00	0.00	6,278.14	-951.66	2,608.49	2,776.66	0.00	0.00	0.00	
7,200.00	0.00	0.00	6,378.14	-951.66	2,608.49	2,776.66	0.00	0.00	0.00	
7,300.00	0.00	0.00	6,478.14	-951.66	2,608.49	2,776.66	0.00	0.00	0.00	
7,342.86	0.00	0.00	6,521.00	-951.66	2,608.49	2,776.66	0.00	0.00	0.00	
RLNS										
7,400.00	0.00	0.00	6,578.14	-951.66	2,608.49	2,776.66	0.00	0.00	0.00	
7,492.86	0.00	0.00	6,671.00	-951.66	2,608.49	2,776.66	0.00	0.00	0.00	
TD at 7492.86 - TD - GM 543-8 PBHL										

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 543-8 - Slot GM 543-8 (A7)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6280'; & RKB 24' @ 6304.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 6280'; & RKB 24' @ 6304.00usft
Site:	GV 1-8 Pad	North Reference:	True
Well:	GM 543-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 10Jul2018 mmsdi		

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
GM 543-8 BTV	0.00	0.00	4,778.00	-951.65	2,608.56	1,598,817.86	2,259,273.70	39.4481607	-108.1234049
- hit/miss target									
- Shape									
- plan misses target center by 42.94usft at 5604.11usft MD (4784.68 TVD, -937.14 N, 2568.70 E)									
- Circle (radius 50.00)									
GM 543-8 PBHL	0.00	0.00	6,671.00	-951.65	2,608.56	1,598,817.86	2,259,273.70	39.4481607	-108.1234049
- plan misses target center by 0.07usft at 7492.86usft MD (6671.00 TVD, -951.66 N, 2608.49 E)									
- Point									

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 (°)
2,419.69	2,085.00	GSAND		0.00	0.00
2,550.56	2,190.00	GSAND BASE		0.00	0.00
2,980.56	2,535.00	FRUN		0.00	0.00
4,329.84	3,618.00	OCRK		0.00	0.00
4,329.84	3,618.00	MVRD		0.00	0.00
5,597.33	4,778.00	KMVGAS		0.00	0.00
6,878.86	6,057.00	CME0		0.00	0.00
7,342.86	6,521.00	RLNS		0.00	0.00
7,492.86	6,671.00	TD		0.00	0.00

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 4.00
1,036.18	974.98	-97.04	266.00	Start 3228.78 hold at 1036.18 MD
4,264.96	3,565.51	-757.57	2,076.49	Start Drop -2.00
5,597.33	4,778.00	-936.74	2,567.60	Start DLS 2.00 TFO -180.00
6,097.33	5,275.47	-951.66	2,608.49	Start 1395.53 hold at 6097.33 MD
7,492.86	6,671.00	-951.66	2,608.49	TD at 7492.86