

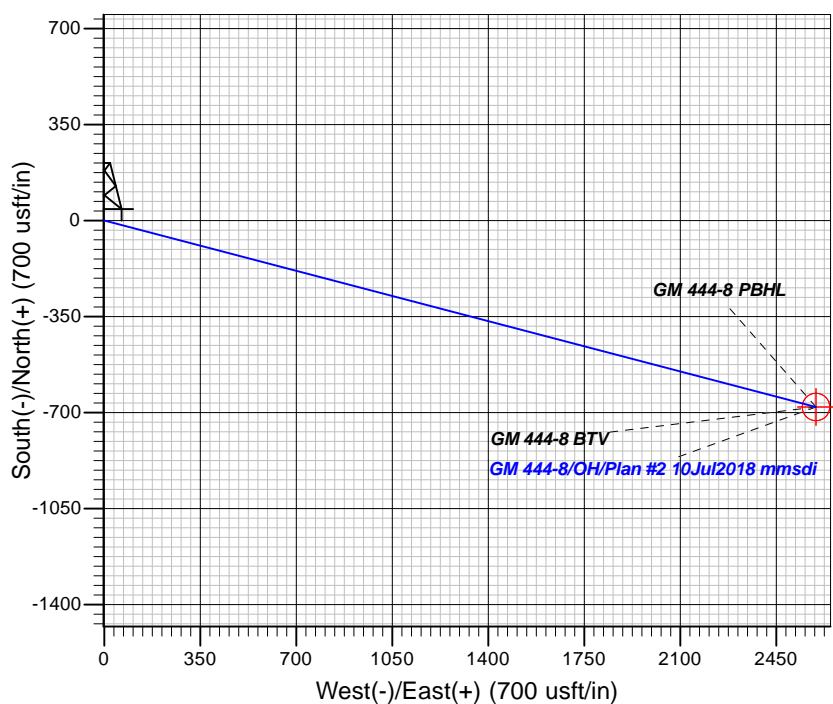
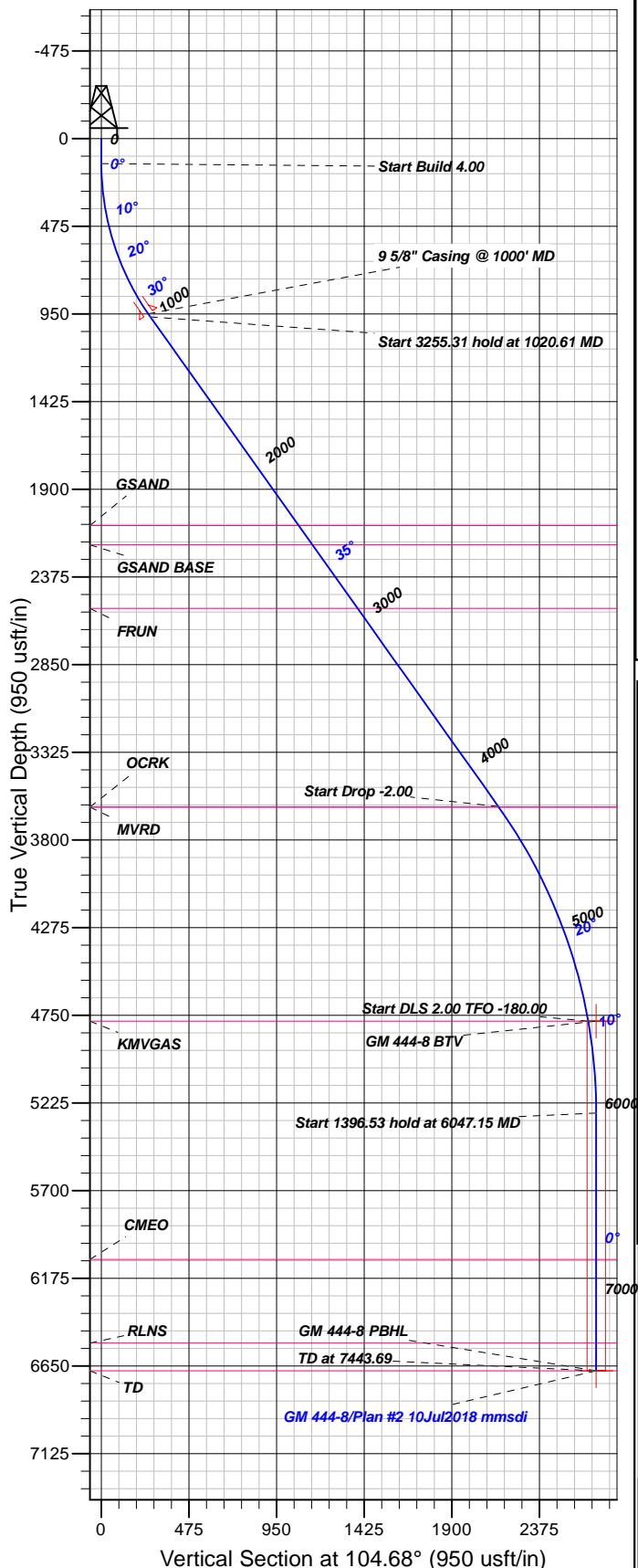


Azimuths to True North
Magnetic North: 9.52°

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

Well Details: GM 444-8

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1599851.26	2256697.44	39.4507921	-108.1326300	GM 444-8 (A8)



FORMATION TOP DETAILS

TVDP	MD	Formation
2095.00	2407.00	GSAND
2200.00	2535.86	GSAND BASE
2545.00	2959.23	FRUN
3621.00	4279.67	MVRD
3621.00	4279.67	OCRK
4781.00	5547.15	KMGAS
6072.00	6840.69	CMEO
6525.00	7293.69	RLNS
6675.00	7443.69	TD

Plan: Plan #2 10Jul2018 mmsdi

16:33, July 10 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
948.38	1000.00	5/8" Casing @ 1000' MD	9.62

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	
3	1020.61	35.42	104.68	965.26	-67.19	256.51	4.00	104.68	265.17	
4	4275.93	35.42	104.68	3617.95	-545.27	2081.82	0.00	0.00	152.04	
5	5547.15	10.00	104.68	4781.00	-668.62	2552.74	2.00	180.00	263.85	
6	6047.15	0.00	0.00	5278.47	-679.65	2594.84	2.00	-180.00	2682.37	
7	7443.69	0.00	0.00	6675.00	-679.65	2594.84	0.00	0.00	2682.37	GM 444-8 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
GM 444-8 BTV	4781.00	-679.65	2594.84	1599851.26	2256697.44	39.4489258	-108.1234411	Circle (Radius: 50.00)
- plan misses target center by 42.87usft at 5554.32usft MD (4788.05 TVD, -668.93 N, 2553.93 E)								
GM 444-8 PBHL	6675.00	-679.65	2594.84	1599851.26	2256697.44	39.4489258	-108.1234411	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

GV 1-8 Pad

GM 444-8 - Slot GM 444-8 (A8)

OH

Plan: Plan #2 10Jul2018 mmsdi

Standard Planning Report

10 July, 2018



Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 444-8 - Slot GM 444-8 (A8)
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 444-8	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 444-8 - Slot GM 444-8 (A8)			
Well Position	+N/-S	15.41 usft	Northing:	1,599,851.26 usft
	+E/-W	19.19 usft	Easting:	2,256,697.44 usft
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	104.68

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	
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,020.61	35.42	104.68	965.26	-67.19	256.51	4.00	4.00	0.00	104.68	
4,275.93	35.42	104.68	3,617.95	-545.27	2,081.82	0.00	0.00	0.00	0.00	
5,547.15	10.00	104.68	4,781.00	-668.62	2,552.74	2.00	-2.00	0.00	180.00	
6,047.15	0.00	0.00	5,278.47	-679.65	2,594.84	2.00	-2.00	-20.94	-180.00	
7,443.69	0.00	0.00	6,675.00	-679.65	2,594.84	0.00	0.00	0.00	0.00	GM 444-8 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 444-8 - Slot GM 444-8 (A8)
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 444-8	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
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 4.00									
200.00	2.60	104.68	199.98	-0.37	1.43	1.47	4.00	4.00	0.00
300.00	6.60	104.68	299.64	-2.41	9.18	9.49	4.00	4.00	0.00
400.00	10.60	104.68	398.49	-6.19	23.65	24.44	4.00	4.00	0.00
500.00	14.60	104.68	496.06	-11.72	44.74	46.25	4.00	4.00	0.00
600.00	18.60	104.68	591.88	-18.96	72.37	74.82	4.00	4.00	0.00
700.00	22.60	104.68	685.46	-27.87	106.40	109.99	4.00	4.00	0.00
800.00	26.60	104.68	776.37	-38.41	146.67	151.61	4.00	4.00	0.00
900.00	30.60	104.68	864.15	-50.54	192.96	199.47	4.00	4.00	0.00
1,000.00	34.60	104.68	948.38	-64.19	245.07	253.34	4.00	4.00	0.00
9 5/8" Casing @ 1000' MD									
1,020.61	35.42	104.68	965.26	-67.19	256.51	265.17	4.00	4.00	0.00
Start 3255.31 hold at 1020.61 MD									
1,100.00	35.42	104.68	1,029.95	-78.85	301.03	311.18	0.00	0.00	0.00
1,200.00	35.42	104.68	1,111.44	-93.53	357.10	369.14	0.00	0.00	0.00
1,300.00	35.42	104.68	1,192.93	-108.22	413.17	427.11	0.00	0.00	0.00
1,400.00	35.42	104.68	1,274.41	-122.90	469.24	485.07	0.00	0.00	0.00
1,500.00	35.42	104.68	1,355.90	-137.59	525.31	543.03	0.00	0.00	0.00
1,600.00	35.42	104.68	1,437.39	-152.28	581.38	601.00	0.00	0.00	0.00
1,700.00	35.42	104.68	1,518.88	-166.96	637.46	658.96	0.00	0.00	0.00
1,800.00	35.42	104.68	1,600.37	-181.65	693.53	716.92	0.00	0.00	0.00
1,900.00	35.42	104.68	1,681.85	-196.34	749.60	774.88	0.00	0.00	0.00
2,000.00	35.42	104.68	1,763.34	-211.02	805.67	832.85	0.00	0.00	0.00
2,100.00	35.42	104.68	1,844.83	-225.71	861.74	890.81	0.00	0.00	0.00
2,200.00	35.42	104.68	1,926.32	-240.40	917.81	948.77	0.00	0.00	0.00
2,300.00	35.42	104.68	2,007.81	-255.08	973.88	1,006.74	0.00	0.00	0.00
2,400.00	35.42	104.68	2,089.29	-269.77	1,029.96	1,064.70	0.00	0.00	0.00
2,407.00	35.42	104.68	2,095.00	-270.80	1,033.88	1,068.76	0.00	0.00	0.00
GSAND									
2,500.00	35.42	104.68	2,170.78	-284.46	1,086.03	1,122.66	0.00	0.00	0.00
2,535.86	35.42	104.68	2,200.00	-289.72	1,106.13	1,143.45	0.00	0.00	0.00
GSAND BASE									
2,600.00	35.42	104.68	2,252.27	-299.14	1,142.10	1,180.63	0.00	0.00	0.00
2,700.00	35.42	104.68	2,333.76	-313.83	1,198.17	1,238.59	0.00	0.00	0.00
2,800.00	35.42	104.68	2,415.25	-328.51	1,254.24	1,296.55	0.00	0.00	0.00
2,900.00	35.42	104.68	2,496.73	-343.20	1,310.31	1,354.51	0.00	0.00	0.00
2,959.23	35.42	104.68	2,545.00	-351.90	1,343.53	1,388.85	0.00	0.00	0.00
FRUN									
3,000.00	35.42	104.68	2,578.22	-357.89	1,366.39	1,412.48	0.00	0.00	0.00
3,100.00	35.42	104.68	2,659.71	-372.57	1,422.46	1,470.44	0.00	0.00	0.00
3,200.00	35.42	104.68	2,741.20	-387.26	1,478.53	1,528.40	0.00	0.00	0.00
3,300.00	35.42	104.68	2,822.68	-401.95	1,534.60	1,586.37	0.00	0.00	0.00
3,400.00	35.42	104.68	2,904.17	-416.63	1,590.67	1,644.33	0.00	0.00	0.00
3,500.00	35.42	104.68	2,985.66	-431.32	1,646.74	1,702.29	0.00	0.00	0.00
3,600.00	35.42	104.68	3,067.15	-446.01	1,702.82	1,760.26	0.00	0.00	0.00
3,700.00	35.42	104.68	3,148.64	-460.69	1,758.89	1,818.22	0.00	0.00	0.00
3,800.00	35.42	104.68	3,230.12	-475.38	1,814.96	1,876.18	0.00	0.00	0.00
3,900.00	35.42	104.68	3,311.61	-490.06	1,871.03	1,934.14	0.00	0.00	0.00
4,000.00	35.42	104.68	3,393.10	-504.75	1,927.10	1,992.11	0.00	0.00	0.00
4,100.00	35.42	104.68	3,474.59	-519.44	1,983.17	2,050.07	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 444-8 - Slot GM 444-8 (A8)
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 444-8	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	35.42	104.68	3,556.08	-534.12	2,039.24	2,108.03	0.00	0.00	0.00	
4,275.93	35.42	104.68	3,617.95	-545.27	2,081.82	2,152.04	0.00	0.00	0.00	
Start Drop -2.00										
4,279.67	35.35	104.68	3,621.00	-545.82	2,083.92	2,154.21	2.00	-2.00	0.00	
OCRK - MVRD										
4,300.00	34.94	104.68	3,637.62	-548.79	2,095.24	2,165.91	2.00	-2.00	0.00	
4,400.00	32.94	104.68	3,720.58	-562.94	2,149.25	2,221.75	2.00	-2.00	0.00	
4,500.00	30.94	104.68	3,805.43	-576.34	2,200.43	2,274.65	2.00	-2.00	0.00	
4,600.00	28.94	104.68	3,892.08	-588.99	2,248.71	2,324.56	2.00	-2.00	0.00	
4,700.00	26.94	104.68	3,980.42	-600.86	2,294.04	2,371.42	2.00	-2.00	0.00	
4,800.00	24.94	104.68	4,070.33	-611.94	2,336.36	2,415.17	2.00	-2.00	0.00	
4,900.00	22.94	104.68	4,161.72	-622.23	2,375.61	2,455.75	2.00	-2.00	0.00	
5,000.00	20.94	104.68	4,254.48	-631.69	2,411.76	2,493.11	2.00	-2.00	0.00	
5,100.00	18.94	104.68	4,348.47	-640.34	2,444.75	2,527.22	2.00	-2.00	0.00	
5,200.00	16.94	104.68	4,443.61	-648.14	2,474.55	2,558.03	2.00	-2.00	0.00	
5,300.00	14.94	104.68	4,539.75	-655.10	2,501.12	2,585.49	2.00	-2.00	0.00	
5,400.00	12.94	104.68	4,636.80	-661.21	2,524.43	2,609.59	2.00	-2.00	0.00	
5,500.00	10.94	104.68	4,734.63	-666.45	2,544.45	2,630.28	2.00	-2.00	0.00	
5,547.15	10.00	104.68	4,781.00	-668.62	2,552.74	2,638.85	2.00	-2.00	0.00	
Start DLS 2.00 TFO -180.00 - KMGAS										
5,554.32	9.86	104.68	4,788.06	-668.93	2,553.93	2,640.09	2.00	-2.00	0.00	
GM 444-8 BTV										
5,600.00	8.94	104.68	4,833.13	-670.82	2,561.15	2,647.55	2.00	-2.00	0.00	
5,700.00	6.94	104.68	4,932.16	-674.32	2,574.52	2,661.37	2.00	-2.00	0.00	
5,800.00	4.94	104.68	5,031.62	-676.95	2,584.54	2,671.72	2.00	-2.00	0.00	
5,900.00	2.94	104.68	5,131.38	-678.69	2,591.19	2,678.60	2.00	-2.00	0.00	
6,000.00	0.94	104.68	5,231.31	-679.55	2,594.47	2,681.99	2.00	-2.00	0.00	
6,047.15	0.00	0.00	5,278.47	-679.65	2,594.84	2,682.37	2.00	-2.00	-222.00	
Start 1396.53 hold at 6047.15 MD										
6,100.00	0.00	0.00	5,331.31	-679.65	2,594.84	2,682.37	0.00	0.00	0.00	
6,200.00	0.00	0.00	5,431.31	-679.65	2,594.84	2,682.37	0.00	0.00	0.00	
6,300.00	0.00	0.00	5,531.31	-679.65	2,594.84	2,682.37	0.00	0.00	0.00	
6,400.00	0.00	0.00	5,631.31	-679.65	2,594.84	2,682.37	0.00	0.00	0.00	
6,500.00	0.00	0.00	5,731.31	-679.65	2,594.84	2,682.37	0.00	0.00	0.00	
6,600.00	0.00	0.00	5,831.31	-679.65	2,594.84	2,682.37	0.00	0.00	0.00	
6,700.00	0.00	0.00	5,931.31	-679.65	2,594.84	2,682.37	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,031.31	-679.65	2,594.84	2,682.37	0.00	0.00	0.00	
6,840.69	0.00	0.00	6,072.00	-679.65	2,594.84	2,682.37	0.00	0.00	0.00	
CMEO										
6,900.00	0.00	0.00	6,131.31	-679.65	2,594.84	2,682.37	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,231.31	-679.65	2,594.84	2,682.37	0.00	0.00	0.00	
7,100.00	0.00	0.00	6,331.31	-679.65	2,594.84	2,682.37	0.00	0.00	0.00	
7,200.00	0.00	0.00	6,431.31	-679.65	2,594.84	2,682.37	0.00	0.00	0.00	
7,293.69	0.00	0.00	6,525.00	-679.65	2,594.84	2,682.37	0.00	0.00	0.00	
RLNS										
7,300.00	0.00	0.00	6,531.31	-679.65	2,594.84	2,682.37	0.00	0.00	0.00	
7,400.00	0.00	0.00	6,631.31	-679.65	2,594.84	2,682.37	0.00	0.00	0.00	
7,443.69	0.00	0.00	6,675.00	-679.65	2,594.84	2,682.37	0.00	0.00	0.00	
TD at 7443.69 - TD - GM 444-8 PBHL										

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 444-8 - Slot GM 444-8 (A8)
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 444-8	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 444-8 BTV	0.00	0.00	4,781.00	-679.65	2,594.84	1,599,096.71	2,259,271.50	39.4489258	-108.1234412
- hit/miss target									
- Shape									
- plan misses target center by 42.87usft at 5554.32usft MD (4788.05 TVD, -668.93 N, 2553.93 E)									
- Circle (radius 50.00)									
GM 444-8 PBHL	0.00	0.00	6,675.00	-679.65	2,594.84	1,599,096.71	2,259,271.50	39.4489258	-108.1234412
- plan hits target center									
- Point									

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,000.00	948.38	9 5/8" Casing @ 1000' MD	9.62	13.50

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,407.00	2,095.00	GSAND		0.00	0.00
2,535.86	2,200.00	GSAND BASE		0.00	0.00
2,959.23	2,545.00	FRUN		0.00	0.00
4,279.67	3,621.00	OCRK		0.00	0.00
4,279.67	3,621.00	MVRD		0.00	0.00
5,547.15	4,781.00	KMVGAS		0.00	0.00
6,840.69	6,072.00	CME0		0.00	0.00
7,293.69	6,525.00	RLNS		0.00	0.00
7,443.69	6,675.00	TD		0.00	0.00

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
135.00	135.00	0.00	0.00	Start Build 4.00
1,020.61	965.26	-67.19	256.51	Start 3255.31 hold at 1020.61 MD
4,275.93	3,617.95	-545.27	2,081.82	Start Drop -2.00
5,547.15	4,781.00	-668.62	2,552.74	Start DLS 2.00 TFO -180.00
6,047.15	5,278.47	-679.65	2,594.84	Start 1396.53 hold at 6047.15 MD
7,443.69	6,675.00	-679.65	2,594.84	TD at 7443.69