



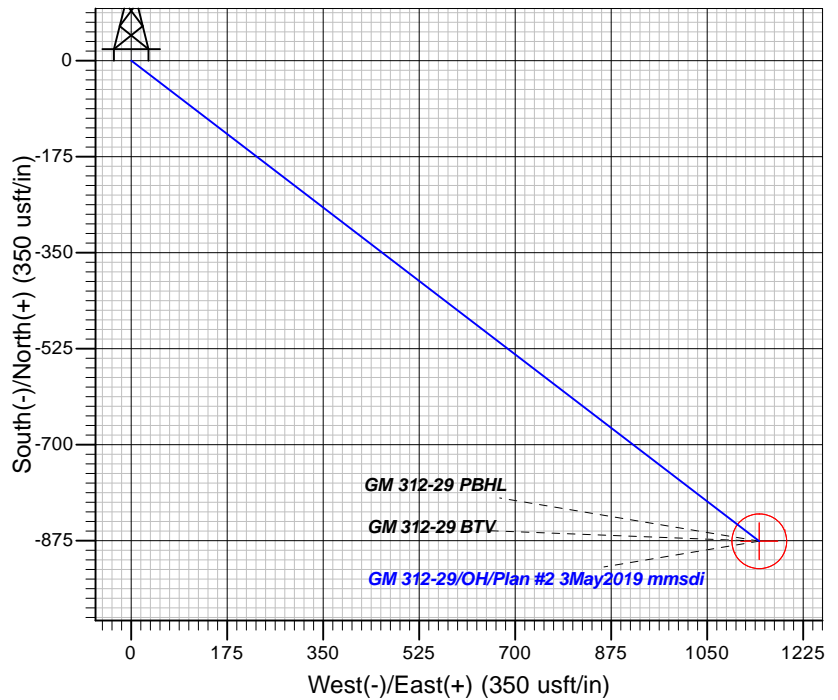
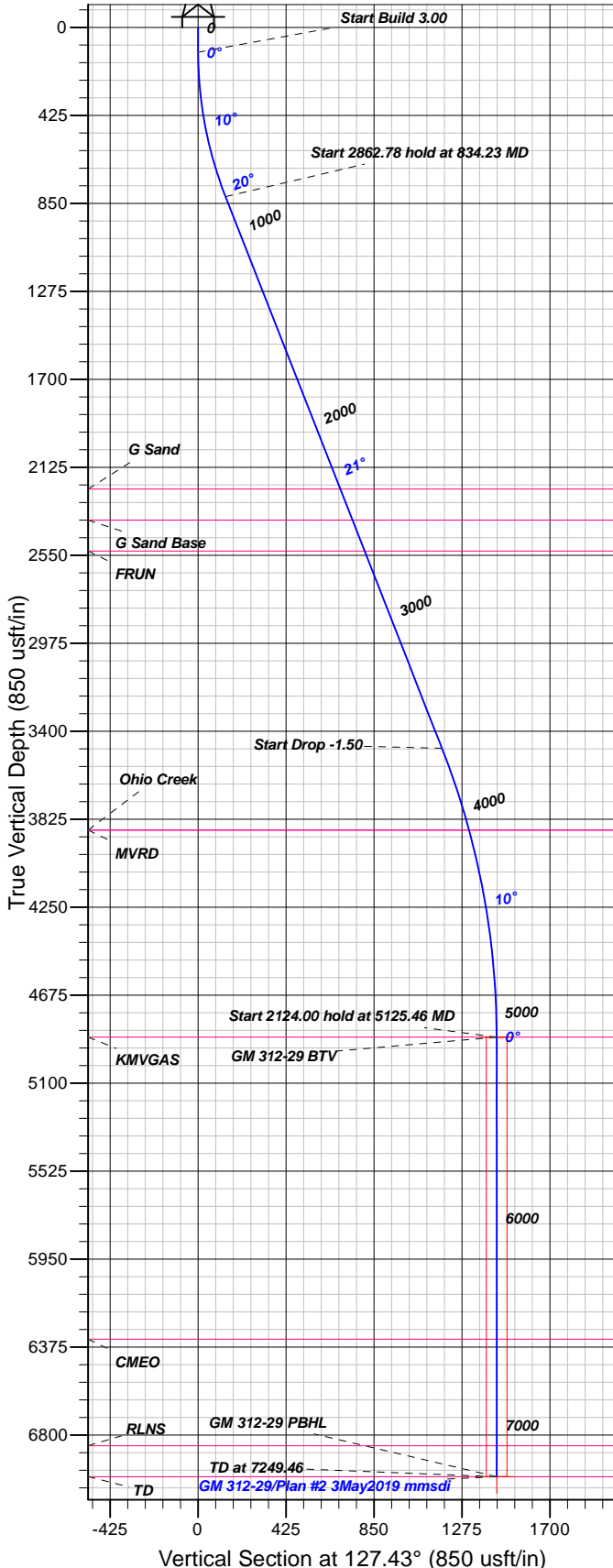
Azimuths to True North
Magnetic North: 9.50°

Magnetic Field
Strength: 51557.8snT
Dip Angle: 65.75°
Date: 3/20/2019
Model: HDGM

Well Details: GM 312-29

GL 5848' & RKB 24' @ 5872.00usft (H&P 318)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1617142.70	2255464.50	39.4981469	-108.1387728	GM 312-29 (B11)



FORMATION TOP DETAILS

TVDP	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Target
2231.00	2352.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2380.00	2512.53	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	
2530.00	2673.66	0.00	0.00	834.23	-80.23	104.82	3.00	127.43	132.00	
3878.00	4113.67	0.00	0.00	3697.00	-715.86	935.29	0.00	0.00	177.81	
3878.00	4113.67	0.00	0.00	5125.46	-876.32	1144.93	1.50	180.00	1441.81	GM 312-29 BTM
4878.00	5125.46	0.00	0.00	6337.00	-876.32	1144.93	0.00	0.00	1441.81	GM 312-29 PBHL
6337.00	6584.46	0.00	0.00	6852.00	-876.32	1144.93	0.00	0.00	1441.81	
6852.00	7099.46	0.00	0.00	7002.00	-876.32	1144.93	0.00	0.00	1441.81	
7002.00	7249.46	0.00	0.00							

Plan: Plan #2 3May2019 mmsdi

10:13, May 06 2019
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

No casing data is available

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	120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	
3	834.23	21.43	127.43	817.69	-80.23	104.82	3.00	127.43	132.00	
4	3697.00	21.43	127.43	3482.61	-715.86	935.29	0.00	0.00	177.81	
5	5125.46	0.00	0.00	4878.00	-876.32	1144.93	1.50	180.00	1441.81	GM 312-29 BTM
6	7249.46	0.00	0.00	7002.00	-876.32	1144.93	0.00	0.00	1441.81	GM 312-29 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
GM 312-29 BTM	4878.00	-876.32	1144.93	1616233.50	2256583.50	39.4957410	-108.1347156	Circle (Radius: 50.00)
- plan hits target center								
GM 312-29 PBHL	7002.00	-876.32	1144.93	1616233.50	2256583.50	39.4957410	-108.1347156	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

GR 12-29 Pad

GM 312-29 - Slot GM 312-29 (B11)

OH

Plan: Plan #2 3May2019 mmsdi

Standard Planning Report

06 May, 2019



Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 312-29 - Slot GM 312-29 (B11)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5848' & RKB 24' @ 5872.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 5848' & RKB 24' @ 5872.00usft (H&P 318)
Site:	GR 12-29 Pad	North Reference:	True
Well:	GM 312-29	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 3May2019 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		GR 12-29 Pad			
Site Position:		Northing:	1,617,169.51 usft	Latitude:	39.4982149
From:	Map	Easting:	2,255,394.48 usft	Longitude:	-108.1390236
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.66 °

Well	GM 312-29 - Slot GM 312-29 (B11)					
Well Position	+N/-S	-24.76 usft	Northing:	1,617,142.70 usft	Latitude:	39.4981470
	+E/-W	70.77 usft	Easting:	2,255,464.50 usft	Longitude:	-108.1387728
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,849.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	3/20/2019	9.50	65.75	51,558

Design	Plan #2 3May2019 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	127.43	

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	
834.23	21.43	127.43	817.69	-80.23	104.82	3.00	3.00	0.00	127.43	
3,697.00	21.43	127.43	3,482.61	-715.86	935.29	0.00	0.00	0.00	0.00	
5,125.46	0.00	0.00	4,878.00	-876.32	1,144.93	1.50	-1.50	0.00	180.00	GM 312-29 BTW
7,249.46	0.00	0.00	7,002.00	-876.32	1,144.93	0.00	0.00	0.00	0.00	GM 312-29 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 312-29 - Slot GM 312-29 (B11)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5848' & RKB 24' @ 5872.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 5848' & RKB 24' @ 5872.00usft (H&P 318)
Site:	GR 12-29 Pad	North Reference:	True
Well:	GM 312-29	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 3May2019 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 3.00										
200.00	2.40	127.43	199.98	-1.02	1.33	1.68	3.00	3.00	0.00	
300.00	5.40	127.43	299.73	-5.15	6.73	8.48	3.00	3.00	0.00	
400.00	8.40	127.43	399.00	-12.45	16.27	20.49	3.00	3.00	0.00	
500.00	11.40	127.43	497.50	-22.90	29.92	37.68	3.00	3.00	0.00	
600.00	14.40	127.43	594.96	-36.47	47.65	60.00	3.00	3.00	0.00	
700.00	17.40	127.43	691.13	-53.12	69.40	87.39	3.00	3.00	0.00	
800.00	20.40	127.43	785.72	-72.80	95.12	119.78	3.00	3.00	0.00	
834.23	21.43	127.43	817.69	-80.23	104.82	132.00	3.00	3.00	0.00	
Start 2862.78 hold at 834.23 MD										
900.00	21.43	127.43	878.92	-94.83	123.90	156.03	0.00	0.00	0.00	
1,000.00	21.43	127.43	972.01	-117.04	152.91	192.56	0.00	0.00	0.00	
1,100.00	21.43	127.43	1,065.10	-139.24	181.92	229.09	0.00	0.00	0.00	
1,200.00	21.43	127.43	1,158.19	-161.44	210.93	265.62	0.00	0.00	0.00	
1,300.00	21.43	127.43	1,251.28	-183.65	239.94	302.15	0.00	0.00	0.00	
1,400.00	21.43	127.43	1,344.36	-205.85	268.95	338.68	0.00	0.00	0.00	
1,500.00	21.43	127.43	1,437.45	-228.05	297.96	375.21	0.00	0.00	0.00	
1,600.00	21.43	127.43	1,530.54	-250.26	326.97	411.75	0.00	0.00	0.00	
1,700.00	21.43	127.43	1,623.63	-272.46	355.98	448.28	0.00	0.00	0.00	
1,800.00	21.43	127.43	1,716.72	-294.66	384.98	484.81	0.00	0.00	0.00	
1,900.00	21.43	127.43	1,809.81	-316.87	413.99	521.34	0.00	0.00	0.00	
2,000.00	21.43	127.43	1,902.90	-339.07	443.00	557.87	0.00	0.00	0.00	
2,100.00	21.43	127.43	1,995.98	-361.27	472.01	594.40	0.00	0.00	0.00	
2,200.00	21.43	127.43	2,089.07	-383.48	501.02	630.93	0.00	0.00	0.00	
2,300.00	21.43	127.43	2,182.16	-405.68	530.03	667.46	0.00	0.00	0.00	
2,352.46	21.43	127.43	2,231.00	-417.33	545.25	686.63	0.00	0.00	0.00	
G Sand										
2,400.00	21.43	127.43	2,275.25	-427.88	559.04	704.00	0.00	0.00	0.00	
2,500.00	21.43	127.43	2,368.34	-450.09	588.05	740.53	0.00	0.00	0.00	
2,512.53	21.43	127.43	2,380.00	-452.87	591.68	745.10	0.00	0.00	0.00	
G Sand Base										
2,600.00	21.43	127.43	2,461.43	-472.29	617.06	777.06	0.00	0.00	0.00	
2,673.66	21.43	127.43	2,530.00	-488.65	638.43	803.97	0.00	0.00	0.00	
FRUN										
2,700.00	21.43	127.43	2,554.52	-494.49	646.07	813.59	0.00	0.00	0.00	
2,800.00	21.43	127.43	2,647.60	-516.70	675.08	850.12	0.00	0.00	0.00	
2,900.00	21.43	127.43	2,740.69	-538.90	704.09	886.65	0.00	0.00	0.00	
3,000.00	21.43	127.43	2,833.78	-561.10	733.10	923.18	0.00	0.00	0.00	
3,100.00	21.43	127.43	2,926.87	-583.31	762.11	959.71	0.00	0.00	0.00	
3,200.00	21.43	127.43	3,019.96	-605.51	791.12	996.25	0.00	0.00	0.00	
3,300.00	21.43	127.43	3,113.05	-627.71	820.12	1,032.78	0.00	0.00	0.00	
3,400.00	21.43	127.43	3,206.14	-649.92	849.13	1,069.31	0.00	0.00	0.00	
3,500.00	21.43	127.43	3,299.22	-672.12	878.14	1,105.84	0.00	0.00	0.00	
3,600.00	21.43	127.43	3,392.31	-694.32	907.15	1,142.37	0.00	0.00	0.00	
3,697.00	21.43	127.43	3,482.61	-715.86	935.29	1,177.81	0.00	0.00	0.00	
Start Drop -1.50										
3,700.00	21.38	127.43	3,485.40	-716.53	936.16	1,178.90	1.50	-1.50	0.00	
3,800.00	19.88	127.43	3,578.98	-737.94	964.14	1,214.14	1.50	-1.50	0.00	

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 312-29 - Slot GM 312-29 (B11)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5848' & RKB 24' @ 5872.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 5848' & RKB 24' @ 5872.00usft (H&P 318)
Site:	GR 12-29 Pad	North Reference:	True
Well:	GM 312-29	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 3May2019 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)
3,900.00	18.38	127.43	3,673.46	-757.86	990.17	1,246.91	1.50	-1.50	0.00
4,000.00	16.88	127.43	3,768.76	-776.27	1,014.22	1,277.20	1.50	-1.50	0.00
4,100.00	15.38	127.43	3,864.82	-793.16	1,036.28	1,304.98	1.50	-1.50	0.00
4,113.67	15.18	127.43	3,878.00	-795.35	1,039.14	1,308.58	1.50	-1.50	0.00
Ohio Creek - MVRD									
4,200.00	13.88	127.43	3,961.57	-808.51	1,056.34	1,330.24	1.50	-1.50	0.00
4,300.00	12.38	127.43	4,058.95	-822.32	1,074.38	1,352.96	1.50	-1.50	0.00
4,400.00	10.88	127.43	4,156.90	-834.57	1,090.39	1,373.12	1.50	-1.50	0.00
4,500.00	9.38	127.43	4,255.34	-845.26	1,104.36	1,390.71	1.50	-1.50	0.00
4,600.00	7.88	127.43	4,354.20	-854.39	1,116.28	1,405.72	1.50	-1.50	0.00
4,700.00	6.38	127.43	4,453.42	-861.93	1,126.14	1,418.14	1.50	-1.50	0.00
4,800.00	4.88	127.43	4,552.94	-867.90	1,133.93	1,427.95	1.50	-1.50	0.00
4,900.00	3.38	127.43	4,652.68	-872.28	1,139.65	1,435.15	1.50	-1.50	0.00
5,000.00	1.88	127.43	4,752.57	-875.07	1,143.30	1,439.75	1.50	-1.50	0.00
5,100.00	0.38	127.43	4,852.54	-876.27	1,144.87	1,441.72	1.50	-1.50	0.00
5,125.46	0.00	0.00	4,878.00	-876.32	1,144.93	1,441.81	1.50	-1.50	0.00
Start 2124.00 hold at 5125.46 MD - KMGAS - GM 312-29 BTV									
5,200.00	0.00	0.00	4,952.54	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
5,300.00	0.00	0.00	5,052.54	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
5,400.00	0.00	0.00	5,152.54	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
5,500.00	0.00	0.00	5,252.54	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
5,600.00	0.00	0.00	5,352.54	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
5,700.00	0.00	0.00	5,452.54	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
5,800.00	0.00	0.00	5,552.54	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
5,900.00	0.00	0.00	5,652.54	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
6,000.00	0.00	0.00	5,752.54	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
6,100.00	0.00	0.00	5,852.54	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
6,200.00	0.00	0.00	5,952.54	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
6,300.00	0.00	0.00	6,052.54	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
6,400.00	0.00	0.00	6,152.54	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
6,500.00	0.00	0.00	6,252.54	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
6,584.46	0.00	0.00	6,337.00	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
CMEO									
6,600.00	0.00	0.00	6,352.54	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
6,700.00	0.00	0.00	6,452.54	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
6,800.00	0.00	0.00	6,552.54	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
6,900.00	0.00	0.00	6,652.54	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
7,000.00	0.00	0.00	6,752.54	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
7,099.46	0.00	0.00	6,852.00	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
RLNS									
7,100.00	0.00	0.00	6,852.54	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
7,200.00	0.00	0.00	6,952.54	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
7,249.46	0.00	0.00	7,002.00	-876.32	1,144.93	1,441.81	0.00	0.00	0.00
TD at 7249.46 - TD - GM 312-29 PBHL									

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 312-29 - Slot GM 312-29 (B11)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5848' & RKB 24' @ 5872.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 5848' & RKB 24' @ 5872.00usft (H&P 318)
Site:	GR 12-29 Pad	North Reference:	True
Well:	GM 312-29	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 3May2019 mmsdi		

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
GM 312-29 BTV - plan hits target center - Circle (radius 50.00)	0.00	0.00	4,878.00	-876.32	1,144.93	1,616,233.50	2,256,583.50	39.4957410	-108.1347157
GM 312-29 PBHL - plan hits target center - Point	0.00	0.00	7,002.00	-876.32	1,144.93	1,616,233.50	2,256,583.50	39.4957410	-108.1347157

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,352.46	2,232.00	G Sand		0.00	0.00	
2,512.53	2,381.00	G Sand Base		0.00	0.00	
2,673.66	2,531.00	FRUN		0.00	0.00	
4,113.67	3,879.00	Ohio Creek		0.00	0.00	
4,113.67	3,879.00	MVRD		0.00	0.00	
5,125.46	4,879.00	KMVGAS		0.00	0.00	
6,584.46	6,338.00	CME0		0.00	0.00	
7,099.46	6,853.00	RLNS		0.00	0.00	
7,249.46	7,003.00	TD		0.00	0.00	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
120.00	120.00	0.00	0.00	Start Build 3.00	
834.23	817.69	-80.23	104.82	Start 2862.78 hold at 834.23 MD	
3,697.00	3,482.61	-715.86	935.29	Start Drop -1.50	
5,125.46	4,878.00	-876.32	1,144.93	Start 2124.00 hold at 5125.46 MD	
7,249.46	7,002.00	-876.32	1,144.93	TD at 7249.46	