

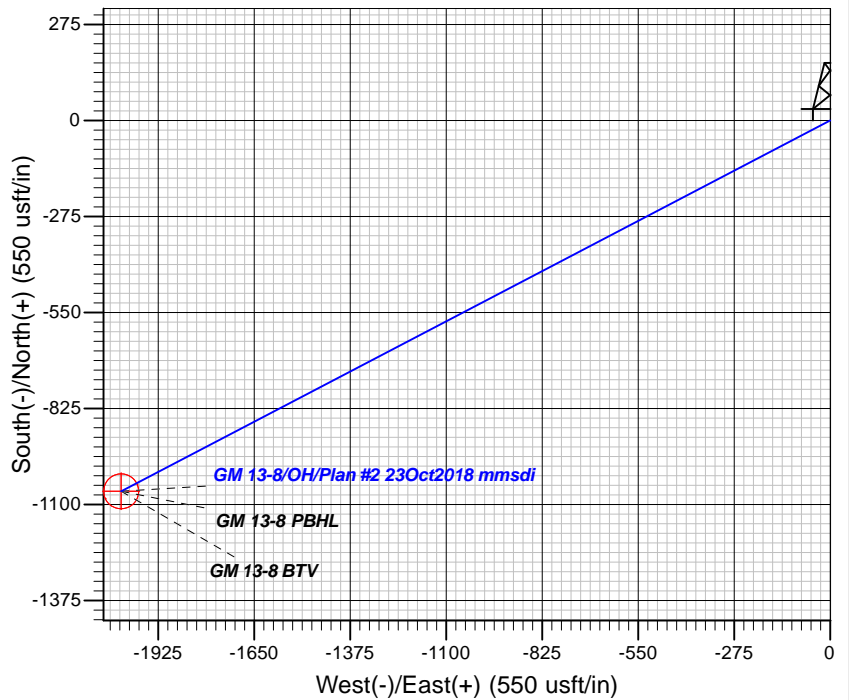
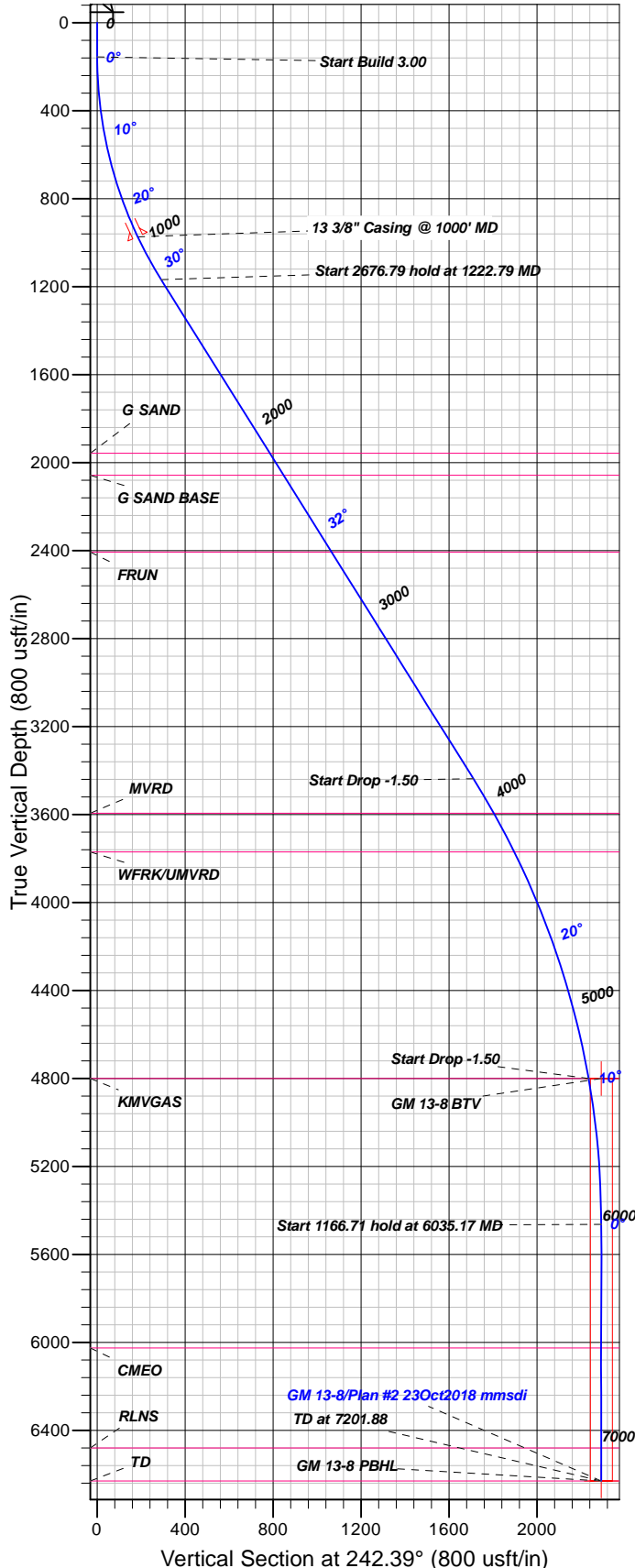


Azimuths to True North
Magnetic North: 9.52°

Magnetic Field
Strength: 51678.7snT
Dip Angle: 65.68°
Date: 6/18/2018
Model: HDGM

Well Details: GM 13-8

GL 6175' & RKB 24' @ 6199.00usft
+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.00 0.00 1601105.17 2257372.30 39.4542869 -108.1303697 GM 13-8 (A1)



FORMATION TOP DETAILS

TVDP	MD	Formation
1957.00	2153.48	G SAND
2057.00	2271.44	G SAND BASE
2406.86	2684.14	FRUN
3594.00	4081.85	MVRD
3770.00	4280.85	WFRK/UMVRD
4800.00	5368.50	KMVGAS
6025.00	6596.88	CMEO
6480.00	7051.88	RLNS
6630.00	7201.88	TD

Plan: Plan #2 23Oct2018 mmsdi

9:26, November 02 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

TVDP	MD	Name	Size
972.70	1000.00	13 3/8" Casing @ 1000' MD	13.37

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	155.00	0.00	0.00	155.00	0.00	0.00	0.00	0.00	0.00	
3	1222.79	32.03	242.39	1168.02	-134.77	-257.69	3.00	242.39	290.80	
4	3899.58	32.03	242.39	3437.24	-792.78	-1515.83	0.00	0.00	1710.62	
5	5368.50	10.00	242.39	4800.00	-1035.43	-1979.78	1.50	180.00	2234.20	
6	6035.17	0.00	0.00	5463.29	-1062.32	-2031.20	1.50	180.00	2292.23	
7	7201.88	0.00	0.00	6630.00	-1062.32	-2031.20	0.00	0.00	2292.23	GM 13-8 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
GM 13-8 BTM	4800.00	-1062.32	-2031.20	1600102.10	2255311.20	39.4513701	-108.1375628	Circle (Radius: 50.00)
- plan misses target center by 57.16usft at 5378.34usft MD (4809.69 TVD, -1036.22 N, -1981.28 E)								
GM 13-8 PBHL	6630.00	-1062.32	-2031.20	1600102.10	2255311.20	39.4513701	-108.1375628	Point
- plan misses target center by 0.01usft at 7201.88usft MD (6630.00 TVD, -1062.32 N, -2031.20 E)								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

MV 60-8D Pad

GM 13-8 - Slot GM 13-8 (A1)

OH

Plan: Plan #2 23Oct2018 mmsdi

Standard Planning Report

02 November, 2018



Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 13-8 - Slot GM 13-8 (A1)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6175' & RKB 24' @ 6199.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 6175' & RKB 24' @ 6199.00usft
Site:	MV 60-8D Pad	North Reference:	True
Well:	GM 13-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 23Oct2018 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	MV 60-8D Pad				
Site Position:		Northing:	1,601,172.03 usft	Latitude:	39.4544712
From:	Map	Easting:	2,257,381.57 usft	Longitude:	-108.1303437
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.66

Well	GM 13-8 - Slot GM 13-8 (A1)					
Well Position	+N/-S	-67.10 usft	Northing:	1,601,105.17 usft	Latitude:	39.4542869
	+E/-W	-7.33 usft	Easting:	2,257,372.30 usft	Longitude:	-108.1303697
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,175.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	6/18/2018	9.52	65.68	51,679

Design	Plan #2 23Oct2018 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	242.39

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	
155.00	0.00	0.00	155.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,222.79	32.03	242.39	1,168.02	-134.77	-257.69	3.00	3.00	0.00	242.39	
3,899.58	32.03	242.39	3,437.24	-792.78	-1,515.83	0.00	0.00	0.00	0.00	
5,368.50	10.00	242.39	4,800.00	-1,035.43	-1,979.78	1.50	-1.50	0.00	180.00	
6,035.17	0.00	0.00	5,463.29	-1,062.32	-2,031.20	1.50	-1.50	0.00	180.00	
7,201.88	0.00	0.00	6,630.00	-1,062.32	-2,031.20	0.00	0.00	0.00	0.00	GM 13-8 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 13-8 - Slot GM 13-8 (A1)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6175' & RKB 24' @ 6199.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 6175' & RKB 24' @ 6199.00usft
Site:	MV 60-8D Pad	North Reference:	True
Well:	GM 13-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 23Oct2018 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
155.00	0.00	0.00	155.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.00									
200.00	1.35	242.39	200.00	-0.25	-0.47	0.53	3.00	3.00	0.00
300.00	4.35	242.39	299.86	-2.55	-4.88	5.50	3.00	3.00	0.00
400.00	7.35	242.39	399.33	-7.27	-13.91	15.69	3.00	3.00	0.00
500.00	10.35	242.39	498.13	-14.40	-27.54	31.08	3.00	3.00	0.00
600.00	13.35	242.39	595.98	-23.92	-45.73	51.61	3.00	3.00	0.00
700.00	16.35	242.39	692.63	-35.79	-68.44	77.23	3.00	3.00	0.00
800.00	19.35	242.39	787.81	-50.00	-95.60	107.88	3.00	3.00	0.00
900.00	22.35	242.39	881.25	-66.49	-127.13	143.47	3.00	3.00	0.00
1,000.00	25.35	242.39	972.70	-85.23	-162.96	183.90	3.00	3.00	0.00
13 3/8" Casing @ 1000' MD									
1,100.00	28.35	242.39	1,061.91	-106.16	-202.98	229.06	3.00	3.00	0.00
1,200.00	31.35	242.39	1,148.63	-129.22	-247.08	278.83	3.00	3.00	0.00
1,222.79	32.03	242.39	1,168.02	-134.77	-257.69	290.80	3.00	3.00	0.00
Start 2676.79 hold at 1222.79 MD									
1,300.00	32.03	242.39	1,233.48	-153.75	-293.98	331.76	0.00	0.00	0.00
1,400.00	32.03	242.39	1,318.25	-178.33	-340.98	384.80	0.00	0.00	0.00
1,500.00	32.03	242.39	1,403.02	-202.91	-387.98	437.84	0.00	0.00	0.00
1,600.00	32.03	242.39	1,487.80	-227.50	-434.98	490.88	0.00	0.00	0.00
1,700.00	32.03	242.39	1,572.57	-252.08	-481.98	543.92	0.00	0.00	0.00
1,800.00	32.03	242.39	1,657.35	-276.66	-528.99	596.97	0.00	0.00	0.00
1,900.00	32.03	242.39	1,742.12	-301.24	-575.99	650.01	0.00	0.00	0.00
2,000.00	32.03	242.39	1,826.89	-325.83	-622.99	703.05	0.00	0.00	0.00
2,100.00	32.03	242.39	1,911.67	-350.41	-669.99	756.09	0.00	0.00	0.00
2,153.48	32.03	242.39	1,957.00	-363.55	-695.13	784.46	0.00	0.00	0.00
G SAND									
2,200.00	32.03	242.39	1,996.44	-374.99	-716.99	809.13	0.00	0.00	0.00
2,271.44	32.03	242.39	2,057.00	-392.55	-750.57	847.02	0.00	0.00	0.00
G SAND BASE									
2,300.00	32.03	242.39	2,081.21	-399.57	-763.99	862.17	0.00	0.00	0.00
2,400.00	32.03	242.39	2,165.99	-424.15	-811.00	915.22	0.00	0.00	0.00
2,500.00	32.03	242.39	2,250.76	-448.74	-858.00	968.26	0.00	0.00	0.00
2,600.00	32.03	242.39	2,335.53	-473.32	-905.00	1,021.30	0.00	0.00	0.00
2,684.14	32.03	242.39	2,406.86	-494.00	-944.55	1,065.93	0.00	0.00	0.00
FRUN									
2,700.00	32.03	242.39	2,420.31	-497.90	-952.00	1,074.34	0.00	0.00	0.00
2,800.00	32.03	242.39	2,505.08	-522.48	-999.00	1,127.38	0.00	0.00	0.00
2,900.00	32.03	242.39	2,589.85	-547.06	-1,046.00	1,180.43	0.00	0.00	0.00
3,000.00	32.03	242.39	2,674.63	-571.65	-1,093.01	1,233.47	0.00	0.00	0.00
3,100.00	32.03	242.39	2,759.40	-596.23	-1,140.01	1,286.51	0.00	0.00	0.00
3,200.00	32.03	242.39	2,844.18	-620.81	-1,187.01	1,339.55	0.00	0.00	0.00
3,300.00	32.03	242.39	2,928.95	-645.39	-1,234.01	1,392.59	0.00	0.00	0.00
3,400.00	32.03	242.39	3,013.72	-669.97	-1,281.01	1,445.63	0.00	0.00	0.00
3,500.00	32.03	242.39	3,098.50	-694.56	-1,328.02	1,498.68	0.00	0.00	0.00
3,600.00	32.03	242.39	3,183.27	-719.14	-1,375.02	1,551.72	0.00	0.00	0.00
3,700.00	32.03	242.39	3,268.04	-743.72	-1,422.02	1,604.76	0.00	0.00	0.00
3,800.00	32.03	242.39	3,352.82	-768.30	-1,469.02	1,657.80	0.00	0.00	0.00
3,899.58	32.03	242.39	3,437.24	-792.78	-1,515.83	1,710.62	0.00	0.00	0.00
Start Drop -1.50									
3,900.00	32.03	242.39	3,437.59	-792.88	-1,516.02	1,710.84	1.50	-1.50	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 13-8 - Slot GM 13-8 (A1)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6175' & RKB 24' @ 6199.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 6175' & RKB 24' @ 6199.00usft
Site:	MV 60-8D Pad	North Reference:	True
Well:	GM 13-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 23Oct2018 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)	
4,000.00	30.53	242.39	3,523.05	-816.94	-1,562.03	1,762.76	1.50	-1.50	0.00	
4,081.85	29.30	242.39	3,594.00	-835.86	-1,598.20	1,803.58	1.50	-1.50	0.00	
MVRD										
4,100.00	29.03	242.39	3,609.85	-839.96	-1,606.03	1,812.42	1.50	-1.50	0.00	
4,200.00	27.53	242.39	3,697.91	-861.91	-1,648.01	1,859.80	1.50	-1.50	0.00	
4,280.85	26.31	242.39	3,770.00	-878.88	-1,680.45	1,896.40	1.50	-1.50	0.00	
WFRK/UMVRD										
4,300.00	26.03	242.39	3,787.19	-882.79	-1,687.93	1,904.85	1.50	-1.50	0.00	
4,400.00	24.53	242.39	3,877.61	-902.58	-1,725.77	1,947.55	1.50	-1.50	0.00	
4,500.00	23.03	242.39	3,969.12	-921.27	-1,761.50	1,987.86	1.50	-1.50	0.00	
4,600.00	21.53	242.39	4,061.65	-938.84	-1,795.09	2,025.77	1.50	-1.50	0.00	
4,700.00	20.03	242.39	4,155.14	-955.28	-1,826.52	2,061.24	1.50	-1.50	0.00	
4,800.00	18.53	242.39	4,249.54	-970.58	-1,855.77	2,094.26	1.50	-1.50	0.00	
4,900.00	17.03	242.39	4,344.76	-984.72	-1,882.83	2,124.79	1.50	-1.50	0.00	
5,000.00	15.53	242.39	4,440.75	-997.71	-1,907.67	2,152.82	1.50	-1.50	0.00	
5,100.00	14.03	242.39	4,537.44	-1,009.53	-1,930.27	2,178.32	1.50	-1.50	0.00	
5,200.00	12.53	242.39	4,634.76	-1,020.18	-1,950.62	2,201.29	1.50	-1.50	0.00	
5,300.00	11.03	242.39	4,732.65	-1,029.64	-1,968.70	2,221.70	1.50	-1.50	0.00	
5,368.50	10.00	242.39	4,800.00	-1,035.43	-1,979.78	2,234.20	1.50	-1.50	0.00	
Start Drop -1.50 - KMGAS										
5,378.34	9.85	242.39	4,809.69	-1,036.22	-1,981.28	2,235.90	1.50	-1.50	0.00	
GM 13-8 BTV										
5,400.00	9.53	242.39	4,831.04	-1,037.91	-1,984.51	2,239.54	1.50	-1.50	0.00	
5,500.00	8.03	242.39	4,929.87	-1,044.98	-1,998.04	2,254.80	1.50	-1.50	0.00	
5,600.00	6.53	242.39	5,029.06	-1,050.85	-2,009.26	2,267.47	1.50	-1.50	0.00	
5,700.00	5.03	242.39	5,128.55	-1,055.51	-2,018.18	2,277.53	1.50	-1.50	0.00	
5,800.00	3.53	242.39	5,228.27	-1,058.97	-2,024.79	2,284.99	1.50	-1.50	0.00	
5,900.00	2.03	242.39	5,328.15	-1,061.22	-2,029.08	2,289.84	1.50	-1.50	0.00	
6,000.00	0.53	242.39	5,428.12	-1,062.25	-2,031.06	2,292.07	1.50	-1.50	0.00	
6,035.17	0.00	0.00	5,463.29	-1,062.32	-2,031.20	2,292.23	1.50	-1.50	0.00	
Start 1166.71 hold at 6035.17 MD										
6,100.00	0.00	0.00	5,528.12	-1,062.32	-2,031.20	2,292.23	0.00	0.00	0.00	
6,200.00	0.00	0.00	5,628.12	-1,062.32	-2,031.20	2,292.23	0.00	0.00	0.00	
6,300.00	0.00	0.00	5,728.12	-1,062.32	-2,031.20	2,292.23	0.00	0.00	0.00	
6,400.00	0.00	0.00	5,828.12	-1,062.32	-2,031.20	2,292.23	0.00	0.00	0.00	
6,500.00	0.00	0.00	5,928.12	-1,062.32	-2,031.20	2,292.23	0.00	0.00	0.00	
6,596.88	0.00	0.00	6,025.00	-1,062.32	-2,031.20	2,292.23	0.00	0.00	0.00	
CMEO										
6,600.00	0.00	0.00	6,028.12	-1,062.32	-2,031.20	2,292.23	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,128.12	-1,062.32	-2,031.20	2,292.23	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,228.12	-1,062.32	-2,031.20	2,292.23	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,328.12	-1,062.32	-2,031.20	2,292.23	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,428.12	-1,062.32	-2,031.20	2,292.23	0.00	0.00	0.00	
7,051.88	0.00	0.00	6,480.00	-1,062.32	-2,031.20	2,292.23	0.00	0.00	0.00	
RLNS										
7,100.00	0.00	0.00	6,528.12	-1,062.32	-2,031.20	2,292.23	0.00	0.00	0.00	
7,200.00	0.00	0.00	6,628.12	-1,062.32	-2,031.20	2,292.23	0.00	0.00	0.00	
7,201.88	0.00	0.00	6,630.00	-1,062.32	-2,031.20	2,292.23	0.00	0.00	0.00	
TD at 7201.88 - TD - GM 13-8 PBHL										

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 13-8 - Slot GM 13-8 (A1)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6175' & RKB 24' @ 6199.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 6175' & RKB 24' @ 6199.00usft
Site:	MV 60-8D Pad	North Reference:	True
Well:	GM 13-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 23Oct2018 mmsdi		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
GM 13-8 BTV	0.00	0.00	4,800.00	-1,062.32	-2,031.20	1,600,102.10	2,255,311.20	39.4513701	-108.1375629
- plan misses target center by 57.16usft at 5378.34usft MD (4809.69 TVD, -1036.22 N, -1981.28 E)									
- Circle (radius 50.00)									
GM 13-8 PBHL	0.00	0.00	6,630.00	-1,062.32	-2,031.20	1,600,102.10	2,255,311.20	39.4513701	-108.1375629
- plan misses target center by 0.01usft at 7201.88usft MD (6630.00 TVD, -1062.32 N, -2031.20 E)									
- Point									

Casing Points				
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(usft)	(usft)		(in)	(in)
1,000.00	972.70	13 3/8" Casing @ 1000' MD	13.37	17.50

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(usft)	(usft)			(°)	(°)
2,153.48	1,957.00	G SAND		0.00	0.00
2,271.44	2,057.00	G SAND BASE		0.00	0.00
2,684.14	2,406.86	FRUN		0.00	0.00
4,081.85	3,594.00	MVRD		0.00	0.00
4,280.85	3,770.00	WFRK/UMVRD		0.00	0.00
5,368.50	4,800.00	KMVGAS		0.00	0.00
6,596.88	6,025.00	CME0		0.00	0.00
7,051.88	6,480.00	RLNS		0.00	0.00
7,201.88	6,630.00	TD		0.00	0.00

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S	+E/-W	
(usft)	(usft)	(usft)	(usft)	
155.00	155.00	0.00	0.00	Start Build 3.00
1,222.79	1,168.02	-134.77	-257.69	Start 2676.79 hold at 1222.79 MD
3,899.58	3,437.24	-792.78	-1,515.83	Start Drop -1.50
5,368.50	4,800.00	-1,035.43	-1,979.78	Start Drop -1.50
6,035.17	5,463.29	-1,062.32	-2,031.20	Start 1166.71 hold at 6035.17 MD
7,201.88	6,630.00	-1,062.32	-2,031.20	TD at 7201.88