

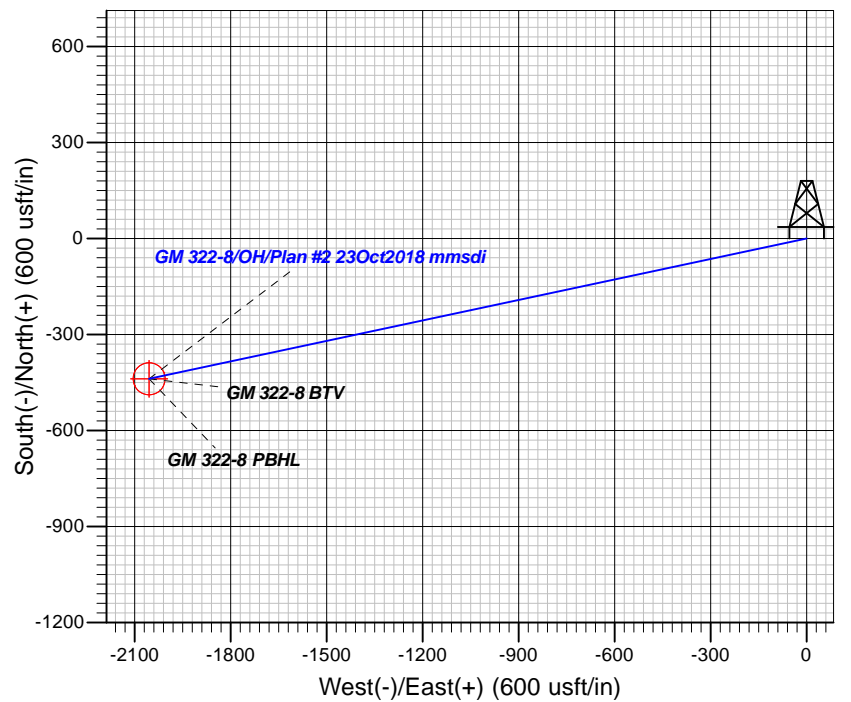
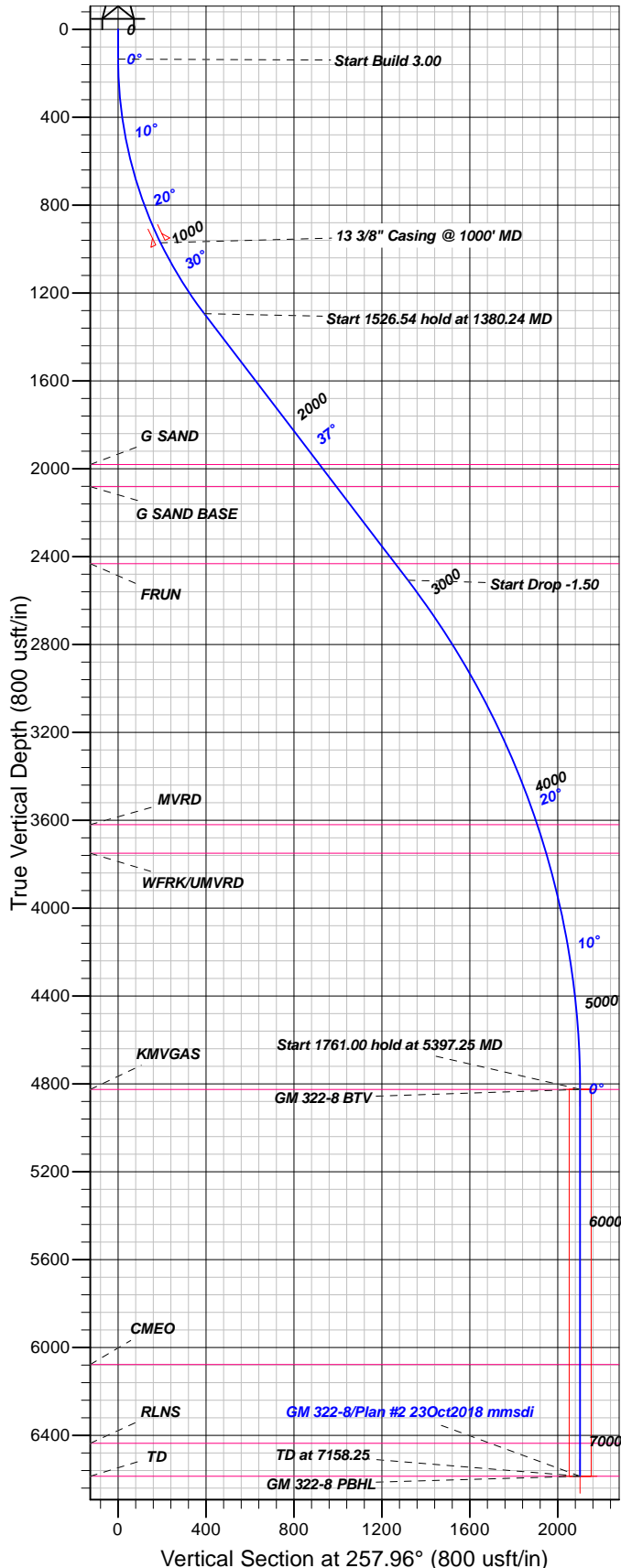


Azimuths to True North
Magnetic North: 9.52°

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

Well Details: GM 322-8

GL 6175' & RKB 24' @ 6199.00usft
+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.00 0.00 1601113.98 2257363.43 39.4543104 -108.1304020 GM 322-8 (B2)



FORMATION TOP DETAILS

TVDP	MD	Formation
1981.00	2244.70	G SAND
2081.00	2370.51	G SAND BASE
2431.49	2811.45	FRUN
3620.00	4171.31	MVRD
3750.00	4307.53	WFRK/UMVRD
4825.00	5397.25	KMGAS
6077.00	6649.25	CMEO
6436.00	7008.25	RLNS
6586.00	7158.25	TD

Plan: Plan #2 23Oct2018 mmsdi

9:38, 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

TVD	MD	Name	Size
970.73	1000.00	13 3/8" Casing @ 1000' MD	13.37

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	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	1380.24	37.36	257.96	1293.87	-81.74	-383.15	3.00	257.96	391.77	
4	2906.78	37.36	257.96	2507.26	-275.01	-1289.04	0.00	0.00	1318.05	
5	5397.25	0.00	0.00	4825.00	-438.50	-2055.34	1.50	180.00	2101.59	GM 322-8 BTM
6	7158.25	0.00	0.00	6586.00	-438.50	-2055.34	0.00	0.00	2101.59	GM 322-8 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
GM 322-8 BTM	4825.00	-438.50	-2055.34	1600735.17	2255296.26	39.4531063	-108.1376808	Circle (Radius: 50.00)
- plan hits target center								
GM 322-8 PBHL	6586.00	-438.50	-2055.34	1600735.17	2255296.26	39.4531063	-108.1376808	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

MV 60-8D Pad

GM 322-8 - Slot GM 322-8 (B2)

OH

Plan: Plan #2 23Oct2018 mmsdi

Standard Planning Report

02 November, 2018



Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 322-8 - Slot GM 322-8 (B2)
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 322-8	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 322-8 - Slot GM 322-8 (B2)					
Well Position	+N/-S	-58.55 usft	Northing:	1,601,113.98 usft	Latitude:	39.4543104
	+E/-W	-16.45 usft	Easting:	2,257,363.43 usft	Longitude:	-108.1304020
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	257.96

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	
1,380.24	37.36	257.96	1,293.87	-81.74	-383.15	3.00	3.00	0.00	257.96	
2,906.78	37.36	257.96	2,507.26	-275.01	-1,289.04	0.00	0.00	0.00	0.00	
5,397.25	0.00	0.00	4,825.00	-438.50	-2,055.34	1.50	-1.50	0.00	180.00	GM 322-8 BTV
7,158.25	0.00	0.00	6,586.00	-438.50	-2,055.34	0.00	0.00	0.00	0.00	GM 322-8 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 322-8 - Slot GM 322-8 (B2)
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 322-8	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
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.00									
200.00	1.95	257.96	199.99	-0.23	-1.08	1.11	3.00	3.00	0.00
300.00	4.95	257.96	299.79	-1.49	-6.97	7.12	3.00	3.00	0.00
400.00	7.95	257.96	399.15	-3.83	-17.95	18.36	3.00	3.00	0.00
500.00	10.95	257.96	497.78	-7.26	-34.01	34.77	3.00	3.00	0.00
600.00	13.95	257.96	595.42	-11.75	-55.09	56.33	3.00	3.00	0.00
700.00	16.95	257.96	691.79	-17.31	-81.14	82.97	3.00	3.00	0.00
800.00	19.95	257.96	786.64	-23.91	-112.09	114.61	3.00	3.00	0.00
900.00	22.95	257.96	879.71	-31.54	-147.85	151.17	3.00	3.00	0.00
1,000.00	25.95	257.96	970.73	-40.18	-188.32	192.56	3.00	3.00	0.00
13 3/8" Casing @ 1000' MD									
1,100.00	28.95	257.96	1,059.46	-49.79	-233.40	238.65	3.00	3.00	0.00
1,200.00	31.95	257.96	1,145.66	-60.37	-282.96	289.32	3.00	3.00	0.00
1,300.00	34.95	257.96	1,229.08	-71.87	-336.86	344.44	3.00	3.00	0.00
1,380.24	37.36	257.96	1,293.87	-81.74	-383.15	391.77	3.00	3.00	0.00
Start 1526.54 hold at 1380.24 MD									
1,400.00	37.36	257.96	1,309.58	-84.25	-394.88	403.76	0.00	0.00	0.00
1,500.00	37.36	257.96	1,389.06	-96.91	-454.22	464.44	0.00	0.00	0.00
1,600.00	37.36	257.96	1,468.55	-109.57	-513.56	525.12	0.00	0.00	0.00
1,700.00	37.36	257.96	1,548.04	-122.23	-572.90	585.80	0.00	0.00	0.00
1,800.00	37.36	257.96	1,627.52	-134.89	-632.25	646.48	0.00	0.00	0.00
1,900.00	37.36	257.96	1,707.01	-147.55	-691.59	707.15	0.00	0.00	0.00
2,000.00	37.36	257.96	1,786.50	-160.21	-750.93	767.83	0.00	0.00	0.00
2,100.00	37.36	257.96	1,865.98	-172.87	-810.28	828.51	0.00	0.00	0.00
2,200.00	37.36	257.96	1,945.47	-185.53	-869.62	889.19	0.00	0.00	0.00
2,244.70	37.36	257.96	1,981.00	-191.19	-896.14	916.31	0.00	0.00	0.00
G SAND									
2,300.00	37.36	257.96	2,024.96	-198.19	-928.96	949.87	0.00	0.00	0.00
2,370.51	37.36	257.96	2,081.00	-207.12	-970.80	992.65	0.00	0.00	0.00
G SAND BASE									
2,400.00	37.36	257.96	2,104.44	-210.85	-988.30	1,010.54	0.00	0.00	0.00
2,500.00	37.36	257.96	2,183.93	-223.51	-1,047.65	1,071.22	0.00	0.00	0.00
2,600.00	37.36	257.96	2,263.42	-236.17	-1,106.99	1,131.90	0.00	0.00	0.00
2,700.00	37.36	257.96	2,342.90	-248.83	-1,166.33	1,192.58	0.00	0.00	0.00
2,800.00	37.36	257.96	2,422.39	-261.49	-1,225.67	1,253.26	0.00	0.00	0.00
2,811.45	37.36	257.96	2,431.49	-262.94	-1,232.47	1,260.20	0.00	0.00	0.00
FRUN									
2,900.00	37.36	257.96	2,501.88	-274.15	-1,285.02	1,313.94	0.00	0.00	0.00
2,906.78	37.36	257.96	2,507.26	-275.01	-1,289.04	1,318.05	0.00	0.00	0.00
Start Drop -1.50									
3,000.00	35.96	257.96	2,582.05	-286.62	-1,343.47	1,373.70	1.50	-1.50	0.00
3,100.00	34.46	257.96	2,663.75	-298.65	-1,399.85	1,431.36	1.50	-1.50	0.00
3,200.00	32.96	257.96	2,746.94	-310.23	-1,454.13	1,486.85	1.50	-1.50	0.00
3,300.00	31.46	257.96	2,831.54	-321.35	-1,506.25	1,540.15	1.50	-1.50	0.00
3,400.00	29.96	257.96	2,917.52	-332.01	-1,556.20	1,591.22	1.50	-1.50	0.00
3,500.00	28.46	257.96	3,004.80	-342.19	-1,603.92	1,640.02	1.50	-1.50	0.00
3,600.00	26.96	257.96	3,093.33	-351.89	-1,649.39	1,686.51	1.50	-1.50	0.00
3,700.00	25.46	257.96	3,183.05	-361.11	-1,692.59	1,730.68	1.50	-1.50	0.00
3,800.00	23.96	257.96	3,273.89	-369.83	-1,733.46	1,772.48	1.50	-1.50	0.00
3,900.00	22.46	257.96	3,365.79	-378.05	-1,772.00	1,811.88	1.50	-1.50	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 322-8 - Slot GM 322-8 (B2)
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 322-8	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	20.96	257.96	3,458.70	-385.77	-1,808.18	1,848.87	1.50	-1.50	0.00	
4,100.00	19.46	257.96	3,552.54	-392.97	-1,841.96	1,883.41	1.50	-1.50	0.00	
4,171.32	18.39	257.96	3,620.00	-397.80	-1,864.58	1,906.54	1.50	-1.50	0.00	
MVRD										
4,200.00	17.96	257.96	3,647.25	-399.67	-1,873.33	1,915.49	1.50	-1.50	0.00	
4,300.00	16.46	257.96	3,742.77	-405.84	-1,902.26	1,945.07	1.50	-1.50	0.00	
4,307.53	16.35	257.96	3,750.00	-406.28	-1,904.34	1,947.20	1.50	-1.50	0.00	
WFRK/UMVRD										
4,400.00	14.96	257.96	3,839.04	-411.49	-1,928.74	1,972.15	1.50	-1.50	0.00	
4,500.00	13.46	257.96	3,935.97	-416.61	-1,952.75	1,996.69	1.50	-1.50	0.00	
4,600.00	11.96	257.96	4,033.52	-421.20	-1,974.26	2,018.69	1.50	-1.50	0.00	
4,700.00	10.46	257.96	4,131.61	-425.26	-1,993.27	2,038.13	1.50	-1.50	0.00	
4,800.00	8.96	257.96	4,230.18	-428.77	-2,009.76	2,054.99	1.50	-1.50	0.00	
4,900.00	7.46	257.96	4,329.15	-431.75	-2,023.73	2,069.27	1.50	-1.50	0.00	
5,000.00	5.96	257.96	4,428.46	-434.19	-2,035.15	2,080.95	1.50	-1.50	0.00	
5,100.00	4.46	257.96	4,528.05	-436.08	-2,044.03	2,090.03	1.50	-1.50	0.00	
5,200.00	2.96	257.96	4,627.83	-437.43	-2,050.36	2,096.50	1.50	-1.50	0.00	
5,300.00	1.46	257.96	4,727.76	-438.24	-2,054.13	2,100.35	1.50	-1.50	0.00	
5,397.25	0.00	0.00	4,825.00	-438.50	-2,055.34	2,101.59	1.50	-1.50	0.00	
Start 1761.00 hold at 5397.25 MD - KMGAS - GM 322-8 BTV										
5,400.00	0.00	0.00	4,827.75	-438.50	-2,055.34	2,101.59	0.00	0.00	0.00	
5,500.00	0.00	0.00	4,927.75	-438.50	-2,055.34	2,101.59	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,027.75	-438.50	-2,055.34	2,101.59	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,127.75	-438.50	-2,055.34	2,101.59	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,227.75	-438.50	-2,055.34	2,101.59	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,327.75	-438.50	-2,055.34	2,101.59	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,427.75	-438.50	-2,055.34	2,101.59	0.00	0.00	0.00	
6,100.00	0.00	0.00	5,527.75	-438.50	-2,055.34	2,101.59	0.00	0.00	0.00	
6,200.00	0.00	0.00	5,627.75	-438.50	-2,055.34	2,101.59	0.00	0.00	0.00	
6,300.00	0.00	0.00	5,727.75	-438.50	-2,055.34	2,101.59	0.00	0.00	0.00	
6,400.00	0.00	0.00	5,827.75	-438.50	-2,055.34	2,101.59	0.00	0.00	0.00	
6,500.00	0.00	0.00	5,927.75	-438.50	-2,055.34	2,101.59	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,027.75	-438.50	-2,055.34	2,101.59	0.00	0.00	0.00	
6,649.25	0.00	0.00	6,077.00	-438.50	-2,055.34	2,101.59	0.00	0.00	0.00	
CME0										
6,700.00	0.00	0.00	6,127.75	-438.50	-2,055.34	2,101.59	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,227.75	-438.50	-2,055.34	2,101.59	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,327.75	-438.50	-2,055.34	2,101.59	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,427.75	-438.50	-2,055.34	2,101.59	0.00	0.00	0.00	
7,008.25	0.00	0.00	6,436.00	-438.50	-2,055.34	2,101.59	0.00	0.00	0.00	
RLNS										
7,100.00	0.00	0.00	6,527.75	-438.50	-2,055.34	2,101.59	0.00	0.00	0.00	
7,158.25	0.00	0.00	6,586.00	-438.50	-2,055.34	2,101.59	0.00	0.00	0.00	
TD at 7158.25 - TD - GM 322-8 PBHL										

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 322-8 - Slot GM 322-8 (B2)
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 322-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 23Oct2018 mmsdi		

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
GM 322-8 BTV - hit/miss target - Shape	0.00	0.00	4,825.00	-438.50	-2,055.34	1,600,735.17	2,255,296.26	39.4531063	-108.1376808
GM 322-8 PBHL - plan hits target center - Point	0.00	0.00	6,586.00	-438.50	-2,055.34	1,600,735.17	2,255,296.26	39.4531063	-108.1376808

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,000.00	970.73	13 3/8" Casing @ 1000' MD	13.37	17.50	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,244.70	1,981.00	G SAND		0.00	0.00
2,370.51	2,081.00	G SAND BASE		0.00	0.00
2,811.45	2,431.49	FRUN		0.00	0.00
4,171.32	3,620.00	MVRD		0.00	0.00
4,307.53	3,750.00	WFRK/UMVRD		0.00	0.00
5,397.25	4,825.00	KMVGAS		0.00	0.00
6,649.25	6,077.00	CME0		0.00	0.00
7,008.25	6,436.00	RLNS		0.00	0.00
7,158.25	6,586.00	TD		0.00	0.00

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
135.00	135.00	0.00	0.00	Start Build 3.00
1,380.24	1,293.87	-81.74	-383.15	Start 1526.54 hold at 1380.24 MD
2,906.78	2,507.26	-275.01	-1,289.04	Start Drop -1.50
5,397.25	4,825.00	-438.50	-2,055.34	Start 1761.00 hold at 5397.25 MD
7,158.25	6,586.00	-438.50	-2,055.34	TD at 7158.25