

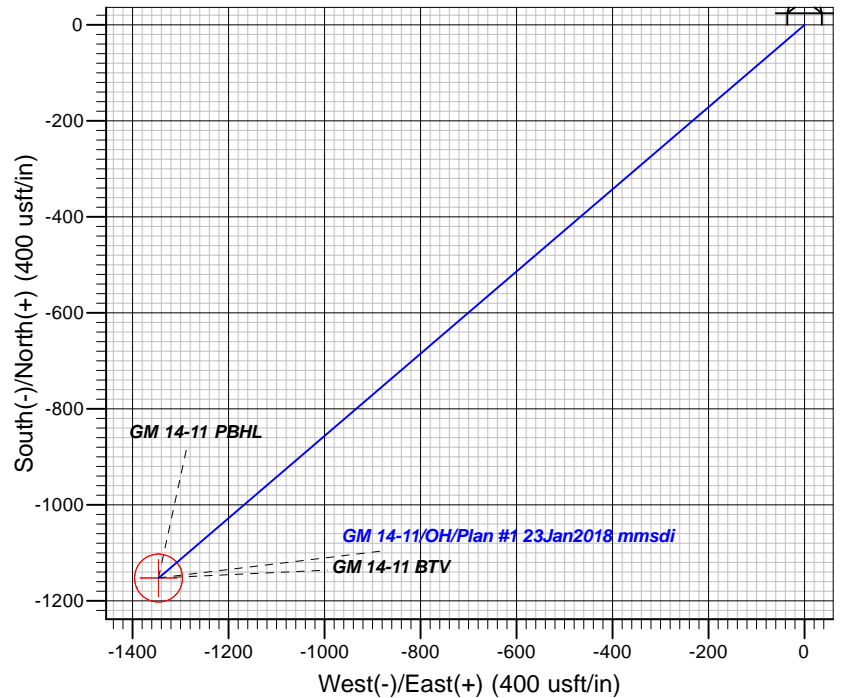
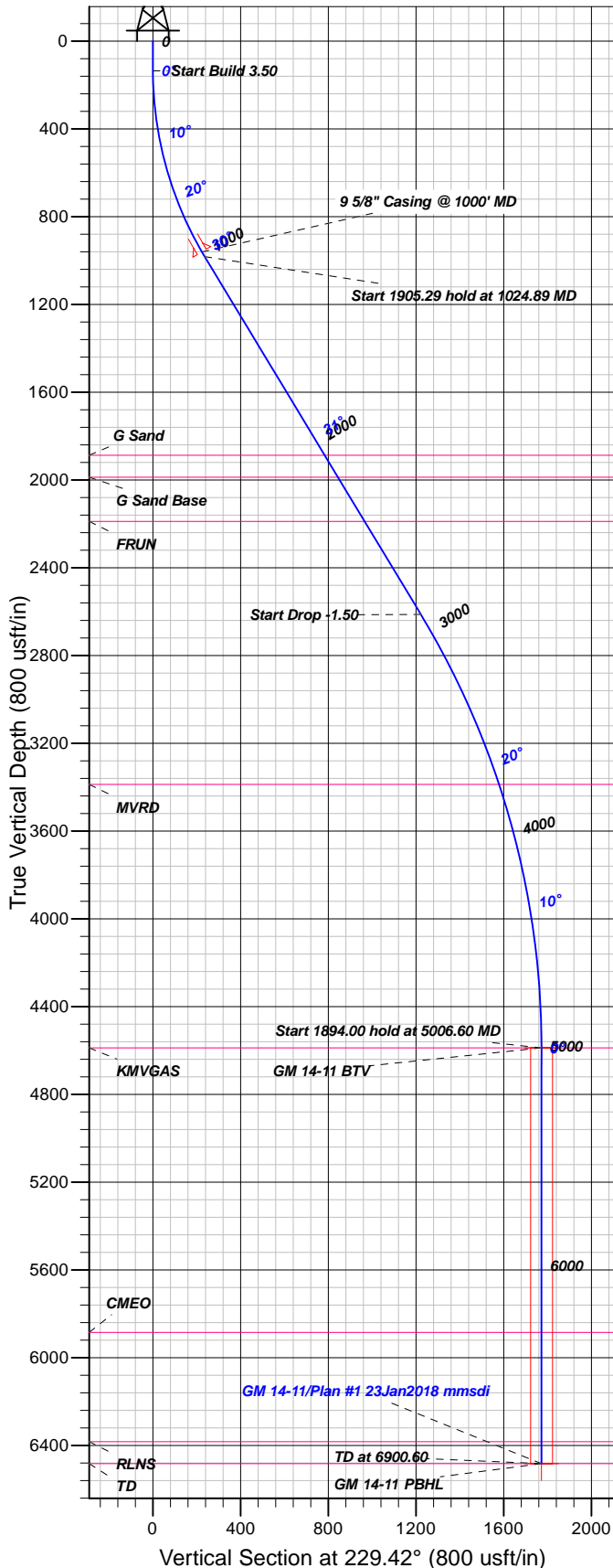


Azimuths to True North
Magnetic North: 9.47°

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

Well Details: GM 14-11

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1599223.67	2271915.73	39.4502680	-108.0786960	GM 14-11



FORMATION TOP DETAILS

TVDPth	MDPath	Formation
1887.00	2082.66	G Sand
1987.00	2199.51	G Sand Base
2189.00	2435.53	FRUN
3387.00	3784.87	MVRD
4588.00	5006.60	KMGAS
5885.00	6303.60	CMEO
6382.00	6800.60	RLNS
6482.00	6900.60	TD

Plan: Plan #1 23Jan2018 mmsdi

9:58, 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
960.31	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	135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	
3	1024.89	31.15	229.42	981.71	-153.49	-179.24	3.50	229.42	235.98	
4	2930.18	31.15	229.42	2612.35	-794.49	-927.74	0.00	0.00	0.00	
5	5006.60	0.00	0.00	4588.00	-1152.63	-1345.96	1.50	180.00	1772.05	GM 14-11 BTM
6	6900.60	0.00	0.00	6482.00	-1152.63	-1345.96	0.00	0.00	1772.05	GM 14-11 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
GM 14-11 BTM	4588.00	-1152.63	-1345.96	1598109.70	2270537.60	39.4471034	-108.0834622	Circle (Radius: 50.00)
- plan hits target center								
GM 14-11 PBHL	6482.00	-1152.63	-1345.96	1598109.70	2270537.60	39.4471034	-108.0834622	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

GR 23-11V Pad

GM 14-11 - Slot GM 14-11

OH

Plan: Plan #1 23Jan2018 mmsdi

Standard Planning Report

30 January, 2018



Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 14-11 - Slot GM 14-11
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 14-11	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 14-11 - Slot GM 14-11			
Well Position	+N/-S	-7.29 usft	Northing:	1,599,223.67 usft
	+E/-W	-6.78 usft	Easting:	2,271,915.73 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	229.42

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	
1,024.89	31.15	229.42	981.71	-153.49	-179.24	3.50	3.50	0.00	229.42	
2,930.18	31.15	229.42	2,612.35	-794.49	-927.74	0.00	0.00	0.00	0.00	
5,006.60	0.00	0.00	4,588.00	-1,152.63	-1,345.96	1.50	-1.50	0.00	180.00	GM 14-11 BTV
6,900.60	0.00	0.00	6,482.00	-1,152.63	-1,345.96	0.00	0.00	0.00	0.00	GM 14-11 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 14-11 - Slot GM 14-11
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 14-11	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
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.50									
200.00	2.28	229.42	199.98	-0.84	-0.98	1.29	3.50	3.50	0.00
300.00	5.78	229.42	299.72	-5.40	-6.31	8.31	3.50	3.50	0.00
400.00	9.28	229.42	398.84	-13.92	-16.26	21.40	3.50	3.50	0.00
500.00	12.78	229.42	496.98	-26.36	-30.78	40.52	3.50	3.50	0.00
600.00	16.28	229.42	593.77	-42.67	-49.83	65.60	3.50	3.50	0.00
700.00	19.78	229.42	688.85	-62.79	-73.32	96.54	3.50	3.50	0.00
800.00	23.28	229.42	781.86	-86.65	-101.19	133.22	3.50	3.50	0.00
900.00	26.78	229.42	872.46	-114.17	-133.31	175.52	3.50	3.50	0.00
1,000.00	30.28	229.42	960.31	-145.22	-169.58	223.26	3.50	3.50	0.00
9 5/8" Casing @ 1000' MD									
1,024.89	31.15	229.42	981.71	-153.49	-179.24	235.98	3.50	3.50	0.00
Start 1905.29 hold at 1024.89 MD									
1,100.00	31.15	229.42	1,045.99	-178.76	-208.74	274.82	0.00	0.00	0.00
1,200.00	31.15	229.42	1,131.57	-212.40	-248.03	326.55	0.00	0.00	0.00
1,300.00	31.15	229.42	1,217.16	-246.05	-287.31	378.27	0.00	0.00	0.00
1,400.00	31.15	229.42	1,302.74	-279.69	-326.60	429.99	0.00	0.00	0.00
1,500.00	31.15	229.42	1,388.33	-313.33	-365.88	481.71	0.00	0.00	0.00
1,600.00	31.15	229.42	1,473.91	-346.97	-405.17	533.44	0.00	0.00	0.00
1,700.00	31.15	229.42	1,559.50	-380.62	-444.46	585.16	0.00	0.00	0.00
1,800.00	31.15	229.42	1,645.08	-414.26	-483.74	636.88	0.00	0.00	0.00
1,900.00	31.15	229.42	1,730.67	-447.90	-523.03	688.60	0.00	0.00	0.00
2,000.00	31.15	229.42	1,816.25	-481.55	-562.31	740.33	0.00	0.00	0.00
2,082.66	31.15	229.42	1,887.00	-509.36	-594.79	783.08	0.00	0.00	0.00
G Sand									
2,100.00	31.15	229.42	1,901.84	-515.19	-601.60	792.05	0.00	0.00	0.00
2,199.51	31.15	229.42	1,987.00	-548.67	-640.69	843.52	0.00	0.00	0.00
G Sand Base									
2,200.00	31.15	229.42	1,987.42	-548.83	-640.88	843.77	0.00	0.00	0.00
2,300.00	31.15	229.42	2,073.01	-582.48	-680.17	895.49	0.00	0.00	0.00
2,400.00	31.15	229.42	2,158.59	-616.12	-719.46	947.22	0.00	0.00	0.00
2,435.53	31.15	229.42	2,189.00	-628.07	-733.41	965.59	0.00	0.00	0.00
FRUN									
2,500.00	31.15	229.42	2,244.18	-649.76	-758.74	998.94	0.00	0.00	0.00
2,600.00	31.15	229.42	2,329.76	-683.40	-798.03	1,050.66	0.00	0.00	0.00
2,700.00	31.15	229.42	2,415.35	-717.05	-837.31	1,102.38	0.00	0.00	0.00
2,800.00	31.15	229.42	2,500.93	-750.69	-876.60	1,154.11	0.00	0.00	0.00
2,900.00	31.15	229.42	2,586.52	-784.33	-915.88	1,205.83	0.00	0.00	0.00
2,930.18	31.15	229.42	2,612.35	-794.49	-927.74	1,221.44	0.00	0.00	0.00
Start Drop -1.50									
3,000.00	30.10	229.42	2,672.43	-817.62	-954.75	1,257.00	1.50	-1.50	0.00
3,100.00	28.60	229.42	2,759.59	-849.50	-991.98	1,306.01	1.50	-1.50	0.00
3,200.00	27.10	229.42	2,848.01	-879.88	-1,027.46	1,352.73	1.50	-1.50	0.00
3,300.00	25.60	229.42	2,937.62	-908.75	-1,061.17	1,397.11	1.50	-1.50	0.00
3,400.00	24.10	229.42	3,028.35	-936.09	-1,093.09	1,439.13	1.50	-1.50	0.00
3,500.00	22.60	229.42	3,120.16	-961.86	-1,123.19	1,478.76	1.50	-1.50	0.00
3,600.00	21.10	229.42	3,212.98	-986.07	-1,151.46	1,515.98	1.50	-1.50	0.00
3,700.00	19.60	229.42	3,306.73	-1,008.69	-1,177.87	1,550.75	1.50	-1.50	0.00
3,784.87	18.33	229.42	3,387.00	-1,026.63	-1,198.82	1,578.33	1.50	-1.50	0.00
MVRD									

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 14-11 - Slot GM 14-11
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 14-11	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)
3,800.00	18.10	229.42	3,401.37	-1,029.70	-1,202.41	1,583.06	1.50	-1.50	0.00
3,900.00	16.60	229.42	3,496.82	-1,049.10	-1,225.06	1,612.88	1.50	-1.50	0.00
4,000.00	15.10	229.42	3,593.01	-1,066.86	-1,245.80	1,640.19	1.50	-1.50	0.00
4,100.00	13.60	229.42	3,689.89	-1,082.98	-1,264.62	1,664.97	1.50	-1.50	0.00
4,200.00	12.10	229.42	3,787.38	-1,097.45	-1,281.51	1,687.21	1.50	-1.50	0.00
4,300.00	10.60	229.42	3,885.42	-1,110.24	-1,296.46	1,706.88	1.50	-1.50	0.00
4,400.00	9.10	229.42	3,983.95	-1,121.37	-1,309.45	1,723.99	1.50	-1.50	0.00
4,500.00	7.60	229.42	4,082.89	-1,130.82	-1,320.48	1,738.51	1.50	-1.50	0.00
4,600.00	6.10	229.42	4,182.17	-1,138.57	-1,329.54	1,750.43	1.50	-1.50	0.00
4,700.00	4.60	229.42	4,281.73	-1,144.64	-1,336.62	1,759.75	1.50	-1.50	0.00
4,800.00	3.10	229.42	4,381.50	-1,149.00	-1,341.72	1,766.47	1.50	-1.50	0.00
4,900.00	1.60	229.42	4,481.42	-1,151.67	-1,344.83	1,770.57	1.50	-1.50	0.00
5,000.00	0.10	229.42	4,581.40	-1,152.63	-1,345.95	1,772.05	1.50	-1.50	0.00
5,006.60	0.00	0.00	4,588.00	-1,152.63	-1,345.96	1,772.05	1.50	-1.50	1,978.86
Start 1894.00 hold at 5006.60 MD - KMGAS - GM 14-11 BTV									
5,100.00	0.00	0.00	4,681.40	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
5,200.00	0.00	0.00	4,781.40	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
5,300.00	0.00	0.00	4,881.40	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
5,400.00	0.00	0.00	4,981.40	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
5,500.00	0.00	0.00	5,081.40	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
5,600.00	0.00	0.00	5,181.40	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
5,700.00	0.00	0.00	5,281.40	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
5,800.00	0.00	0.00	5,381.40	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
5,900.00	0.00	0.00	5,481.40	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
6,000.00	0.00	0.00	5,581.40	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
6,100.00	0.00	0.00	5,681.40	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
6,200.00	0.00	0.00	5,781.40	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
6,300.00	0.00	0.00	5,881.40	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
6,303.60	0.00	0.00	5,885.00	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
CME0									
6,400.00	0.00	0.00	5,981.40	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
6,500.00	0.00	0.00	6,081.40	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
6,600.00	0.00	0.00	6,181.40	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
6,700.00	0.00	0.00	6,281.40	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
6,800.00	0.00	0.00	6,381.40	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
6,800.60	0.00	0.00	6,382.00	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
RLNS									
6,900.00	0.00	0.00	6,481.40	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
6,900.60	0.00	0.00	6,482.00	-1,152.63	-1,345.96	1,772.05	0.00	0.00	0.00
TD at 6900.60 - TD - GM 14-11 PBHL									

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 14-11 - Slot GM 14-11
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 14-11	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
- hit/miss target									
- Shape									
GM 14-11 BTV	0.00	0.00	4,588.00	-1,152.63	-1,345.96	1,598,109.70	2,270,537.60	39.4471034	-108.0834623
- plan hits target center									
- Circle (radius 50.00)									
GM 14-11 PBHL	0.00	0.00	6,482.00	-1,152.63	-1,345.96	1,598,109.70	2,270,537.60	39.4471034	-108.0834623
- plan hits target center									
- Point									

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,000.00	960.31	9 5/8" Casing @ 1000' MD	9.62	13.50

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,082.66	1,887.00	G Sand		0.00	0.00
2,199.51	1,987.00	G Sand Base		0.00	0.00
2,435.53	2,189.00	FRUN		0.00	0.00
3,784.87	3,387.00	MVRD		0.00	0.00
5,006.60	4,588.00	KMVGAS		0.00	0.00
6,303.60	5,885.00	CME0		0.00	0.00
6,800.60	6,382.00	RLNS		0.00	0.00
6,900.60	6,482.00	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 3.50
1,024.89	981.71	-153.49	-179.24	Start 1905.29 hold at 1024.89 MD
2,930.18	2,612.35	-794.49	-927.74	Start Drop -1.50
5,006.60	4,588.00	-1,152.63	-1,345.96	Start 1894.00 hold at 5006.60 MD
6,900.60	6,482.00	-1,152.63	-1,345.96	TD at 6900.60