



GMT Exploration Company, LLC

Elbert County, CO (NAD 83)

Ruby-Crystal Pad

CRYSTAL 6-65 22-10 7HN

Wellbore #1

Plan: Design #1

Standard Planning Report

24 May, 2019



Project: Elbert County, CO (NAD 83)
 Site: Ruby-Crystal Pad
 Well: CRYSTAL 6-65 22-10 7HN
 Wellbore: Wellbore #1
 Design: Design #1

GMT Exploration Company, LLC

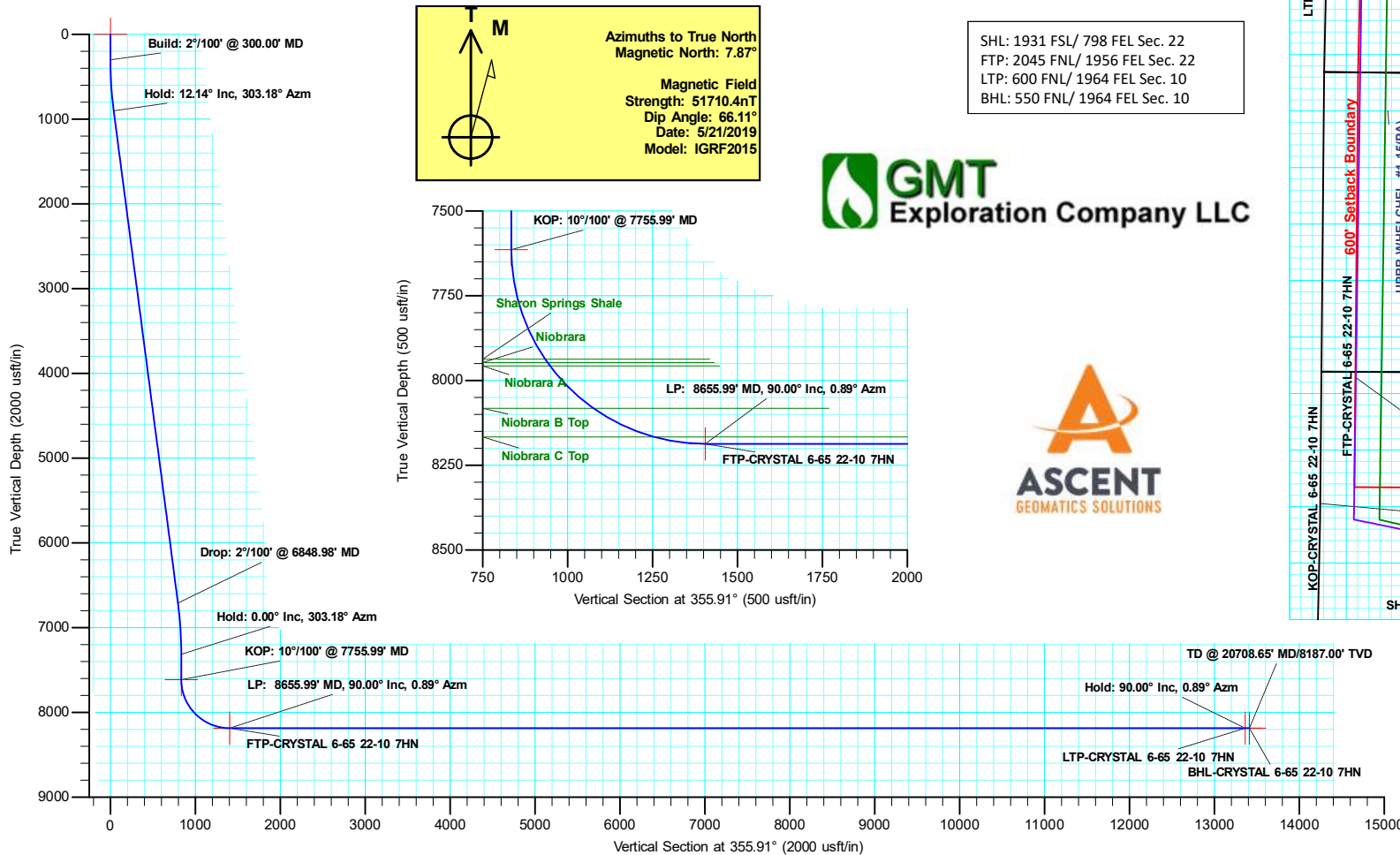
Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Colorado Central Zone
 System Datum: Mean Sea Level

WELL DETAILS: CRYSTAL 6-65 22-10 7HN

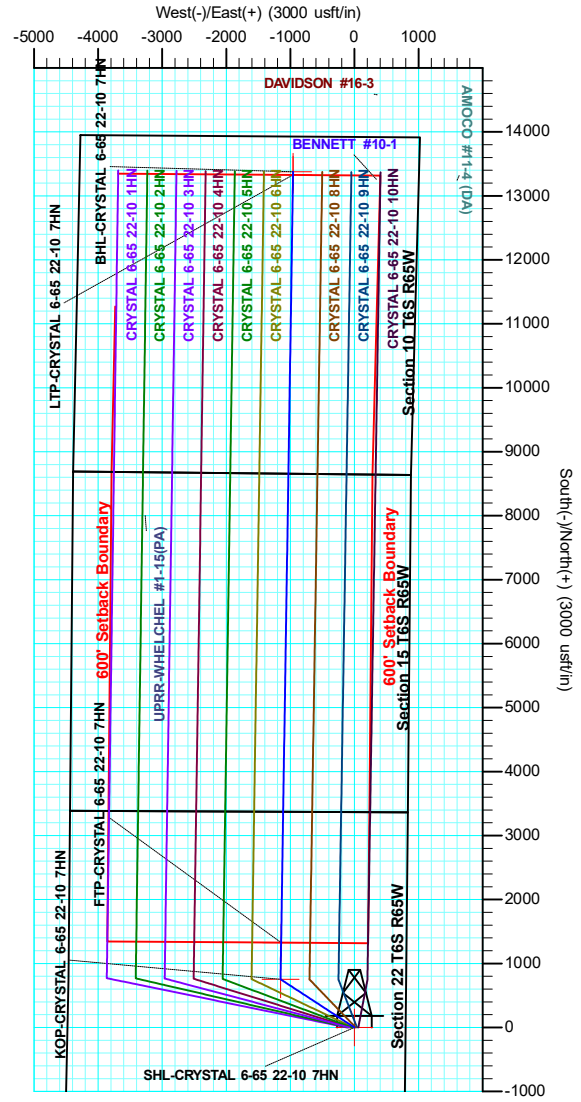
+N/-S	+E/-W	Northing	Ground Level: Easting	6177.00 Latitude	Longitude
0.00	0.00	1612583.88	3241050.14	39.512208	-104.645610

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
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	
907.01	12.14	303.18	902.48	35.07	-53.62	2.00	303.18	38.80	
6848.98	12.14	303.18	6711.56	718.99	-1099.48	0.00	0.00	795.64	
7455.99	0.00	0.00	7314.04	754.06	-1153.10	2.00	180.00	834.45	
7755.99	0.00	0.00	7614.04	754.06	-1153.10	0.00	0.00	834.45	
8655.99	90.00	0.89	8187.00	1326.95	-1144.22	10.00	0.00	1405.24	FTP-CRYSTAL 6-65 22-10 7HN
20658.65	90.00	0.89	8187.00	13328.16	-958.18	0.00	0.00	13362.56	LTP-CRYSTAL 6-65 22-10 7HN
20708.65	90.00	0.89	8187.00	13378.16	-957.40	0.00	0.00	13412.37	BHL-CRYSTAL 6-65 22-10 7HN



SHL: 1931 FSL/ 798 FEL Sec. 22
 FTP: 2045 FNL/ 1956 FEL Sec. 22
 LTP: 600 FNL/ 1964 FEL Sec. 10
 BHL: 550 FNL/ 1964 FEL Sec. 10





Database:	Local	Local Co-ordinate Reference:	Well CRYSTAL6-65 22-10 7HN
Company:	GMT Exploration Company, LLC	TVD Reference:	KB @ 6197.00usft
Project:	Elbert County, CO (NAD 83)	MD Reference:	KB @ 6197.00usft
Site:	Ruby-Crystal Pad	North Reference:	True
Well:	CRYSTAL 6-65 22-10 7HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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

Site	Ruby-Crystal Pad				
Site Position:		Northing:	1,613,266.75 usft	Latitude:	39.514130
From:	Lat/Long	Easting:	3,239,201.95 usft	Longitude:	-104.652138
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.53 °

Well	CRYSTAL 6-65 22-10 7HN					
Well Position	+N/-S	-700.10 usft	Northing:	1,612,583.88 usft	Latitude:	39.512208
	+E/-W	1,841.73 usft	Easting:	3,241,050.14 usft	Longitude:	-104.645610
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	6,177.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/21/2019	7.87	66.11	51,710.44537417

Design	Design #1			
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	355.91

Plan Survey Tool Program	Date	5/24/2019			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	20,708.65	Design #1 (Wellbore #1)	MWD	
				OWSG MWD - Standard	

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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
907.01	12.14	303.18	902.48	35.07	-53.62	2.00	2.00	0.00	303.18	
6,848.98	12.14	303.18	6,711.56	718.99	-1,099.48	0.00	0.00	0.00	0.00	
7,456.00	0.00	0.00	7,314.04	754.06	-1,153.10	2.00	-2.00	0.00	180.00	
7,756.00	0.00	0.00	7,614.04	754.06	-1,153.10	0.00	0.00	0.00	0.00	
8,656.00	90.00	0.89	8,187.00	1,326.95	-1,144.22	10.00	10.00	0.00	0.00	FTP-CRYSTAL 6-65
20,658.65	90.00	0.89	8,187.00	13,328.16	-958.18	0.00	0.00	0.00	0.00	LTP-CRYSTAL 6-65
20,708.65	90.00	0.89	8,187.00	13,378.16	-957.40	0.00	0.00	0.00	0.00	BHL-CRYSTAL 6-65



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Site:	Ruby-Crystal Pad	North Reference:	True
Well:	CRYSTAL 6-65 22-10 7HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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
SHL-CRYSTAL 6-65 22-10 7HN										
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
Build: 2°/100' @ 300.00' MD										
400.00	2.00	303.18	399.98	0.96	-1.46	1.06	2.00	2.00	2.00	0.00
500.00	4.00	303.18	499.84	3.82	-5.84	4.23	2.00	2.00	2.00	0.00
600.00	6.00	303.18	599.45	8.59	-13.13	9.50	2.00	2.00	2.00	0.00
700.00	8.00	303.18	698.70	15.26	-23.33	16.89	2.00	2.00	2.00	0.00
800.00	10.00	303.18	797.47	23.82	-36.43	26.36	2.00	2.00	2.00	0.00
907.01	12.14	303.18	902.48	35.07	-53.62	38.80	2.00	2.00	2.00	0.00
Hold: 12.14° Inc, 303.18° Azm										
1,000.00	12.14	303.18	993.39	45.77	-69.99	50.65	0.00	0.00	0.00	0.00
1,100.00	12.14	303.18	1,091.15	57.28	-87.59	63.38	0.00	0.00	0.00	0.00
1,200.00	12.14	303.18	1,188.92	68.79	-105.19	76.12	0.00	0.00	0.00	0.00
1,300.00	12.14	303.18	1,286.68	80.30	-122.79	88.86	0.00	0.00	0.00	0.00
1,400.00	12.14	303.18	1,384.44	91.81	-140.39	101.60	0.00	0.00	0.00	0.00
1,500.00	12.14	303.18	1,482.21	103.32	-157.99	114.33	0.00	0.00	0.00	0.00
1,600.00	12.14	303.18	1,579.97	114.83	-175.60	127.07	0.00	0.00	0.00	0.00
1,700.00	12.14	303.18	1,677.73	126.34	-193.20	139.81	0.00	0.00	0.00	0.00
1,800.00	12.14	303.18	1,775.50	137.85	-210.80	152.54	0.00	0.00	0.00	0.00
1,900.00	12.14	303.18	1,873.26	149.36	-228.40	165.28	0.00	0.00	0.00	0.00
2,000.00	12.14	303.18	1,971.02	160.87	-246.00	178.02	0.00	0.00	0.00	0.00
2,100.00	12.14	303.18	2,068.79	172.38	-263.60	190.76	0.00	0.00	0.00	0.00
2,200.00	12.14	303.18	2,166.55	183.89	-281.20	203.49	0.00	0.00	0.00	0.00
2,300.00	12.14	303.18	2,264.31	195.40	-298.80	216.23	0.00	0.00	0.00	0.00
2,400.00	12.14	303.18	2,362.08	206.91	-316.41	228.97	0.00	0.00	0.00	0.00
2,500.00	12.14	303.18	2,459.84	218.42	-334.01	241.71	0.00	0.00	0.00	0.00
2,600.00	12.14	303.18	2,557.61	229.93	-351.61	254.44	0.00	0.00	0.00	0.00
2,700.00	12.14	303.18	2,655.37	241.44	-369.21	267.18	0.00	0.00	0.00	0.00
2,800.00	12.14	303.18	2,753.13	252.95	-386.81	279.92	0.00	0.00	0.00	0.00
2,900.00	12.14	303.18	2,850.90	264.46	-404.41	292.65	0.00	0.00	0.00	0.00
3,000.00	12.14	303.18	2,948.66	275.97	-422.01	305.39	0.00	0.00	0.00	0.00
3,100.00	12.14	303.18	3,046.42	287.48	-439.61	318.13	0.00	0.00	0.00	0.00
3,200.00	12.14	303.18	3,144.19	298.99	-457.22	330.87	0.00	0.00	0.00	0.00
3,300.00	12.14	303.18	3,241.95	310.50	-474.82	343.60	0.00	0.00	0.00	0.00
3,400.00	12.14	303.18	3,339.71	322.01	-492.42	356.34	0.00	0.00	0.00	0.00
3,500.00	12.14	303.18	3,437.48	333.52	-510.02	369.08	0.00	0.00	0.00	0.00
3,600.00	12.14	303.18	3,535.24	345.03	-527.62	381.81	0.00	0.00	0.00	0.00
3,700.00	12.14	303.18	3,633.00	356.54	-545.22	394.55	0.00	0.00	0.00	0.00
3,800.00	12.14	303.18	3,730.77	368.05	-562.82	407.29	0.00	0.00	0.00	0.00
3,900.00	12.14	303.18	3,828.53	379.56	-580.42	420.03	0.00	0.00	0.00	0.00
4,000.00	12.14	303.18	3,926.30	391.07	-598.03	432.76	0.00	0.00	0.00	0.00
4,100.00	12.14	303.18	4,024.06	402.58	-615.63	445.50	0.00	0.00	0.00	0.00
4,200.00	12.14	303.18	4,121.82	414.09	-633.23	458.24	0.00	0.00	0.00	0.00
4,300.00	12.14	303.18	4,219.59	425.60	-650.83	470.97	0.00	0.00	0.00	0.00
4,400.00	12.14	303.18	4,317.35	437.11	-668.43	483.71	0.00	0.00	0.00	0.00
4,500.00	12.14	303.18	4,415.11	448.62	-686.03	496.45	0.00	0.00	0.00	0.00
4,600.00	12.14	303.18	4,512.88	460.13	-703.63	509.19	0.00	0.00	0.00	0.00
4,700.00	12.14	303.18	4,610.64	471.64	-721.23	521.92	0.00	0.00	0.00	0.00
4,800.00	12.14	303.18	4,708.40	483.15	-738.84	534.66	0.00	0.00	0.00	0.00
4,900.00	12.14	303.18	4,806.17	494.66	-756.44	547.40	0.00	0.00	0.00	0.00



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Site:	Ruby-Crystal Pad	North Reference:	True
Well:	CRYSTAL 6-65 22-10 7HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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)
5,000.00	12.14	303.18	4,903.93	506.17	-774.04	560.14	0.00	0.00	0.00
5,100.00	12.14	303.18	5,001.69	517.68	-791.64	572.87	0.00	0.00	0.00
5,200.00	12.14	303.18	5,099.46	529.19	-809.24	585.61	0.00	0.00	0.00
5,300.00	12.14	303.18	5,197.22	540.70	-826.84	598.35	0.00	0.00	0.00
5,400.00	12.14	303.18	5,294.99	552.21	-844.44	611.08	0.00	0.00	0.00
5,500.00	12.14	303.18	5,392.75	563.72	-862.04	623.82	0.00	0.00	0.00
5,600.00	12.14	303.18	5,490.51	575.23	-879.65	636.56	0.00	0.00	0.00
5,700.00	12.14	303.18	5,588.28	586.75	-897.25	649.30	0.00	0.00	0.00
5,800.00	12.14	303.18	5,686.04	598.26	-914.85	662.03	0.00	0.00	0.00
5,900.00	12.14	303.18	5,783.80	609.77	-932.45	674.77	0.00	0.00	0.00
6,000.00	12.14	303.18	5,881.57	621.28	-950.05	687.51	0.00	0.00	0.00
6,100.00	12.14	303.18	5,979.33	632.79	-967.65	700.24	0.00	0.00	0.00
6,200.00	12.14	303.18	6,077.09	644.30	-985.25	712.98	0.00	0.00	0.00
6,300.00	12.14	303.18	6,174.86	655.81	-1,002.85	725.72	0.00	0.00	0.00
6,400.00	12.14	303.18	6,272.62	667.32	-1,020.46	738.46	0.00	0.00	0.00
6,500.00	12.14	303.18	6,370.38	678.83	-1,038.06	751.19	0.00	0.00	0.00
6,600.00	12.14	303.18	6,468.15	690.34	-1,055.66	763.93	0.00	0.00	0.00
6,700.00	12.14	303.18	6,565.91	701.85	-1,073.26	776.67	0.00	0.00	0.00
6,800.00	12.14	303.18	6,663.67	713.36	-1,090.86	789.40	0.00	0.00	0.00
6,848.98	12.14	303.18	6,711.56	718.99	-1,099.48	795.64	0.00	0.00	0.00
Drop: 2°/100' @ 6848.98' MD									
6,900.00	11.12	303.18	6,761.53	724.62	-1,108.09	801.87	2.00	-2.00	0.00
7,000.00	9.12	303.18	6,859.97	734.24	-1,122.79	812.51	2.00	-2.00	0.00
7,100.00	7.12	303.18	6,958.96	741.97	-1,134.61	821.07	2.00	-2.00	0.00
7,200.00	5.12	303.18	7,058.39	747.80	-1,143.54	827.52	2.00	-2.00	0.00
7,300.00	3.12	303.18	7,158.12	751.74	-1,149.55	831.88	2.00	-2.00	0.00
7,400.00	1.12	303.18	7,258.05	753.76	-1,152.65	834.12	2.00	-2.00	0.00
7,456.00	0.00	0.00	7,314.04	754.06	-1,153.10	834.45	2.00	-2.00	0.00
Hold: 0.00° Inc, 303.18° Azm									
7,500.00	0.00	0.00	7,358.05	754.06	-1,153.10	834.45	0.00	0.00	0.00
7,600.00	0.00	0.00	7,458.05	754.06	-1,153.10	834.45	0.00	0.00	0.00
7,700.00	0.00	0.00	7,558.05	754.06	-1,153.10	834.45	0.00	0.00	0.00
7,756.00	0.00	0.00	7,614.04	754.06	-1,153.10	834.45	0.00	0.00	0.00
KOP: 10°/100' @ 7755.99' MD - KOP-CRYSTAL 6-65 22-10 7HN									
7,800.00	4.40	0.89	7,658.00	755.75	-1,153.08	836.13	10.00	10.00	0.00
7,850.00	9.40	0.89	7,707.63	761.75	-1,152.98	842.11	10.00	10.00	0.00
7,900.00	14.40	0.89	7,756.54	772.06	-1,152.82	852.38	10.00	10.00	0.00
7,950.00	19.40	0.89	7,804.36	786.59	-1,152.60	866.86	10.00	10.00	0.00
8,000.00	24.40	0.89	7,850.74	805.23	-1,152.31	885.43	10.00	10.00	0.00
8,050.00	29.40	0.89	7,895.31	827.84	-1,151.96	907.96	10.00	10.00	0.00
8,100.00	34.40	0.89	7,937.75	854.25	-1,151.55	934.27	10.00	10.00	0.00
8,150.00	39.40	0.89	7,977.72	884.26	-1,151.08	964.17	10.00	10.00	0.00
8,200.00	44.40	0.89	8,014.92	917.64	-1,150.57	997.43	10.00	10.00	0.00
8,250.00	49.40	0.89	8,049.08	954.13	-1,150.00	1,033.79	10.00	10.00	0.00
8,300.00	54.40	0.89	8,079.92	993.46	-1,149.39	1,072.97	10.00	10.00	0.00
8,350.00	59.40	0.89	8,107.21	1,035.33	-1,148.74	1,114.69	10.00	10.00	0.00
8,400.00	64.40	0.89	8,130.76	1,079.42	-1,148.06	1,158.61	10.00	10.00	0.00
8,450.00	69.40	0.89	8,150.37	1,125.39	-1,147.35	1,204.42	10.00	10.00	0.00
8,500.00	74.40	0.89	8,165.90	1,172.89	-1,146.61	1,251.75	10.00	10.00	0.00
8,550.00	79.40	0.89	8,177.22	1,221.57	-1,145.86	1,300.25	10.00	10.00	0.00
8,600.00	84.40	0.89	8,184.27	1,271.05	-1,145.09	1,349.55	10.00	10.00	0.00
8,650.00	89.40	0.89	8,186.97	1,320.95	-1,144.32	1,399.27	10.00	10.00	0.00
8,656.00	90.00	0.89	8,187.00	1,326.95	-1,144.22	1,405.24	10.00	10.00	0.00
LP: 8655.99' MD, 90.00° Inc, 0.89° Azm - FTP-CRYSTAL 6-65 22-10 7HN									



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Wellbore:	Wellbore #1		
Design:	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)
8,700.00	90.00	0.89	8,187.00	1,370.95	-1,143.54	1,449.08	0.00	0.00	0.00
8,800.00	90.00	0.89	8,187.00	1,470.94	-1,141.99	1,548.70	0.00	0.00	0.00
8,900.00	90.00	0.89	8,187.00	1,570.92	-1,140.44	1,648.32	0.00	0.00	0.00
9,000.00	90.00	0.89	8,187.00	1,670.91	-1,138.89	1,747.95	0.00	0.00	0.00
9,100.00	90.00	0.89	8,187.00	1,770.90	-1,137.34	1,847.57	0.00	0.00	0.00
9,200.00	90.00	0.89	8,187.00	1,870.89	-1,135.79	1,947.19	0.00	0.00	0.00
9,300.00	90.00	0.89	8,187.00	1,970.88	-1,134.24	2,046.81	0.00	0.00	0.00
9,400.00	90.00	0.89	8,187.00	2,070.86	-1,132.69	2,146.44	0.00	0.00	0.00
9,500.00	90.00	0.89	8,187.00	2,170.85	-1,131.14	2,246.06	0.00	0.00	0.00
9,600.00	90.00	0.89	8,187.00	2,270.84	-1,129.59	2,345.68	0.00	0.00	0.00
9,700.00	90.00	0.89	8,187.00	2,370.83	-1,128.04	2,445.30	0.00	0.00	0.00
9,800.00	90.00	0.89	8,187.00	2,470.82	-1,126.49	2,544.92	0.00	0.00	0.00
9,900.00	90.00	0.89	8,187.00	2,570.80	-1,124.94	2,644.55	0.00	0.00	0.00
10,000.00	90.00	0.89	8,187.00	2,670.79	-1,123.39	2,744.17	0.00	0.00	0.00
10,100.00	90.00	0.89	8,187.00	2,770.78	-1,121.84	2,843.79	0.00	0.00	0.00
10,200.00	90.00	0.89	8,187.00	2,870.77	-1,120.29	2,943.41	0.00	0.00	0.00
10,300.00	90.00	0.89	8,187.00	2,970.76	-1,118.74	3,043.04	0.00	0.00	0.00
10,400.00	90.00	0.89	8,187.00	3,070.74	-1,117.19	3,142.66	0.00	0.00	0.00
10,500.00	90.00	0.89	8,187.00	3,170.73	-1,115.64	3,242.28	0.00	0.00	0.00
10,600.00	90.00	0.89	8,187.00	3,270.72	-1,114.09	3,341.90	0.00	0.00	0.00
10,700.00	90.00	0.89	8,187.00	3,370.71	-1,112.54	3,441.53	0.00	0.00	0.00
10,800.00	90.00	0.89	8,187.00	3,470.70	-1,110.99	3,541.15	0.00	0.00	0.00
10,900.00	90.00	0.89	8,187.00	3,570.68	-1,109.44	3,640.77	0.00	0.00	0.00
11,000.00	90.00	0.89	8,187.00	3,670.67	-1,107.89	3,740.39	0.00	0.00	0.00
11,100.00	90.00	0.89	8,187.00	3,770.66	-1,106.34	3,840.01	0.00	0.00	0.00
11,200.00	90.00	0.89	8,187.00	3,870.65	-1,104.79	3,939.64	0.00	0.00	0.00
11,300.00	90.00	0.89	8,187.00	3,970.64	-1,103.24	4,039.26	0.00	0.00	0.00
11,400.00	90.00	0.89	8,187.00	4,070.62	-1,101.69	4,138.88	0.00	0.00	0.00
11,500.00	90.00	0.89	8,187.00	4,170.61	-1,100.14	4,238.50	0.00	0.00	0.00
11,600.00	90.00	0.89	8,187.00	4,270.60	-1,098.59	4,338.13	0.00	0.00	0.00
11,700.00	90.00	0.89	8,187.00	4,370.59	-1,097.04	4,437.75	0.00	0.00	0.00
11,800.00	90.00	0.89	8,187.00	4,470.58	-1,095.49	4,537.37	0.00	0.00	0.00
11,900.00	90.00	0.89	8,187.00	4,570.56	-1,093.94	4,636.99	0.00	0.00	0.00
12,000.00	90.00	0.89	8,187.00	4,670.55	-1,092.39	4,736.61	0.00	0.00	0.00
12,100.00	90.00	0.89	8,187.00	4,770.54	-1,090.84	4,836.24	0.00	0.00	0.00
12,200.00	90.00	0.89	8,187.00	4,870.53	-1,089.29	4,935.86	0.00	0.00	0.00
12,300.00	90.00	0.89	8,187.00	4,970.52	-1,087.74	5,035.48	0.00	0.00	0.00
12,400.00	90.00	0.89	8,187.00	5,070.50	-1,086.19	5,135.10	0.00	0.00	0.00
12,500.00	90.00	0.89	8,187.00	5,170.49	-1,084.64	5,234.73	0.00	0.00	0.00
12,600.00	90.00	0.89	8,187.00	5,270.48	-1,083.09	5,334.35	0.00	0.00	0.00
12,700.00	90.00	0.89	8,187.00	5,370.47	-1,081.54	5,433.97	0.00	0.00	0.00
12,800.00	90.00	0.89	8,187.00	5,470.46	-1,079.99	5,533.59	0.00	0.00	0.00
12,900.00	90.00	0.89	8,187.00	5,570.44	-1,078.44	5,633.22	0.00	0.00	0.00
13,000.00	90.00	0.89	8,187.00	5,670.43	-1,076.89	5,732.84	0.00	0.00	0.00
13,100.00	90.00	0.89	8,187.00	5,770.42	-1,075.34	5,832.46	0.00	0.00	0.00
13,200.00	90.00	0.89	8,187.00	5,870.41	-1,073.79	5,932.08	0.00	0.00	0.00
13,300.00	90.00	0.89	8,187.00	5,970.40	-1,072.24	6,031.70	0.00	0.00	0.00
13,400.00	90.00	0.89	8,187.00	6,070.38	-1,070.69	6,131.33	0.00	0.00	0.00
13,500.00	90.00	0.89	8,187.00	6,170.37	-1,069.14	6,230.95	0.00	0.00	0.00
13,600.00	90.00	0.89	8,187.00	6,270.36	-1,067.59	6,330.57	0.00	0.00	0.00
13,700.00	90.00	0.89	8,187.00	6,370.35	-1,066.04	6,430.19	0.00	0.00	0.00
13,800.00	90.00	0.89	8,187.00	6,470.34	-1,064.49	6,529.82	0.00	0.00	0.00
13,900.00	90.00	0.89	8,187.00	6,570.32	-1,062.94	6,629.44	0.00	0.00	0.00
14,000.00	90.00	0.89	8,187.00	6,670.31	-1,061.39	6,729.06	0.00	0.00	0.00



Database:	Local	Local Co-ordinate Reference:	Well CRYSTAL6-65 22-10 7HN
Company:	GMT Exploration Company, LLC	TVD Reference:	KB @ 6197.00usft
Project:	Elbert County, CO (NAD 83)	MD Reference:	KB @ 6197.00usft
Site:	Ruby-Crystal Pad	North Reference:	True
Well:	CRYSTAL 6-65 22-10 7HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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)
14,100.00	90.00	0.89	8,187.00	6,770.30	-1,059.84	6,828.68	0.00	0.00	0.00
14,200.00	90.00	0.89	8,187.00	6,870.29	-1,058.29	6,928.31	0.00	0.00	0.00
14,300.00	90.00	0.89	8,187.00	6,970.28	-1,056.74	7,027.93	0.00	0.00	0.00
14,400.00	90.00	0.89	8,187.00	7,070.26	-1,055.19	7,127.55	0.00	0.00	0.00
14,500.00	90.00	0.89	8,187.00	7,170.25	-1,053.64	7,227.17	0.00	0.00	0.00
14,600.00	90.00	0.89	8,187.00	7,270.24	-1,052.09	7,326.79	0.00	0.00	0.00
14,700.00	90.00	0.89	8,187.00	7,370.23	-1,050.54	7,426.42	0.00	0.00	0.00
14,800.00	90.00	0.89	8,187.00	7,470.22	-1,048.99	7,526.04	0.00	0.00	0.00
14,900.00	90.00	0.89	8,187.00	7,570.20	-1,047.44	7,625.66	0.00	0.00	0.00
15,000.00	90.00	0.89	8,187.00	7,670.19	-1,045.89	7,725.28	0.00	0.00	0.00
15,100.00	90.00	0.89	8,187.00	7,770.18	-1,044.34	7,824.91	0.00	0.00	0.00
15,200.00	90.00	0.89	8,187.00	7,870.17	-1,042.79	7,924.53	0.00	0.00	0.00
15,300.00	90.00	0.89	8,187.00	7,970.16	-1,041.24	8,024.15	0.00	0.00	0.00
15,400.00	90.00	0.89	8,187.00	8,070.14	-1,039.69	8,123.77	0.00	0.00	0.00
15,500.00	90.00	0.89	8,187.00	8,170.13	-1,038.14	8,223.39	0.00	0.00	0.00
15,600.00	90.00	0.89	8,187.00	8,270.12	-1,036.59	8,323.02	0.00	0.00	0.00
15,700.00	90.00	0.89	8,187.00	8,370.11	-1,035.04	8,422.64	0.00	0.00	0.00
15,800.00	90.00	0.89	8,187.00	8,470.10	-1,033.49	8,522.26	0.00	0.00	0.00
15,900.00	90.00	0.89	8,187.00	8,570.08	-1,031.94	8,621.88	0.00	0.00	0.00
16,000.00	90.00	0.89	8,187.00	8,670.07	-1,030.39	8,721.51	0.00	0.00	0.00
16,100.00	90.00	0.89	8,187.00	8,770.06	-1,028.84	8,821.13	0.00	0.00	0.00
16,200.00	90.00	0.89	8,187.00	8,870.05	-1,027.29	8,920.75	0.00	0.00	0.00
16,300.00	90.00	0.89	8,187.00	8,970.04	-1,025.74	9,020.37	0.00	0.00	0.00
16,400.00	90.00	0.89	8,187.00	9,070.02	-1,024.19	9,120.00	0.00	0.00	0.00
16,500.00	90.00	0.89	8,187.00	9,170.01	-1,022.64	9,219.62	0.00	0.00	0.00
16,600.00	90.00	0.89	8,187.00	9,270.00	-1,021.09	9,319.24	0.00	0.00	0.00
16,700.00	90.00	0.89	8,187.00	9,369.99	-1,019.54	9,418.86	0.00	0.00	0.00
16,800.00	90.00	0.89	8,187.00	9,469.98	-1,017.99	9,518.48	0.00	0.00	0.00
16,900.00	90.00	0.89	8,187.00	9,569.96	-1,016.44	9,618.11	0.00	0.00	0.00
17,000.00	90.00	0.89	8,187.00	9,669.95	-1,014.89	9,717.73	0.00	0.00	0.00
17,100.00	90.00	0.89	8,187.00	9,769.94	-1,013.34	9,817.35	0.00	0.00	0.00
17,200.00	90.00	0.89	8,187.00	9,869.93	-1,011.79	9,916.97	0.00	0.00	0.00
17,300.00	90.00	0.89	8,187.00	9,969.92	-1,010.24	10,016.60	0.00	0.00	0.00
17,400.00	90.00	0.89	8,187.00	10,069.90	-1,008.69	10,116.22	0.00	0.00	0.00
17,500.00	90.00	0.89	8,187.00	10,169.89	-1,007.14	10,215.84	0.00	0.00	0.00
17,600.00	90.00	0.89	8,187.00	10,269.88	-1,005.59	10,315.46	0.00	0.00	0.00
17,700.00	90.00	0.89	8,187.00	10,369.87	-1,004.04	10,415.08	0.00	0.00	0.00
17,800.00	90.00	0.89	8,187.00	10,469.86	-1,002.49	10,514.71	0.00	0.00	0.00
17,900.00	90.00	0.89	8,187.00	10,569.84	-1,000.94	10,614.33	0.00	0.00	0.00
18,000.00	90.00	0.89	8,187.00	10,669.83	-999.39	10,713.95	0.00	0.00	0.00
18,100.00	90.00	0.89	8,187.00	10,769.82	-997.84	10,813.57	0.00	0.00	0.00
18,200.00	90.00	0.89	8,187.00	10,869.81	-996.29	10,913.20	0.00	0.00	0.00
18,300.00	90.00	0.89	8,187.00	10,969.80	-994.74	11,012.82	0.00	0.00	0.00
18,400.00	90.00	0.89	8,187.00	11,069.78	-993.19	11,112.44	0.00	0.00	0.00
18,500.00	90.00	0.89	8,187.00	11,169.77	-991.64	11,212.06	0.00	0.00	0.00
18,600.00	90.00	0.89	8,187.00	11,269.76	-990.09	11,311.69	0.00	0.00	0.00
18,700.00	90.00	0.89	8,187.00	11,369.75	-988.54	11,411.31	0.00	0.00	0.00
18,800.00	90.00	0.89	8,187.00	11,469.74	-986.99	11,510.93	0.00	0.00	0.00
18,900.00	90.00	0.89	8,187.00	11,569.72	-985.44	11,610.55	0.00	0.00	0.00
19,000.00	90.00	0.89	8,187.00	11,669.71	-983.89	11,710.17	0.00	0.00	0.00
19,100.00	90.00	0.89	8,187.00	11,769.70	-982.34	11,809.80	0.00	0.00	0.00
19,200.00	90.00	0.89	8,187.00	11,869.69	-980.79	11,909.42	0.00	0.00	0.00
19,300.00	90.00	0.89	8,187.00	11,969.68	-979.24	12,009.04	0.00	0.00	0.00
19,400.00	90.00	0.89	8,187.00	12,069.66	-977.69	12,108.66	0.00	0.00	0.00



Database:	Local	Local Co-ordinate Reference:	Well CRYSTAL6-65 22-10 7HN
Company:	GMT Exploration Company, LLC	TVD Reference:	KB @ 6197.00usft
Project:	Elbert County, CO (NAD 83)	MD Reference:	KB @ 6197.00usft
Site:	Ruby-Crystal Pad	North Reference:	True
Well:	CRYSTAL 6-65 22-10 7HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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)
19,500.00	90.00	0.89	8,187.00	12,169.65	-976.14	12,208.29	0.00	0.00	0.00
19,600.00	90.00	0.89	8,187.00	12,269.64	-974.59	12,307.91	0.00	0.00	0.00
19,700.00	90.00	0.89	8,187.00	12,369.63	-973.04	12,407.53	0.00	0.00	0.00
19,800.00	90.00	0.89	8,187.00	12,469.62	-971.49	12,507.15	0.00	0.00	0.00
19,900.00	90.00	0.89	8,187.00	12,569.60	-969.94	12,606.78	0.00	0.00	0.00
20,000.00	90.00	0.89	8,187.00	12,669.59	-968.39	12,706.40	0.00	0.00	0.00
20,100.00	90.00	0.89	8,187.00	12,769.58	-966.84	12,806.02	0.00	0.00	0.00
20,200.00	90.00	0.89	8,187.00	12,869.57	-965.29	12,905.64	0.00	0.00	0.00
20,300.00	90.00	0.89	8,187.00	12,969.56	-963.74	13,005.26	0.00	0.00	0.00
20,400.00	90.00	0.89	8,187.00	13,069.54	-962.19	13,104.89	0.00	0.00	0.00
20,500.00	90.00	0.89	8,187.00	13,169.53	-960.64	13,204.51	0.00	0.00	0.00
20,600.00	90.00	0.89	8,187.00	13,269.52	-959.09	13,304.13	0.00	0.00	0.00
20,658.65	90.00	0.89	8,187.00	13,328.16	-958.18	13,362.56	0.00	0.00	0.00
Hold: 90.00° Inc, 0.89° Azm - LTP-CRYSTAL 6-65 22-10 7HN									
20,708.65	90.00	0.89	8,187.00	13,378.16	-957.40	13,412.37	0.00	0.00	0.00
TD @ 20708.65' MD/8187.00' TVD - BHL-CRYSTAL 6-65 22-10 7HN									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL-CRYSTAL 6-65 2 - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,612,583.88	3,241,050.14	39.512208	-104.645610
KOP-CRYSTAL 6-65 1 - plan hits target center - Point	0.00	0.00	7,614.04	754.06	-1,153.10	1,613,327.06	3,239,890.00	39.514278	-104.649698
LTP-CRYSTAL 6-65 2 - plan hits target center - Point	0.00	0.00	8,187.00	13,328.16	-958.18	1,625,902.44	3,239,966.66	39.548799	-104.649008
BHL-CRYSTAL 6-65 2 - plan hits target center - Point	0.00	0.00	8,187.00	13,378.16	-957.40	1,625,952.44	3,239,966.96	39.548936	-104.649006
FTP-CRYSTAL 6-65 2 - plan hits target center - Point	0.00	0.00	8,187.00	1,326.95	-1,144.22	1,613,900.01	3,239,893.49	39.515851	-104.649666

Database:	Local	Local Co-ordinate Reference:	Well CRYSTAL6-65 22-10 7HN
Company:	GMT Exploration Company, LLC	TVD Reference:	KB @ 6197.00usft
Project:	Elbert County, CO (NAD 83)	MD Reference:	KB @ 6197.00usft
Site:	Ruby-Crystal Pad	North Reference:	True
Well:	CRYSTAL 6-65 22-10 7HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
457.08	457.00	Denver			
1,550.93	1,532.00	Upper Arapahoe			
2,266.95	2,232.00	Laramie - Fox Hills			
2,440.84	2,402.00	Pierre Shale (Base of Fox Hills)			
5,739.61	5,627.00	Sussex Sandstone			
8,099.09	7,937.00	Sharon Springs Shale			
8,111.29	7,947.00	Niobrara			
8,123.67	7,957.00	Niobrara A			
8,303.59	8,082.00	Niobrara B Top			
8,504.16	8,167.00	Niobrara C 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
907.01	902.48	35.07	-53.62	Hold: 12.14° Inc, 303.18° Azm
6,848.98	6,711.56	718.99	-1,099.48	Drop: 2°/100' @ 6848.98' MD
7,456.00	7,314.04	754.06	-1,153.10	Hold: 0.00° Inc, 303.18° Azm
7,756.00	7,614.04	754.06	-1,153.10	KOP: 10°/100' @ 7755.99' MD
8,656.00	8,187.00	1,326.95	-1,144.22	LP: 8655.99' MD, 90.00° Inc, 0.89° Azm
20,658.65	8,187.00	13,328.16	-958.18	Hold: 90.00° Inc, 0.89° Azm
20,708.65	8,187.00	13,378.16	-957.40	TD @ 20708.65' MD/8187.00' TVD