



# **GMT Exploration Company, LLC**

**Elbert County, CO (NAD 83)**

**Irwin-Taylor Pad**

**IRWIN 6-65 23-11 2HN**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**24 May, 2019**



Project: Elbert County, CO (NAD 83)  
 Site: Irwin-Taylor Pad  
 Well: IRWIN 6-65 23-11 2HN  
 Wellbore: Wellbore #1  
 Design: Design #1

# GMT Exploration Company, LLC

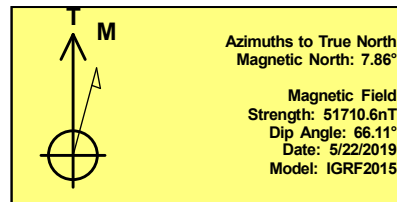
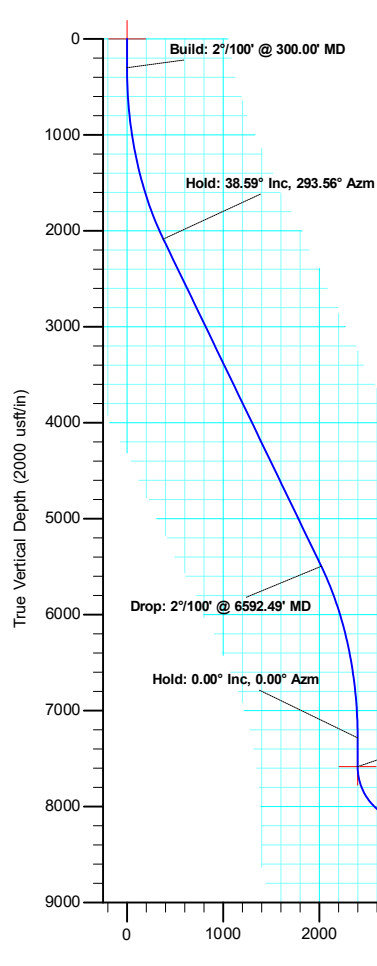
Geodetic System: US State Plane 1983  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: Colorado Central Zone  
 System Datum: Mean Sea Level

WELL DETAILS: IRWIN 6-65 23-11 2HN

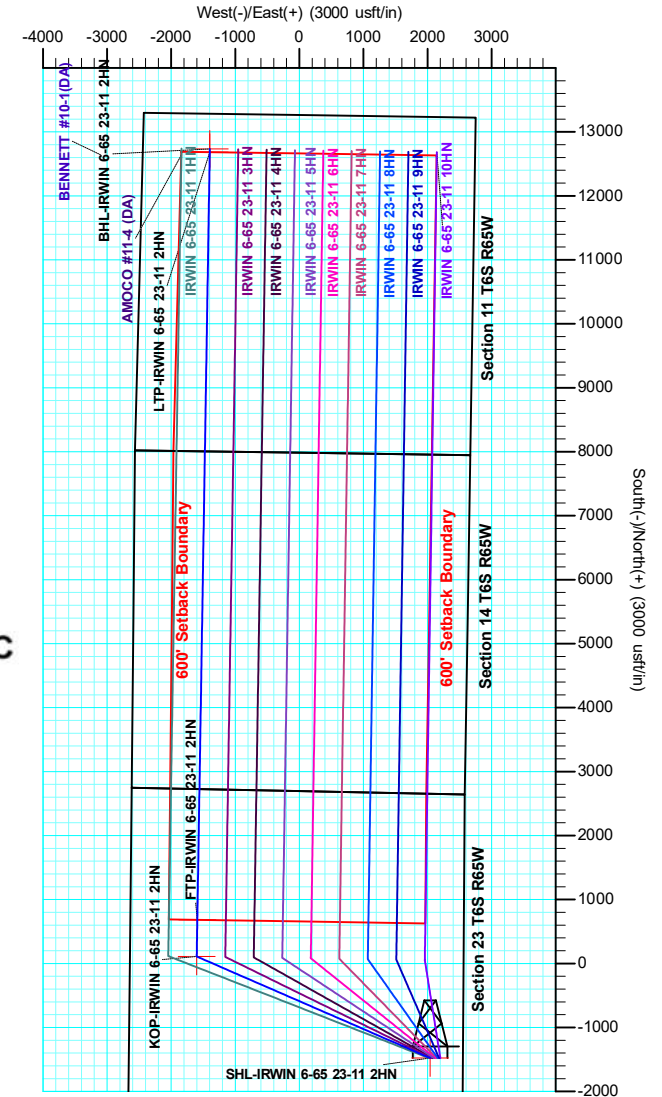
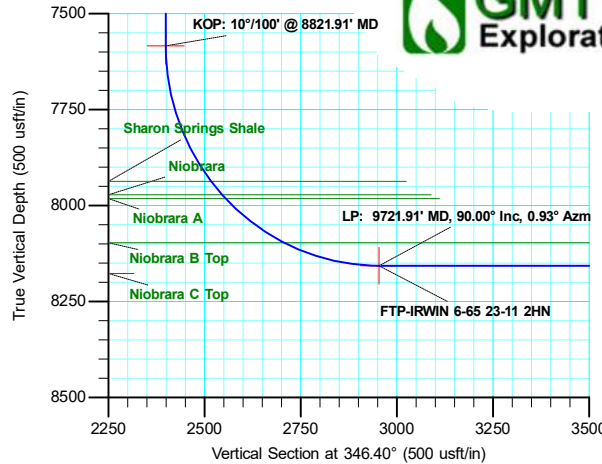
+N/-S	+E/-W	Northing	Ground Level: Easting	6222.00 Latitude	Longitude
-1477.63	2040.76	1611774.07	3246546.90	39.509841	-104.626156

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
0.00	0.00	0.00	0.00	-1477.63	2040.76	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	-1477.63	2040.76	0.00	0.00	0.00	
2229.42	38.59	293.55	2086.83	-1227.66	1467.35	2.00	293.55	377.80	
6592.49	38.59	293.55	5497.22	-140.15	-1027.25	0.00	0.00	2021.37	
8521.91	0.00	0.00	7284.04	109.82	-1600.67	2.00	180.00	2399.17	
8821.91	0.00	0.00	7584.04	109.82	-1600.67	0.00	0.00	2399.17	
9721.91	90.00	0.92	8157.00	682.71	-1591.43	10.00	0.00	2953.82	FTP-IRWIN 6-65 23-11 2HN
21724.04	90.00	0.92	8157.00	12683.28	-1397.88	0.00	0.00	14572.42	LTP-IRWIN 6-65 23-11 2HN
21774.04	90.00	0.92	8157.00	12733.27	-1397.07	0.00	0.00	14620.83	BHL-IRWIN 6-65 23-11 2HN



SHL: 1124 FSL/ 511 FEL Sec. 23  
 FTP: 2044 FNL/ 1045 FWL Sec. 23  
 LTP: 600 FNL/ 1043 FWL Sec. 11  
 BHL: 550 FNL/ 1043 FWL Sec. 11





<b>Database:</b>	Local	<b>Local Co-ordinate Reference:</b>	Well IRWIN 6-65 23-11 2HN
<b>Company:</b>	GMT Exploration Company, LLC	<b>TVD Reference:</b>	KB @ 6242.00usft
<b>Project:</b>	Elbert County, CO (NAD 83)	<b>MD Reference:</b>	KB @ 6242.00usft
<b>Site:</b>	Irwin-Taylor Pad	<b>North Reference:</b>	True
<b>Well:</b>	IRWIN 6-65 23-11 2HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

<b>Project</b>	Elbert County, CO (NAD 83)		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Central Zone		

<b>Site</b>	Irwin-Taylor Pad				
<b>Site Position:</b>		<b>Northing:</b>	1,613,232.16 usft	<b>Latitude:</b>	39.513898
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,244,492.14 usft	<b>Longitude:</b>	-104.633389
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.55 °

<b>Well</b>	IRWIN 6-65 23-11 2HN					
<b>Well Position</b>	<b>+N/-S</b>	-1,477.63 usft	<b>Northing:</b>	1,611,774.07 usft	<b>Latitude:</b>	39.509841
	<b>+E/-W</b>	2,040.76 usft	<b>Easting:</b>	3,246,546.90 usft	<b>Longitude:</b>	-104.626156
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	6,222.00 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	5/22/2019	7.86	66.11	51,710.57660809

<b>Design</b>	Design #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	346.41

<b>Plan Survey Tool Program</b>	<b>Date</b>	5/24/2019			
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	21,774.04	Design #1 (Wellbore #1)	MWD	
				OWSG MWD - Standard	

<b>Plan Sections</b>											
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	<b>TFO (°)</b>	<b>Target</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00		
2,229.42	38.59	293.56	2,086.83	250.02	-573.39	2.00	2.00	0.00	293.56		
6,592.49	38.59	293.56	5,497.22	1,337.72	-3,067.91	0.00	0.00	0.00	0.00		
8,521.91	0.00	0.00	7,284.04	1,587.75	-3,641.30	2.00	-2.00	0.00	180.00		
8,821.91	0.00	0.00	7,584.04	1,587.75	-3,641.30	0.00	0.00	0.00	0.00		
9,721.91	90.00	0.93	8,157.00	2,160.63	-3,632.02	10.00	10.00	0.00	0.00	FTP-IRWIN 6-65 23	
21,724.04	90.00	0.93	8,157.00	14,161.19	-3,437.51	0.00	0.00	0.00	0.00	LTP-IRWIN 6-65 23	
21,774.04	90.00	0.93	8,157.00	14,211.18	-3,436.70	0.00	0.00	0.00	0.00	BHL-IRWIN 6-65 23	



<b>Database:</b>	Local	<b>Local Co-ordinate Reference:</b>	Well IRWIN6-65 23-11 2HN
<b>Company:</b>	GMT Exploration Company, LLC	<b>TVD Reference:</b>	KB @ 6242.00usft
<b>Project:</b>	Elbert County, CO (NAD 83)	<b>MD Reference:</b>	KB @ 6242.00usft
<b>Site:</b>	Irwin-Taylor Pad	<b>North Reference:</b>	True
<b>Well:</b>	IRWIN 6-65 23-11 2HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

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	0.00
<b>SHL-IRWIN 6-65 23-11 2HN</b>										
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Build: 2°/100' @ 300.00' MD</b>										
400.00	2.00	293.56	399.98	0.70	-1.60	1.05	2.00	2.00	2.00	0.00
500.00	4.00	293.56	499.84	2.79	-6.40	4.21	2.00	2.00	2.00	0.00
600.00	6.00	293.56	599.45	6.27	-14.39	9.48	2.00	2.00	2.00	0.00
700.00	8.00	293.56	698.70	11.14	-25.56	16.84	2.00	2.00	2.00	0.00
800.00	10.00	293.56	797.47	17.40	-39.89	26.29	2.00	2.00	2.00	0.00
900.00	12.00	293.56	895.62	25.02	-57.38	37.81	2.00	2.00	2.00	0.00
1,000.00	14.00	293.56	993.06	34.01	-78.00	51.39	2.00	2.00	2.00	0.00
1,100.00	16.00	293.56	1,089.64	44.36	-101.73	67.03	2.00	2.00	2.00	0.00
1,200.00	18.00	293.56	1,185.27	56.04	-128.53	84.68	2.00	2.00	2.00	0.00
1,300.00	20.00	293.56	1,279.82	69.05	-158.37	104.34	2.00	2.00	2.00	0.00
1,400.00	22.00	293.56	1,373.17	83.38	-191.22	125.99	2.00	2.00	2.00	0.00
1,500.00	24.00	293.56	1,465.21	98.99	-227.03	149.58	2.00	2.00	2.00	0.00
1,600.00	26.00	293.56	1,555.84	115.88	-265.77	175.11	2.00	2.00	2.00	0.00
1,700.00	28.00	293.56	1,644.94	134.03	-307.38	202.53	2.00	2.00	2.00	0.00
1,800.00	30.00	293.56	1,732.39	153.41	-351.82	231.80	2.00	2.00	2.00	0.00
1,900.00	32.00	293.56	1,818.11	173.99	-399.03	262.91	2.00	2.00	2.00	0.00
2,000.00	34.00	293.56	1,901.97	195.76	-448.95	295.80	2.00	2.00	2.00	0.00
2,100.00	36.00	293.56	1,983.88	218.68	-501.52	330.44	2.00	2.00	2.00	0.00
2,200.00	38.00	293.56	2,063.74	242.74	-556.68	366.79	2.00	2.00	2.00	0.00
2,229.42	38.59	293.56	2,086.83	250.02	-573.39	377.80	2.00	2.00	2.00	0.00
<b>Hold: 38.59° Inc, 293.56° Azm</b>										
2,300.00	38.59	293.56	2,142.00	267.62	-613.75	404.39	0.00	0.00	0.00	0.00
2,400.00	38.59	293.56	2,220.16	292.55	-670.92	442.06	0.00	0.00	0.00	0.00
2,500.00	38.59	293.56	2,298.33	317.48	-728.10	479.73	0.00	0.00	0.00	0.00
2,600.00	38.59	293.56	2,376.49	342.41	-785.27	517.40	0.00	0.00	0.00	0.00
2,700.00	38.59	293.56	2,454.66	367.34	-842.44	555.07	0.00	0.00	0.00	0.00
2,800.00	38.59	293.56	2,532.82	392.27	-899.62	592.74	0.00	0.00	0.00	0.00
2,900.00	38.59	293.56	2,610.99	417.20	-956.79	630.41	0.00	0.00	0.00	0.00
3,000.00	38.59	293.56	2,689.15	442.13	-1,013.96	668.08	0.00	0.00	0.00	0.00
3,100.00	38.59	293.56	2,767.32	467.06	-1,071.14	705.75	0.00	0.00	0.00	0.00
3,200.00	38.59	293.56	2,845.48	491.99	-1,128.31	743.42	0.00	0.00	0.00	0.00
3,300.00	38.59	293.56	2,923.65	516.92	-1,185.48	781.09	0.00	0.00	0.00	0.00
3,400.00	38.59	293.56	3,001.81	541.85	-1,242.66	818.76	0.00	0.00	0.00	0.00
3,500.00	38.59	293.56	3,079.98	566.77	-1,299.83	856.43	0.00	0.00	0.00	0.00
3,600.00	38.59	293.56	3,158.14	591.70	-1,357.00	894.10	0.00	0.00	0.00	0.00
3,700.00	38.59	293.56	3,236.31	616.63	-1,414.18	931.77	0.00	0.00	0.00	0.00
3,800.00	38.59	293.56	3,314.47	641.56	-1,471.35	969.44	0.00	0.00	0.00	0.00
3,900.00	38.59	293.56	3,392.63	666.49	-1,528.52	1,007.11	0.00	0.00	0.00	0.00
4,000.00	38.59	293.56	3,470.80	691.42	-1,585.69	1,044.78	0.00	0.00	0.00	0.00
4,100.00	38.59	293.56	3,548.96	716.35	-1,642.87	1,082.45	0.00	0.00	0.00	0.00
4,200.00	38.59	293.56	3,627.13	741.28	-1,700.04	1,120.12	0.00	0.00	0.00	0.00
4,300.00	38.59	293.56	3,705.29	766.21	-1,757.21	1,157.79	0.00	0.00	0.00	0.00
4,400.00	38.59	293.56	3,783.46	791.14	-1,814.39	1,195.46	0.00	0.00	0.00	0.00
4,500.00	38.59	293.56	3,861.62	816.07	-1,871.56	1,233.13	0.00	0.00	0.00	0.00
4,600.00	38.59	293.56	3,939.79	841.00	-1,928.73	1,270.80	0.00	0.00	0.00	0.00
4,700.00	38.59	293.56	4,017.95	865.93	-1,985.91	1,308.47	0.00	0.00	0.00	0.00
4,800.00	38.59	293.56	4,096.12	890.86	-2,043.08	1,346.14	0.00	0.00	0.00	0.00



<b>Database:</b>	Local	<b>Local Co-ordinate Reference:</b>	Well IRWIN6-65 23-11 2HN
<b>Company:</b>	GMT Exploration Company, LLC	<b>TVD Reference:</b>	KB @ 6242.00usft
<b>Project:</b>	Elbert County, CO (NAD 83)	<b>MD Reference:</b>	KB @ 6242.00usft
<b>Site:</b>	Irwin-Taylor Pad	<b>North Reference:</b>	True
<b>Well:</b>	IRWIN 6-65 23-11 2HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

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)
4,900.00	38.59	293.56	4,174.28	915.79	-2,100.25	1,383.81	0.00	0.00	0.00
5,000.00	38.59	293.56	4,252.45	940.72	-2,157.43	1,421.48	0.00	0.00	0.00
5,100.00	38.59	293.56	4,330.61	965.65	-2,214.60	1,459.15	0.00	0.00	0.00
5,200.00	38.59	293.56	4,408.78	990.58	-2,271.77	1,496.82	0.00	0.00	0.00
5,300.00	38.59	293.56	4,486.94	1,015.51	-2,328.95	1,534.49	0.00	0.00	0.00
5,400.00	38.59	293.56	4,565.11	1,040.44	-2,386.12	1,572.16	0.00	0.00	0.00
5,500.00	38.59	293.56	4,643.27	1,065.37	-2,443.29	1,609.83	0.00	0.00	0.00
5,600.00	38.59	293.56	4,721.44	1,090.30	-2,500.47	1,647.50	0.00	0.00	0.00
5,700.00	38.59	293.56	4,799.60	1,115.23	-2,557.64	1,685.17	0.00	0.00	0.00
5,800.00	38.59	293.56	4,877.77	1,140.16	-2,614.81	1,722.84	0.00	0.00	0.00
5,900.00	38.59	293.56	4,955.93	1,165.09	-2,671.99	1,760.51	0.00	0.00	0.00
6,000.00	38.59	293.56	5,034.09	1,190.02	-2,729.16	1,798.18	0.00	0.00	0.00
6,100.00	38.59	293.56	5,112.26	1,214.95	-2,786.33	1,835.85	0.00	0.00	0.00
6,200.00	38.59	293.56	5,190.42	1,239.88	-2,843.51	1,873.52	0.00	0.00	0.00
6,300.00	38.59	293.56	5,268.59	1,264.81	-2,900.68	1,911.19	0.00	0.00	0.00
6,400.00	38.59	293.56	5,346.75	1,289.74	-2,957.85	1,948.86	0.00	0.00	0.00
6,500.00	38.59	293.56	5,424.92	1,314.67	-3,015.03	1,986.53	0.00	0.00	0.00
6,592.49	38.59	293.56	5,497.22	1,337.72	-3,067.91	2,021.37	0.00	0.00	0.00
<b>Drop: 2°/100' @ 6592.49' MD</b>									
6,600.00	38.44	293.56	5,503.09	1,339.59	-3,072.19	2,024.19	2.00	-2.00	0.00
6,700.00	36.44	293.56	5,582.49	1,363.89	-3,127.91	2,060.91	2.00	-2.00	0.00
6,800.00	34.44	293.56	5,663.96	1,387.06	-3,181.06	2,095.92	2.00	-2.00	0.00
6,900.00	32.44	293.56	5,747.40	1,409.09	-3,231.57	2,129.20	2.00	-2.00	0.00
7,000.00	30.44	293.56	5,832.72	1,429.93	-3,279.38	2,160.70	2.00	-2.00	0.00
7,100.00	28.44	293.56	5,919.80	1,449.58	-3,324.43	2,190.39	2.00	-2.00	0.00
7,200.00	26.44	293.56	6,008.55	1,467.99	-3,366.66	2,218.21	2.00	-2.00	0.00
7,300.00	24.44	293.56	6,098.85	1,485.16	-3,406.03	2,244.15	2.00	-2.00	0.00
7,400.00	22.44	293.56	6,190.59	1,501.06	-3,442.49	2,268.18	2.00	-2.00	0.00
7,500.00	20.44	293.56	6,283.67	1,515.67	-3,475.99	2,290.25	2.00	-2.00	0.00
7,600.00	18.44	293.56	6,377.96	1,528.97	-3,506.50	2,310.35	2.00	-2.00	0.00
7,700.00	16.44	293.56	6,473.36	1,540.94	-3,533.97	2,328.45	2.00	-2.00	0.00
7,800.00	14.44	293.56	6,569.75	1,551.58	-3,558.37	2,344.52	2.00	-2.00	0.00
7,900.00	12.44	293.56	6,667.01	1,560.87	-3,579.67	2,358.56	2.00	-2.00	0.00
8,000.00	10.44	293.56	6,765.02	1,568.80	-3,597.84	2,370.53	2.00	-2.00	0.00
8,100.00	8.44	293.56	6,863.66	1,575.35	-3,612.87	2,380.44	2.00	-2.00	0.00
8,200.00	6.44	293.56	6,962.81	1,580.52	-3,624.74	2,388.26	2.00	-2.00	0.00
8,300.00	4.44	293.56	7,062.36	1,584.31	-3,633.43	2,393.98	2.00	-2.00	0.00
8,400.00	2.44	293.56	7,162.17	1,586.71	-3,638.92	2,397.60	2.00	-2.00	0.00
8,500.00	0.44	293.56	7,262.13	1,587.71	-3,641.22	2,399.12	2.00	-2.00	0.00
8,521.91	0.00	0.00	7,284.04	1,587.75	-3,641.30	2,399.17	2.00	-2.00	0.00
<b>Hold: 0.00° Inc, 0.00° Azm</b>									
8,600.00	0.00	0.00	7,362.13	1,587.75	-3,641.30	2,399.17	0.00	0.00	0.00
8,700.00	0.00	0.00	7,462.13	1,587.75	-3,641.30	2,399.17	0.00	0.00	0.00
8,800.00	0.00	0.00	7,562.13	1,587.75	-3,641.30	2,399.17	0.00	0.00	0.00
8,821.91	0.00	0.00	7,584.04	1,587.75	-3,641.30	2,399.17	0.00	0.00	0.00
<b>KOP: 10°/100' @ 8821.91' MD - KOP-IRWIN 6-65 23-11 2HN</b>									
8,850.00	2.81	0.93	7,612.12	1,588.43	-3,641.29	2,399.83	10.00	10.00	0.00
8,900.00	7.81	0.93	7,661.89	1,593.06	-3,641.22	2,404.31	10.00	10.00	0.00
8,950.00	12.81	0.93	7,711.07	1,602.00	-3,641.07	2,412.97	10.00	10.00	0.00
9,000.00	17.81	0.93	7,759.28	1,615.20	-3,640.86	2,425.75	10.00	10.00	0.00
9,050.00	22.81	0.93	7,806.16	1,632.54	-3,640.58	2,442.54	10.00	10.00	0.00
9,100.00	27.81	0.93	7,851.34	1,653.91	-3,640.23	2,463.23	10.00	10.00	0.00
9,150.00	32.81	0.93	7,894.50	1,679.13	-3,639.82	2,487.64	10.00	10.00	0.00



<b>Database:</b>	Local	<b>Local Co-ordinate Reference:</b>	Well IRWIN6-65 23-11 2HN
<b>Company:</b>	GMT Exploration Company, LLC	<b>TVD Reference:</b>	KB @ 6242.00usft
<b>Project:</b>	Elbert County, CO (NAD 83)	<b>MD Reference:</b>	KB @ 6242.00usft
<b>Site:</b>	Irwin-Taylor Pad	<b>North Reference:</b>	True
<b>Well:</b>	IRWIN 6-65 23-11 2HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

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)	
9,200.00	37.81	0.93	7,935.28	1,708.02	-3,639.35	2,515.61	10.00	10.00	0.00	
9,250.00	42.81	0.93	7,973.40	1,740.35	-3,638.83	2,546.91	10.00	10.00	0.00	
9,300.00	47.81	0.93	8,008.55	1,775.88	-3,638.25	2,581.31	10.00	10.00	0.00	
9,350.00	52.81	0.93	8,040.48	1,814.34	-3,637.63	2,618.55	10.00	10.00	0.00	
9,400.00	57.81	0.93	8,068.92	1,855.43	-3,636.96	2,658.33	10.00	10.00	0.00	
9,450.00	62.81	0.93	8,093.68	1,898.85	-3,636.26	2,700.37	10.00	10.00	0.00	
9,500.00	67.81	0.93	8,114.56	1,944.25	-3,635.52	2,744.33	10.00	10.00	0.00	
9,550.00	72.81	0.93	8,131.40	1,991.31	-3,634.76	2,789.89	10.00	10.00	0.00	
9,600.00	77.81	0.93	8,144.08	2,039.65	-3,633.98	2,836.69	10.00	10.00	0.00	
9,650.00	82.81	0.93	8,152.49	2,088.92	-3,633.18	2,884.39	10.00	10.00	0.00	
9,700.00	87.81	0.93	8,156.58	2,138.73	-3,632.37	2,932.61	10.00	10.00	0.00	
9,721.91	90.00	0.93	8,157.00	2,160.63	-3,632.02	2,953.82	10.00	10.00	0.00	
<b>LP: 9721.91' MD, 90.00° Inc, 0.93° Azm - FTP-IRWIN 6-65 23-11 2HN</b>										
9,800.00	90.00	0.93	8,157.00	2,238.71	-3,630.75	3,029.41	0.00	0.00	0.00	
9,900.00	90.00	0.93	8,157.00	2,338.70	-3,629.13	3,126.22	0.00	0.00	0.00	
10,000.00	90.00	0.93	8,157.00	2,438.68	-3,627.51	3,223.02	0.00	0.00	0.00	
10,100.00	90.00	0.93	8,157.00	2,538.67	-3,625.89	3,319.83	0.00	0.00	0.00	
10,200.00	90.00	0.93	8,157.00	2,638.66	-3,624.27	3,416.63	0.00	0.00	0.00	
10,300.00	90.00	0.93	8,157.00	2,738.64	-3,622.65	3,513.43	0.00	0.00	0.00	
10,400.00	90.00	0.93	8,157.00	2,838.63	-3,621.03	3,610.24	0.00	0.00	0.00	
10,500.00	90.00	0.93	8,157.00	2,938.62	-3,619.41	3,707.04	0.00	0.00	0.00	
10,600.00	90.00	0.93	8,157.00	3,038.60	-3,617.79	3,803.85	0.00	0.00	0.00	
10,700.00	90.00	0.93	8,157.00	3,138.59	-3,616.17	3,900.65	0.00	0.00	0.00	
10,800.00	90.00	0.93	8,157.00	3,238.58	-3,614.54	3,997.46	0.00	0.00	0.00	
10,900.00	90.00	0.93	8,157.00	3,338.57	-3,612.92	4,094.26	0.00	0.00	0.00	
11,000.00	90.00	0.93	8,157.00	3,438.55	-3,611.30	4,191.07	0.00	0.00	0.00	
11,100.00	90.00	0.93	8,157.00	3,538.54	-3,609.68	4,287.87	0.00	0.00	0.00	
11,200.00	90.00	0.93	8,157.00	3,638.53	-3,608.06	4,384.68	0.00	0.00	0.00	
11,300.00	90.00	0.93	8,157.00	3,738.51	-3,606.44	4,481.48	0.00	0.00	0.00	
11,400.00	90.00	0.93	8,157.00	3,838.50	-3,604.82	4,578.28	0.00	0.00	0.00	
11,500.00	90.00	0.93	8,157.00	3,938.49	-3,603.20	4,675.09	0.00	0.00	0.00	
11,600.00	90.00	0.93	8,157.00	4,038.47	-3,601.58	4,771.89	0.00	0.00	0.00	
11,700.00	90.00	0.93	8,157.00	4,138.46	-3,599.96	4,868.70	0.00	0.00	0.00	
11,800.00	90.00	0.93	8,157.00	4,238.45	-3,598.34	4,965.50	0.00	0.00	0.00	
11,900.00	90.00	0.93	8,157.00	4,338.43	-3,596.72	5,062.31	0.00	0.00	0.00	
12,000.00	90.00	0.93	8,157.00	4,438.42	-3,595.10	5,159.11	0.00	0.00	0.00	
12,100.00	90.00	0.93	8,157.00	4,538.41	-3,593.48	5,255.92	0.00	0.00	0.00	
12,200.00	90.00	0.93	8,157.00	4,638.39	-3,591.86	5,352.72	0.00	0.00	0.00	
12,300.00	90.00	0.93	8,157.00	4,738.38	-3,590.24	5,449.53	0.00	0.00	0.00	
12,400.00	90.00	0.93	8,157.00	4,838.37	-3,588.62	5,546.33	0.00	0.00	0.00	
12,500.00	90.00	0.93	8,157.00	4,938.36	-3,586.99	5,643.13	0.00	0.00	0.00	
12,600.00	90.00	0.93	8,157.00	5,038.34	-3,585.37	5,739.94	0.00	0.00	0.00	
12,700.00	90.00	0.93	8,157.00	5,138.33	-3,583.75	5,836.74	0.00	0.00	0.00	
12,800.00	90.00	0.93	8,157.00	5,238.32	-3,582.13	5,933.55	0.00	0.00	0.00	
12,900.00	90.00	0.93	8,157.00	5,338.30	-3,580.51	6,030.35	0.00	0.00	0.00	
13,000.00	90.00	0.93	8,157.00	5,438.29	-3,578.89	6,127.16	0.00	0.00	0.00	
13,100.00	90.00	0.93	8,157.00	5,538.28	-3,577.27	6,223.96	0.00	0.00	0.00	
13,200.00	90.00	0.93	8,157.00	5,638.26	-3,575.65	6,320.77	0.00	0.00	0.00	
13,300.00	90.00	0.93	8,157.00	5,738.25	-3,574.03	6,417.57	0.00	0.00	0.00	
13,400.00	90.00	0.93	8,157.00	5,838.24	-3,572.41	6,514.37	0.00	0.00	0.00	
13,500.00	90.00	0.93	8,157.00	5,938.22	-3,570.79	6,611.18	0.00	0.00	0.00	
13,600.00	90.00	0.93	8,157.00	6,038.21	-3,569.17	6,707.98	0.00	0.00	0.00	
13,700.00	90.00	0.93	8,157.00	6,138.20	-3,567.55	6,804.79	0.00	0.00	0.00	
13,800.00	90.00	0.93	8,157.00	6,238.18	-3,565.93	6,901.59	0.00	0.00	0.00	



<b>Database:</b>	Local	<b>Local Co-ordinate Reference:</b>	Well IRWIN6-65 23-11 2HN
<b>Company:</b>	GMT Exploration Company, LLC	<b>TVD Reference:</b>	KB @ 6242.00usft
<b>Project:</b>	Elbert County, CO (NAD 83)	<b>MD Reference:</b>	KB @ 6242.00usft
<b>Site:</b>	Irwin-Taylor Pad	<b>North Reference:</b>	True
<b>Well:</b>	IRWIN 6-65 23-11 2HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

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)
13,900.00	90.00	0.93	8,157.00	6,338.17	-3,564.31	6,998.40	0.00	0.00	0.00
14,000.00	90.00	0.93	8,157.00	6,438.16	-3,562.69	7,095.20	0.00	0.00	0.00
14,100.00	90.00	0.93	8,157.00	6,538.14	-3,561.07	7,192.01	0.00	0.00	0.00
14,200.00	90.00	0.93	8,157.00	6,638.13	-3,559.45	7,288.81	0.00	0.00	0.00
14,300.00	90.00	0.93	8,157.00	6,738.12	-3,557.82	7,385.62	0.00	0.00	0.00
14,400.00	90.00	0.93	8,157.00	6,838.11	-3,556.20	7,482.42	0.00	0.00	0.00
14,500.00	90.00	0.93	8,157.00	6,938.09	-3,554.58	7,579.22	0.00	0.00	0.00
14,600.00	90.00	0.93	8,157.00	7,038.08	-3,552.96	7,676.03	0.00	0.00	0.00
14,700.00	90.00	0.93	8,157.00	7,138.07	-3,551.34	7,772.83	0.00	0.00	0.00
14,800.00	90.00	0.93	8,157.00	7,238.05	-3,549.72	7,869.64	0.00	0.00	0.00
14,900.00	90.00	0.93	8,157.00	7,338.04	-3,548.10	7,966.44	0.00	0.00	0.00
15,000.00	90.00	0.93	8,157.00	7,438.03	-3,546.48	8,063.25	0.00	0.00	0.00
15,100.00	90.00	0.93	8,157.00	7,538.01	-3,544.86	8,160.05	0.00	0.00	0.00
15,200.00	90.00	0.93	8,157.00	7,638.00	-3,543.24	8,256.86	0.00	0.00	0.00
15,300.00	90.00	0.93	8,157.00	7,737.99	-3,541.62	8,353.66	0.00	0.00	0.00
15,400.00	90.00	0.93	8,157.00	7,837.97	-3,540.00	8,450.47	0.00	0.00	0.00
15,500.00	90.00	0.93	8,157.00	7,937.96	-3,538.38	8,547.27	0.00	0.00	0.00
15,600.00	90.00	0.93	8,157.00	8,037.95	-3,536.76	8,644.07	0.00	0.00	0.00
15,700.00	90.00	0.93	8,157.00	8,137.93	-3,535.14	8,740.88	0.00	0.00	0.00
15,800.00	90.00	0.93	8,157.00	8,237.92	-3,533.52	8,837.68	0.00	0.00	0.00
15,900.00	90.00	0.93	8,157.00	8,337.91	-3,531.90	8,934.49	0.00	0.00	0.00
16,000.00	90.00	0.93	8,157.00	8,437.90	-3,530.27	9,031.29	0.00	0.00	0.00
16,100.00	90.00	0.93	8,157.00	8,537.88	-3,528.65	9,128.10	0.00	0.00	0.00
16,200.00	90.00	0.93	8,157.00	8,637.87	-3,527.03	9,224.90	0.00	0.00	0.00
16,300.00	90.00	0.93	8,157.00	8,737.86	-3,525.41	9,321.71	0.00	0.00	0.00
16,400.00	90.00	0.93	8,157.00	8,837.84	-3,523.79	9,418.51	0.00	0.00	0.00
16,500.00	90.00	0.93	8,157.00	8,937.83	-3,522.17	9,515.31	0.00	0.00	0.00
16,600.00	90.00	0.93	8,157.00	9,037.82	-3,520.55	9,612.12	0.00	0.00	0.00
16,700.00	90.00	0.93	8,157.00	9,137.80	-3,518.93	9,708.92	0.00	0.00	0.00
16,800.00	90.00	0.93	8,157.00	9,237.79	-3,517.31	9,805.73	0.00	0.00	0.00
16,900.00	90.00	0.93	8,157.00	9,337.78	-3,515.69	9,902.53	0.00	0.00	0.00
17,000.00	90.00	0.93	8,157.00	9,437.76	-3,514.07	9,999.34	0.00	0.00	0.00
17,100.00	90.00	0.93	8,157.00	9,537.75	-3,512.45	10,096.14	0.00	0.00	0.00
17,200.00	90.00	0.93	8,157.00	9,637.74	-3,510.83	10,192.95	0.00	0.00	0.00
17,300.00	90.00	0.93	8,157.00	9,737.72	-3,509.21	10,289.75	0.00	0.00	0.00
17,400.00	90.00	0.93	8,157.00	9,837.71	-3,507.59	10,386.56	0.00	0.00	0.00
17,500.00	90.00	0.93	8,157.00	9,937.70	-3,505.97	10,483.36	0.00	0.00	0.00
17,600.00	90.00	0.93	8,157.00	10,037.69	-3,504.35	10,580.16	0.00	0.00	0.00
17,700.00	90.00	0.93	8,157.00	10,137.67	-3,502.72	10,676.97	0.00	0.00	0.00
17,800.00	90.00	0.93	8,157.00	10,237.66	-3,501.10	10,773.77	0.00	0.00	0.00
17,900.00	90.00	0.93	8,157.00	10,337.65	-3,499.48	10,870.58	0.00	0.00	0.00
18,000.00	90.00	0.93	8,157.00	10,437.63	-3,497.86	10,967.38	0.00	0.00	0.00
18,100.00	90.00	0.93	8,157.00	10,537.62	-3,496.24	11,064.19	0.00	0.00	0.00
18,200.00	90.00	0.93	8,157.00	10,637.61	-3,494.62	11,160.99	0.00	0.00	0.00
18,300.00	90.00	0.93	8,157.00	10,737.59	-3,493.00	11,257.80	0.00	0.00	0.00
18,400.00	90.00	0.93	8,157.00	10,837.58	-3,491.38	11,354.60	0.00	0.00	0.00
18,500.00	90.00	0.93	8,157.00	10,937.57	-3,489.76	11,451.40	0.00	0.00	0.00
18,600.00	90.00	0.93	8,157.00	11,037.55	-3,488.14	11,548.21	0.00	0.00	0.00
18,700.00	90.00	0.93	8,157.00	11,137.54	-3,486.52	11,645.01	0.00	0.00	0.00
18,800.00	90.00	0.93	8,157.00	11,237.53	-3,484.90	11,741.82	0.00	0.00	0.00
18,900.00	90.00	0.93	8,157.00	11,337.51	-3,483.28	11,838.62	0.00	0.00	0.00
19,000.00	90.00	0.93	8,157.00	11,437.50	-3,481.66	11,935.43	0.00	0.00	0.00
19,100.00	90.00	0.93	8,157.00	11,537.49	-3,480.04	12,032.23	0.00	0.00	0.00
19,200.00	90.00	0.93	8,157.00	11,637.48	-3,478.42	12,129.04	0.00	0.00	0.00



<b>Database:</b>	Local	<b>Local Co-ordinate Reference:</b>	Well IRWIN 6-65 23-11 2HN
<b>Company:</b>	GMT Exploration Company, LLC	<b>TVD Reference:</b>	KB @ 6242.00usft
<b>Project:</b>	Elbert County, CO (NAD 83)	<b>MD Reference:</b>	KB @ 6242.00usft
<b>Site:</b>	Irwin-Taylor Pad	<b>North Reference:</b>	True
<b>Well:</b>	IRWIN 6-65 23-11 2HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

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)	
19,300.00	90.00	0.93	8,157.00	11,737.46	-3,476.80	12,225.84	0.00	0.00	0.00	
19,400.00	90.00	0.93	8,157.00	11,837.45	-3,475.17	12,322.65	0.00	0.00	0.00	
19,500.00	90.00	0.93	8,157.00	11,937.44	-3,473.55	12,419.45	0.00	0.00	0.00	
19,600.00	90.00	0.93	8,157.00	12,037.42	-3,471.93	12,516.25	0.00	0.00	0.00	
19,700.00	90.00	0.93	8,157.00	12,137.41	-3,470.31	12,613.06	0.00	0.00	0.00	
19,800.00	90.00	0.93	8,157.00	12,237.40	-3,468.69	12,709.86	0.00	0.00	0.00	
19,900.00	90.00	0.93	8,157.00	12,337.38	-3,467.07	12,806.67	0.00	0.00	0.00	
20,000.00	90.00	0.93	8,157.00	12,437.37	-3,465.45	12,903.47	0.00	0.00	0.00	
20,100.00	90.00	0.93	8,157.00	12,537.36	-3,463.83	13,000.28	0.00	0.00	0.00	
20,200.00	90.00	0.93	8,157.00	12,637.34	-3,462.21	13,097.08	0.00	0.00	0.00	
20,300.00	90.00	0.93	8,157.00	12,737.33	-3,460.59	13,193.89	0.00	0.00	0.00	
20,400.00	90.00	0.93	8,157.00	12,837.32	-3,458.97	13,290.69	0.00	0.00	0.00	
20,500.00	90.00	0.93	8,157.00	12,937.30	-3,457.35	13,387.50	0.00	0.00	0.00	
20,600.00	90.00	0.93	8,157.00	13,037.29	-3,455.73	13,484.30	0.00	0.00	0.00	
20,700.00	90.00	0.93	8,157.00	13,137.28	-3,454.11	13,581.10	0.00	0.00	0.00	
20,800.00	90.00	0.93	8,157.00	13,237.27	-3,452.49	13,677.91	0.00	0.00	0.00	
20,900.00	90.00	0.93	8,157.00	13,337.25	-3,450.87	13,774.71	0.00	0.00	0.00	
21,000.00	90.00	0.93	8,157.00	13,437.24	-3,449.25	13,871.52	0.00	0.00	0.00	
21,100.00	90.00	0.93	8,157.00	13,537.23	-3,447.62	13,968.32	0.00	0.00	0.00	
21,200.00	90.00	0.93	8,157.00	13,637.21	-3,446.00	14,065.13	0.00	0.00	0.00	
21,300.00	90.00	0.93	8,157.00	13,737.20	-3,444.38	14,161.93	0.00	0.00	0.00	
21,400.00	90.00	0.93	8,157.00	13,837.19	-3,442.76	14,258.74	0.00	0.00	0.00	
21,500.00	90.00	0.93	8,157.00	13,937.17	-3,441.14	14,355.54	0.00	0.00	0.00	
21,600.00	90.00	0.93	8,157.00	14,037.16	-3,439.52	14,452.34	0.00	0.00	0.00	
21,700.00	90.00	0.93	8,157.00	14,137.15	-3,437.90	14,549.15	0.00	0.00	0.00	
21,724.04	90.00	0.93	8,157.00	14,161.19	-3,437.51	14,572.42	0.00	0.00	0.00	
<b>Hold: 90.00° Inc, 0.93° Azm - LTP-IRWIN 6-65 23-11 2HN</b>										
21,774.04	90.00	0.93	8,157.00	14,211.18	-3,436.70	14,620.83	0.00	0.00	0.00	
<b>TD @ 21774.04' MD/8157.00' TVD - BHL-IRWIN 6-65 23-11 2HN</b>										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
SHL-IRWIN 6-65 23-1 - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,611,774.07	3,246,546.90	39.509841	-104.626156	
KOP-IRWIN 6-65 23-1 - plan hits target center - Point	0.00	0.00	7,584.04	1,587.75	-3,641.30	1,613,326.71	3,242,890.50	39.514199	-104.639063	
FTP-IRWIN 6-65 23-1 - plan hits target center - Point	0.00	0.00	8,157.00	2,160.63	-3,632.02	1,613,899.66	3,242,894.27	39.515772	-104.639030	
BHL-IRWIN 6-65 23-1 - plan hits target center - Point	0.00	0.00	8,157.00	14,211.18	-3,436.70	1,625,951.53	3,242,973.67	39.548856	-104.638344	
LTP-IRWIN 6-65 23-1 - plan hits target center - Point	0.00	0.00	8,157.00	14,161.19	-3,437.51	1,625,901.53	3,242,973.34	39.548719	-104.638346	



<b>Database:</b>	Local	<b>Local Co-ordinate Reference:</b>	Well IRWIN6-65 23-11 2HN
<b>Company:</b>	GMT Exploration Company, LLC	<b>TVD Reference:</b>	KB @ 6242.00usft
<b>Project:</b>	Elbert County, CO (NAD 83)	<b>MD Reference:</b>	KB @ 6242.00usft
<b>Site:</b>	Irwin-Taylor Pad	<b>North Reference:</b>	True
<b>Well:</b>	IRWIN 6-65 23-11 2HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
482.12	482.00	Denver			
2,453.52	2,262.00	Upper Arapahoe			
2,555.87	2,342.00	Laramie - Fox Hills			
2,671.01	2,432.00	Pierre Shale (Base of Fox Hills)			
6,773.29	5,642.00	Sussex Sandstone			
9,202.18	7,937.00	Sharon Springs Shale			
9,248.09	7,972.00	Niobrara			
9,261.84	7,982.00	Niobrara A			
9,457.35	8,097.00	Niobrara B Top			

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
300.00	300.00	0.00	0.00	Build: 2°/100' @ 300.00' MD
2,229.42	2,086.83	250.02	-573.39	Hold: 38.59° Inc, 293.56° Azm
6,592.49	5,497.22	1,337.72	-3,067.91	Drop: 2°/100' @ 6592.49' MD
8,521.91	7,284.04	1,587.75	-3,641.30	Hold: 0.00° Inc, 0.00° Azm
8,821.91	7,584.04	1,587.75	-3,641.30	KOP: 10°/100' @ 8821.91' MD
9,721.91	8,157.00	2,160.63	-3,632.02	LP: 9721.91' MD, 90.00° Inc, 0.93° Azm
21,724.04	8,157.00	14,161.19	-3,437.51	Hold: 90.00° Inc, 0.93° Azm
21,774.04	8,157.00	14,211.18	-3,436.70	TD @ 21774.04' MD/8157.00' TVD