

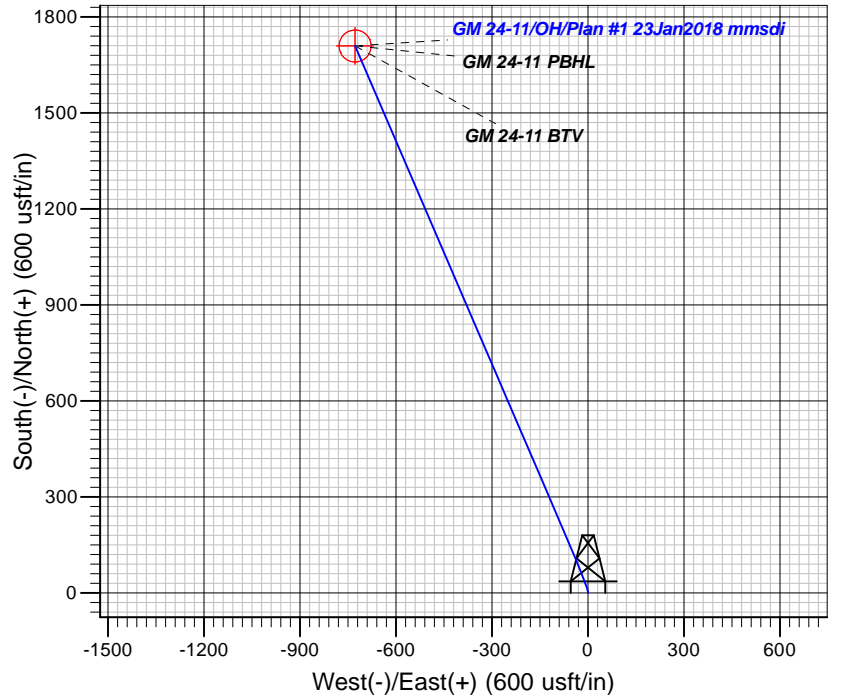
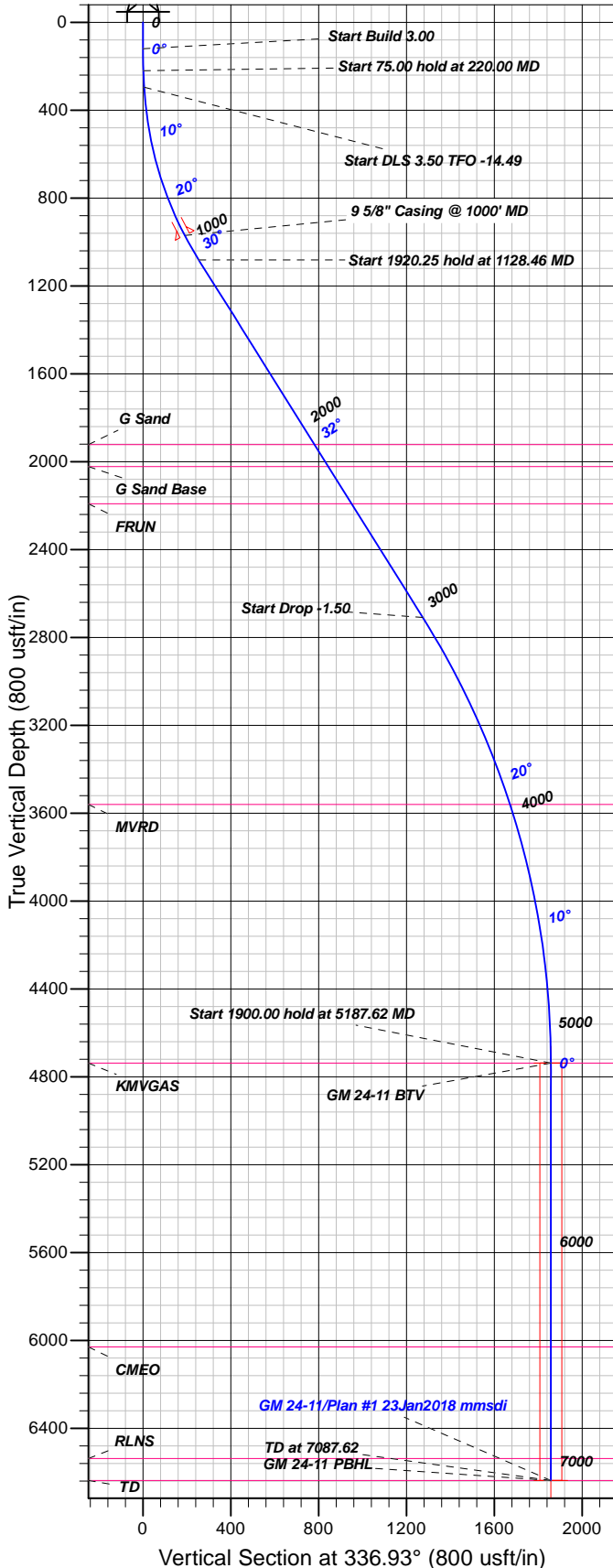


Azimuths to True North
Magnetic North: 9.47°

Magnetic Field
Strength: 51724.2snT
Dip Angle: 65.70°
Date: 1/23/2018
Model: HDGM

Well Details: GM 24-11

GL 5793' & RKB 24' @ 5817.00usft
+N/-S 0.00 +E/-W 0.00 Northing 1599230.76 Easting 2271922.71 Latitude 39.4502880 Longitude -108.0786720 Slot GM 24-11



FORMATION TOP DETAILS

TVDP	MD	Formation
1922.00	2120.87	G Sand
2022.00	2238.90	G Sand Base
2191.00	2438.36	FRUN
3560.00	3991.15	MVRD
4737.00	5187.62	KMGAS
6029.00	6479.62	CMEO
6537.00	6987.62	RLNS
6637.00	7087.62	TD

Plan: Plan #1 23Jan2018 mmsdi

10:04, January 30 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
969.75	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	220.00	3.00	350.00	219.95	2.58	-0.45	3.00	350.00	2.55	
4	295.00	3.00	350.00	294.85	6.44	-1.14	0.00	0.00	6.37	
5	1128.46	32.08	336.72	1081.15	236.24	-94.42	3.50	-14.49	254.35	
6	3048.71	32.08	336.72	2708.13	1173.18	-497.48	0.00	0.00	1274.29	
7	5187.62	0.00	0.00	4737.00	1709.07	-728.01	1.50	180.00	1857.66	GM 24-11 BTM
8	7087.62	0.00	0.00	6637.00	1709.07	-728.01	0.00	0.00	1857.66	GM 24-11 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
GM 24-11 BTM	4737.00	1709.07	-728.01	1600959.80	2271243.50	39.4549802	-108.0812503	Circle (Radius: 50.00)
- plan hits target center								
GM 24-11 PBHL	6637.00	1709.07	-728.01	1600959.80	2271243.50	39.4549802	-108.0812503	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

GR 23-11V Pad

GM 24-11 - Slot GM 24-11

OH

Plan: Plan #1 23Jan2018 mmsdi

Standard Planning Report

30 January, 2018



Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 24-11 - Slot GM 24-11
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5793' & RKB 24' @ 5817.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5793' & RKB 24' @ 5817.00usft
Site:	GR 23-11V Pad	North Reference:	True
Well:	GM 24-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 23Jan2018 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 23-11V Pad			
Site Position:		Northing:	1,599,230.76 usft	Latitude: 39.4502880
From: Map		Easting:	2,271,922.71 usft	Longitude: -108.0786721
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence: -1.63 °

Well	GM 24-11 - Slot GM 24-11			
Well Position	+N/-S	0.00 usft	Northing:	1,599,230.76 usft
	+E/-W	0.00 usft	Easting:	2,271,922.71 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft
			Ground Level:	5,793.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	1/23/2018	9.47	65.70	51,724

Design	Plan #1 23Jan2018 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	336.93

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	
220.00	3.00	350.00	219.95	2.58	-0.45	3.00	3.00	0.00	350.00	
295.00	3.00	350.00	294.85	6.44	-1.14	0.00	0.00	0.00	0.00	
1,128.46	32.08	336.72	1,081.15	236.24	-94.42	3.50	3.49	-1.59	-14.49	
3,048.71	32.08	336.72	2,708.13	1,173.18	-497.48	0.00	0.00	0.00	0.00	
5,187.62	0.00	0.00	4,737.00	1,709.07	-728.01	1.50	-1.50	0.00	180.00	GM 24-11 BTV
7,087.62	0.00	0.00	6,637.00	1,709.07	-728.01	0.00	0.00	0.00	0.00	GM 24-11 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 24-11 - Slot GM 24-11
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5793' & RKB 24' @ 5817.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5793' & RKB 24' @ 5817.00usft
Site:	GR 23-11V Pad	North Reference:	True
Well:	GM 24-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 23Jan2018 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	350.00	199.98	1.65	-0.29	1.63	3.00	3.00	0.00
220.00	3.00	350.00	219.95	2.58	-0.45	2.55	3.00	3.00	0.00
Start 75.00 hold at 220.00 MD									
295.00	3.00	350.00	294.85	6.44	-1.14	6.37	0.00	0.00	0.00
Start DLS 3.50 TFO -14.49									
300.00	3.17	349.21	299.84	6.71	-1.18	6.64	3.50	3.39	-15.84
400.00	6.62	342.00	399.47	14.91	-3.48	15.08	3.50	3.45	-7.20
500.00	10.11	339.74	498.39	28.63	-8.31	29.60	3.50	3.49	-2.26
600.00	13.60	338.63	596.24	47.82	-15.63	50.12	3.50	3.49	-1.11
700.00	17.10	337.97	692.66	72.40	-25.43	76.57	3.50	3.50	-0.66
800.00	20.59	337.52	787.28	102.28	-37.67	108.86	3.50	3.50	-0.44
900.00	24.09	337.20	879.76	137.36	-52.31	146.87	3.50	3.50	-0.32
1,000.00	27.59	336.96	969.75	177.50	-69.28	190.45	3.50	3.50	-0.24
9 5/8" Casing @ 1000' MD									
1,100.00	31.09	336.77	1,056.91	222.54	-88.53	239.44	3.50	3.50	-0.19
1,128.46	32.08	336.72	1,081.15	236.24	-94.42	254.35	3.50	3.50	-0.17
Start 1920.25 hold at 1128.46 MD									
1,200.00	32.08	336.72	1,141.77	271.15	-109.43	292.34	0.00	0.00	0.00
1,300.00	32.08	336.72	1,226.50	319.94	-130.42	345.46	0.00	0.00	0.00
1,400.00	32.08	336.72	1,311.22	368.73	-151.41	398.57	0.00	0.00	0.00
1,500.00	32.08	336.72	1,395.95	417.52	-172.40	451.69	0.00	0.00	0.00
1,600.00	32.08	336.72	1,480.68	466.32	-193.39	504.81	0.00	0.00	0.00
1,700.00	32.08	336.72	1,565.40	515.11	-214.38	557.92	0.00	0.00	0.00
1,800.00	32.08	336.72	1,650.13	563.90	-235.37	611.04	0.00	0.00	0.00
1,900.00	32.08	336.72	1,734.86	612.69	-256.36	664.15	0.00	0.00	0.00
2,000.00	32.08	336.72	1,819.59	661.49	-277.35	717.27	0.00	0.00	0.00
2,100.00	32.08	336.72	1,904.31	710.28	-298.34	770.38	0.00	0.00	0.00
2,120.87	32.08	336.72	1,922.00	720.46	-302.72	781.47	0.00	0.00	0.00
G Sand									
2,200.00	32.08	336.72	1,989.04	759.07	-319.33	823.50	0.00	0.00	0.00
2,238.90	32.08	336.72	2,022.00	778.05	-327.50	844.16	0.00	0.00	0.00
G Sand Base									
2,300.00	32.08	336.72	2,073.77	807.86	-340.32	876.61	0.00	0.00	0.00
2,400.00	32.08	336.72	2,158.50	856.66	-361.31	929.73	0.00	0.00	0.00
2,438.36	32.08	336.72	2,191.00	875.37	-369.37	950.11	0.00	0.00	0.00
FRUN									
2,500.00	32.08	336.72	2,243.22	905.45	-382.30	982.84	0.00	0.00	0.00
2,600.00	32.08	336.72	2,327.95	954.24	-403.29	1,035.96	0.00	0.00	0.00
2,700.00	32.08	336.72	2,412.68	1,003.03	-424.28	1,089.07	0.00	0.00	0.00
2,800.00	32.08	336.72	2,497.41	1,051.83	-445.27	1,142.19	0.00	0.00	0.00
2,900.00	32.08	336.72	2,582.13	1,100.62	-466.26	1,195.31	0.00	0.00	0.00
3,000.00	32.08	336.72	2,666.86	1,149.41	-487.25	1,248.42	0.00	0.00	0.00
3,048.71	32.08	336.72	2,708.13	1,173.18	-497.48	1,274.29	0.00	0.00	0.00
Start Drop -1.50									
3,100.00	31.31	336.72	2,751.77	1,197.93	-508.13	1,301.24	1.50	-1.50	0.00
3,200.00	29.81	336.72	2,837.87	1,244.64	-528.22	1,352.09	1.50	-1.50	0.00
3,300.00	28.31	336.72	2,925.28	1,289.27	-547.42	1,400.67	1.50	-1.50	0.00
3,400.00	26.81	336.72	3,013.92	1,331.77	-565.70	1,446.94	1.50	-1.50	0.00
3,500.00	25.31	336.72	3,103.75	1,372.14	-583.07	1,490.88	1.50	-1.50	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 24-11 - Slot GM 24-11
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5793' & RKB 24' @ 5817.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5793' & RKB 24' @ 5817.00usft
Site:	GR 23-11V Pad	North Reference:	True
Well:	GM 24-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 23Jan2018 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)
3,600.00	23.81	336.72	3,194.70	1,410.32	-599.49	1,532.45	1.50	-1.50	0.00
3,700.00	22.31	336.72	3,286.70	1,446.31	-614.97	1,571.62	1.50	-1.50	0.00
3,800.00	20.81	336.72	3,379.70	1,480.07	-629.50	1,608.38	1.50	-1.50	0.00
3,900.00	19.31	336.72	3,473.63	1,511.58	-643.05	1,642.68	1.50	-1.50	0.00
3,991.15	17.95	336.72	3,560.00	1,538.33	-654.56	1,671.80	1.50	-1.50	0.00
MVRD									
4,000.00	17.81	336.72	3,568.42	1,540.83	-655.64	1,674.52	1.50	-1.50	0.00
4,100.00	16.31	336.72	3,664.02	1,567.78	-667.23	1,703.86	1.50	-1.50	0.00
4,200.00	14.81	336.72	3,760.35	1,592.43	-677.83	1,730.69	1.50	-1.50	0.00
4,300.00	13.31	336.72	3,857.35	1,614.75	-687.44	1,754.99	1.50	-1.50	0.00
4,400.00	11.81	336.72	3,954.95	1,634.74	-696.03	1,776.75	1.50	-1.50	0.00
4,500.00	10.31	336.72	4,053.09	1,652.37	-703.62	1,795.94	1.50	-1.50	0.00
4,600.00	8.81	336.72	4,151.70	1,667.63	-710.18	1,812.55	1.50	-1.50	0.00
4,700.00	7.31	336.72	4,250.70	1,680.51	-715.73	1,826.58	1.50	-1.50	0.00
4,800.00	5.81	336.72	4,350.05	1,691.02	-720.24	1,838.01	1.50	-1.50	0.00
4,900.00	4.31	336.72	4,449.65	1,699.12	-723.73	1,846.84	1.50	-1.50	0.00
5,000.00	2.81	336.72	4,549.46	1,704.83	-726.19	1,853.05	1.50	-1.50	0.00
5,100.00	1.31	336.72	4,649.39	1,708.14	-727.61	1,856.66	1.50	-1.50	0.00
5,187.62	0.00	0.00	4,737.00	1,709.07	-728.01	1,857.66	1.50	-1.50	0.00
Start 1900.00 hold at 5187.62 MD - KMGAS - GM 24-11 BTV									
5,200.00	0.00	0.00	4,749.38	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
5,300.00	0.00	0.00	4,849.38	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
5,400.00	0.00	0.00	4,949.38	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
5,500.00	0.00	0.00	5,049.38	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
5,600.00	0.00	0.00	5,149.38	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
5,700.00	0.00	0.00	5,249.38	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
5,800.00	0.00	0.00	5,349.38	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
5,900.00	0.00	0.00	5,449.38	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
6,000.00	0.00	0.00	5,549.38	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
6,100.00	0.00	0.00	5,649.38	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
6,200.00	0.00	0.00	5,749.38	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
6,300.00	0.00	0.00	5,849.38	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
6,400.00	0.00	0.00	5,949.38	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
6,479.62	0.00	0.00	6,029.00	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
CME0									
6,500.00	0.00	0.00	6,049.38	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
6,600.00	0.00	0.00	6,149.38	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
6,700.00	0.00	0.00	6,249.38	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
6,800.00	0.00	0.00	6,349.38	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
6,900.00	0.00	0.00	6,449.38	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
6,987.62	0.00	0.00	6,537.00	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
RLNS									
7,000.00	0.00	0.00	6,549.38	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
7,087.62	0.00	0.00	6,637.00	1,709.07	-728.01	1,857.66	0.00	0.00	0.00
TD at 7087.62 - TD - GM 24-11 PBHL									

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 24-11 - Slot GM 24-11
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Project:	Garfield County, CO NAD83	MD Reference:	GL 5793' & RKB 24' @ 5817.00usft
Site:	GR 23-11V Pad	North Reference:	True
Well:	GM 24-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 23Jan2018 mmsdi		

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
GM 24-11 BTV - hit/miss target - Shape	0.00	0.00	4,737.00	1,709.07	-728.01	1,600,959.80	2,271,243.50	39.4549802	-108.0812503
GM 24-11 PBHL - plan hits target center - Point	0.00	0.00	6,637.00	1,709.07	-728.01	1,600,959.80	2,271,243.50	39.4549802	-108.0812503

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,000.00	969.75	9 5/8" Casing @ 1000' MD	9.62	13.50

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,120.87	1,922.00	G Sand		0.00	0.00
2,238.90	2,022.00	G Sand Base		0.00	0.00
2,438.36	2,191.00	FRUN		0.00	0.00
3,991.15	3,560.00	MVRD		0.00	0.00
5,187.62	4,737.00	KMVGAS		0.00	0.00
6,479.62	6,029.00	CME0		0.00	0.00
6,987.62	6,537.00	RLNS		0.00	0.00
7,087.62	6,637.00	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	
220.00	219.95	2.58	-0.45	Start 75.00 hold at 220.00 MD	
295.00	294.85	6.44	-1.14	Start DLS 3.50 TFO -14.49	
1,128.46	1,081.15	236.24	-94.42	Start 1920.25 hold at 1128.46 MD	
3,048.71	2,708.13	1,173.18	-497.48	Start Drop -1.50	
5,187.62	4,737.00	1,709.07	-728.01	Start 1900.00 hold at 5187.62 MD	
7,087.62	6,637.00	1,709.07	-728.01	TD at 7087.62	