



GMT Exploration Company, LLC

Elbert County, CO (NAD 83)

Ruby-Crystal Pad

CRYSTAL 6-65 22-10 3HN

Wellbore #1

Plan: Design #1

Standard Planning Report

24 May, 2019



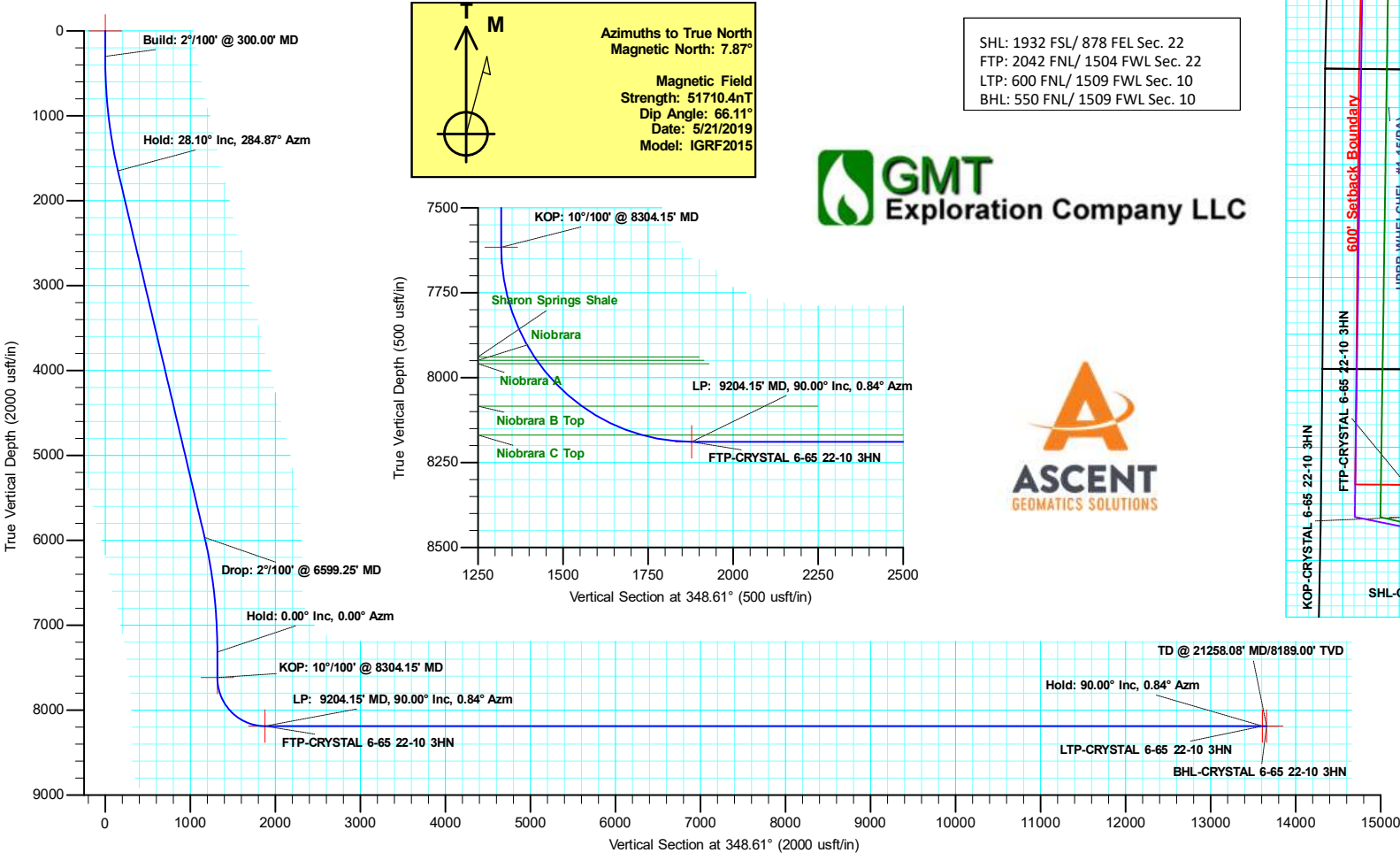
Project: Elbert County, CO (NAD 83)
Site: Ruby-Crystal Pad
Well: CRYSTAL 6-65 22-10 3HN
Wellbore: Wellbore #1
Design: Design #1

GMT Exploration Company, LLC

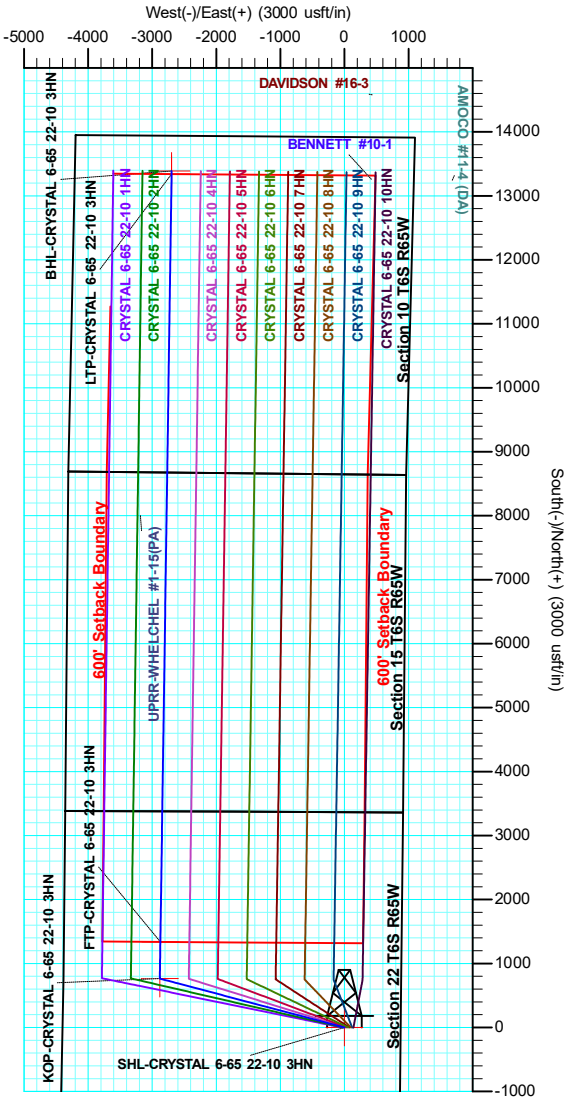
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Central Zone
System Datum: Mean Sea Level

WELL DETAILS: CRYSTAL 6-65 22-10 3HN					
+N/-S	+E/-W	Northing	Ground Level: Easting	6179.00 Latitude	Longitude
0.00	0.00	1612583.88	3240970.14	39.512210	-104.645894

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	
1704.90	28.10	284.87	1649.26	86.64	-326.33	2.00	284.87	149.36	
6599.25	28.10	284.87	5966.78	678.16	-2554.29	0.00	0.00	1169.07	
8004.15	0.00	0.00	7316.04	764.80	-2880.62	2.00	180.00	1318.43	
8304.15	0.00	0.00	7616.04	764.80	-2880.62	0.00	0.00	1318.43	
9204.15	90.00	0.84	8189.00	1337.70	-2872.26	10.00	0.00	1878.40	FTP-CRYSTAL 6-65 22-10 3HN
21208.08	90.00	0.84	8189.00	13340.35	-2697.24	0.00	0.00	13610.29	LTP-CRYSTAL 6-65 22-10 3HN
21258.08	90.00	0.84	8189.00	13390.35	-2696.51	0.00	0.00	13659.16	BHL-CRYSTAL 6-65 22-10 3HN



SHL: 1932 FSL/ 878 FEL Sec. 22
FTP: 2042 FNL/ 1504 FWL Sec. 22
LTP: 600 FNL/ 1509 FWL Sec. 10
BHL: 550 FNL/ 1509 FWL Sec. 10



Database:	Local	Local Co-ordinate Reference:	Well CRYSTAL6-65 22-10 3HN
Company:	GMT Exploration Company, LLC	TVD Reference:	KB @ 6199.00usft
Project:	Elbert County, CO (NAD 83)	MD Reference:	KB @ 6199.00usft
Site:	Ruby-Crystal Pad	North Reference:	True
Well:	CRYSTAL 6-65 22-10 3HN	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 3HN					
Well Position	+N-S	-699.35 usft	Northing:	1,612,583.88 usft	Latitude:	39.512210
	+E-W	1,761.74 usft	Easting:	3,240,970.14 usft	Longitude:	-104.645894
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	6,179.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/21/2019	7.87	66.11	51,710.40066867

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	348.61

Plan Survey Tool Program	Date	5/24/2019		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	21,258.08	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	
1,704.90	28.10	284.87	1,649.26	86.64	-326.33	2.00	2.00	0.00	284.87	
6,599.25	28.10	284.87	5,966.78	678.16	-2,554.29	0.00	0.00	0.00	0.00	
8,004.15	0.00	0.00	7,316.04	764.80	-2,880.62	2.00	-2.00	0.00	180.00	
8,304.15	0.00	0.00	7,616.04	764.80	-2,880.62	0.00	0.00	0.00	0.00	
9,204.15	90.00	0.84	8,189.00	1,337.70	-2,872.26	10.00	10.00	0.00	0.00	FTP-CRYSTAL 6-65
21,208.08	90.00	0.84	8,189.00	13,340.35	-2,697.24	0.00	0.00	0.00	0.00	LTP-CRYSTAL 6-65
21,258.08	90.00	0.84	8,189.00	13,390.35	-2,696.51	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 3HN	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
SHL-CRYSTAL 6-65 22-10 3HN									
100.00	0.00	0.00	100.00	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
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Build: 2°/100' @ 300.00' MD									
400.00	2.00	284.87	399.98	0.45	-1.69	0.77	2.00	2.00	0.00
500.00	4.00	284.87	499.84	1.79	-6.74	3.09	2.00	2.00	0.00
600.00	6.00	284.87	599.45	4.03	-15.17	6.94	2.00	2.00	0.00
700.00	8.00	284.87	698.70	7.15	-26.95	12.33	2.00	2.00	0.00
800.00	10.00	284.87	797.47	11.17	-42.07	19.25	2.00	2.00	0.00
900.00	12.00	284.87	895.62	16.06	-60.51	27.69	2.00	2.00	0.00
1,000.00	14.00	284.87	993.06	21.84	-82.25	37.64	2.00	2.00	0.00
1,100.00	16.00	284.87	1,089.64	28.48	-107.26	49.09	2.00	2.00	0.00
1,200.00	18.00	284.87	1,185.27	35.98	-135.52	62.02	2.00	2.00	0.00
1,300.00	20.00	284.87	1,279.82	44.33	-166.98	76.43	2.00	2.00	0.00
1,400.00	22.00	284.87	1,373.17	53.53	-201.62	92.28	2.00	2.00	0.00
1,500.00	24.00	284.87	1,465.21	63.56	-239.38	109.56	2.00	2.00	0.00
1,600.00	26.00	284.87	1,555.84	74.40	-280.23	128.26	2.00	2.00	0.00
1,704.90	28.10	284.87	1,649.26	86.64	-326.33	149.36	2.00	2.00	0.00
Hold: 28.10° Inc, 284.87° Azm									
1,800.00	28.10	284.87	1,733.15	98.13	-369.62	169.17	0.00	0.00	0.00
1,900.00	28.10	284.87	1,821.37	110.22	-415.14	190.01	0.00	0.00	0.00
2,000.00	28.10	284.87	1,909.58	122.31	-460.66	210.84	0.00	0.00	0.00
2,100.00	28.10	284.87	1,997.80	134.39	-506.18	231.67	0.00	0.00	0.00
2,200.00	28.10	284.87	2,086.01	146.48	-551.70	252.51	0.00	0.00	0.00
2,300.00	28.10	284.87	2,174.22	158.56	-597.22	273.34	0.00	0.00	0.00
2,400.00	28.10	284.87	2,262.44	170.65	-642.75	294.18	0.00	0.00	0.00
2,500.00	28.10	284.87	2,350.65	182.73	-688.27	315.01	0.00	0.00	0.00
2,600.00	28.10	284.87	2,438.87	194.82	-733.79	335.85	0.00	0.00	0.00
2,700.00	28.10	284.87	2,527.08	206.91	-779.31	356.68	0.00	0.00	0.00
2,800.00	28.10	284.87	2,615.30	218.99	-824.83	377.52	0.00	0.00	0.00
2,900.00	28.10	284.87	2,703.51	231.08	-870.35	398.35	0.00	0.00	0.00
3,000.00	28.10	284.87	2,791.73	243.16	-915.87	419.18	0.00	0.00	0.00
3,100.00	28.10	284.87	2,879.94	255.25	-961.39	440.02	0.00	0.00	0.00
3,200.00	28.10	284.87	2,968.15	267.34	-1,006.91	460.85	0.00	0.00	0.00
3,300.00	28.10	284.87	3,056.37	279.42	-1,052.44	481.69	0.00	0.00	0.00
3,400.00	28.10	284.87	3,144.58	291.51	-1,097.96	502.52	0.00	0.00	0.00
3,500.00	28.10	284.87	3,232.80	303.59	-1,143.48	523.36	0.00	0.00	0.00
3,600.00	28.10	284.87	3,321.01	315.68	-1,189.00	544.19	0.00	0.00	0.00
3,700.00	28.10	284.87	3,409.23	327.76	-1,234.52	565.03	0.00	0.00	0.00
3,800.00	28.10	284.87	3,497.44	339.85	-1,280.04	585.86	0.00	0.00	0.00
3,900.00	28.10	284.87	3,585.65	351.94	-1,325.56	606.69	0.00	0.00	0.00
4,000.00	28.10	284.87	3,673.87	364.02	-1,371.08	627.53	0.00	0.00	0.00
4,100.00	28.10	284.87	3,762.08	376.11	-1,416.60	648.36	0.00	0.00	0.00
4,200.00	28.10	284.87	3,850.30	388.19	-1,462.12	669.20	0.00	0.00	0.00
4,300.00	28.10	284.87	3,938.51	400.28	-1,507.65	690.03	0.00	0.00	0.00
4,400.00	28.10	284.87	4,026.73	412.37	-1,553.17	710.87	0.00	0.00	0.00
4,500.00	28.10	284.87	4,114.94	424.45	-1,598.69	731.70	0.00	0.00	0.00
4,600.00	28.10	284.87	4,203.15	436.54	-1,644.21	752.54	0.00	0.00	0.00
4,700.00	28.10	284.87	4,291.37	448.62	-1,689.73	773.37	0.00	0.00	0.00
4,800.00	28.10	284.87	4,379.58	460.71	-1,735.25	794.20	0.00	0.00	0.00
4,900.00	28.10	284.87	4,467.80	472.79	-1,780.77	815.04	0.00	0.00	0.00

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Site:	Ruby-Crystal Pad	North Reference:	True
Well:	CRYSTAL 6-65 22-10 3HN	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	28.10	284.87	4,556.01	484.88	-1,826.29	835.87	0.00	0.00	0.00
5,100.00	28.10	284.87	4,644.23	496.97	-1,871.81	856.71	0.00	0.00	0.00
5,200.00	28.10	284.87	4,732.44	509.05	-1,917.33	877.54	0.00	0.00	0.00
5,300.00	28.10	284.87	4,820.65	521.14	-1,962.86	898.38	0.00	0.00	0.00
5,400.00	28.10	284.87	4,908.87	533.22	-2,008.38	919.21	0.00	0.00	0.00
5,500.00	28.10	284.87	4,997.08	545.31	-2,053.90	940.05	0.00	0.00	0.00
5,600.00	28.10	284.87	5,085.30	557.40	-2,099.42	960.88	0.00	0.00	0.00
5,700.00	28.10	284.87	5,173.51	569.48	-2,144.94	981.71	0.00	0.00	0.00
5,800.00	28.10	284.87	5,261.73	581.57	-2,190.46	1,002.55	0.00	0.00	0.00
5,900.00	28.10	284.87	5,349.94	593.65	-2,235.98	1,023.38	0.00	0.00	0.00
6,000.00	28.10	284.87	5,438.16	605.74	-2,281.50	1,044.22	0.00	0.00	0.00
6,100.00	28.10	284.87	5,526.37	617.82	-2,327.02	1,065.05	0.00	0.00	0.00
6,200.00	28.10	284.87	5,614.58	629.91	-2,372.55	1,085.89	0.00	0.00	0.00
6,300.00	28.10	284.87	5,702.80	642.00	-2,418.07	1,106.72	0.00	0.00	0.00
6,400.00	28.10	284.87	5,791.01	654.08	-2,463.59	1,127.56	0.00	0.00	0.00
6,500.00	28.10	284.87	5,879.23	666.17	-2,509.11	1,148.39	0.00	0.00	0.00
6,599.25	28.10	284.87	5,966.78	678.16	-2,554.29	1,169.07	0.00	0.00	0.00
Drop: 2°/100' @ 6599.25' MD									
6,700.00	26.08	284.87	6,056.47	689.94	-2,598.63	1,189.36	2.00	-2.00	0.00
6,800.00	24.08	284.87	6,147.04	700.81	-2,639.60	1,208.12	2.00	-2.00	0.00
6,900.00	22.08	284.87	6,239.03	710.87	-2,677.49	1,225.46	2.00	-2.00	0.00
7,000.00	20.08	284.87	6,332.33	720.10	-2,712.26	1,241.37	2.00	-2.00	0.00
7,100.00	18.08	284.87	6,426.83	728.49	-2,743.86	1,255.83	2.00	-2.00	0.00
7,200.00	16.08	284.87	6,522.41	736.03	-2,772.25	1,268.83	2.00	-2.00	0.00
7,300.00	14.08	284.87	6,618.96	742.71	-2,797.40	1,280.34	2.00	-2.00	0.00
7,400.00	12.08	284.87	6,716.36	748.52	-2,819.27	1,290.35	2.00	-2.00	0.00
7,500.00	10.08	284.87	6,814.49	753.45	-2,837.85	1,298.85	2.00	-2.00	0.00
7,600.00	8.08	284.87	6,913.23	757.50	-2,853.11	1,305.84	2.00	-2.00	0.00
7,700.00	6.08	284.87	7,012.46	760.66	-2,865.03	1,311.29	2.00	-2.00	0.00
7,800.00	4.08	284.87	7,112.06	762.94	-2,873.59	1,315.21	2.00	-2.00	0.00
7,900.00	2.08	284.87	7,211.91	764.32	-2,878.79	1,317.59	2.00	-2.00	0.00
8,004.15	0.00	0.00	7,316.04	764.80	-2,880.62	1,318.43	2.00	-2.00	0.00
Hold: 0.00° Inc, 0.00° Azm									
8,100.00	0.00	0.00	7,411.89	764.80	-2,880.62	1,318.43	0.00	0.00	0.00
8,200.00	0.00	0.00	7,511.89	764.80	-2,880.62	1,318.43	0.00	0.00	0.00
8,304.15	0.00	0.00	7,616.04	764.80	-2,880.62	1,318.43	0.00	0.00	0.00
KOP: 10°/100' @ 8304.15' MD - KOP-CRYSTAL 6-65 22-10 3HN									
8,350.00	4.58	0.84	7,661.84	766.64	-2,880.59	1,320.22	10.00	10.00	0.00
8,400.00	9.58	0.84	7,711.44	772.80	-2,880.50	1,326.24	10.00	10.00	0.00
8,450.00	14.58	0.84	7,760.32	783.26	-2,880.35	1,336.47	10.00	10.00	0.00
8,500.00	19.58	0.84	7,808.10	797.95	-2,880.13	1,350.82	10.00	10.00	0.00
8,550.00	24.58	0.84	7,854.42	816.74	-2,879.86	1,369.19	10.00	10.00	0.00
8,600.00	29.58	0.84	7,898.92	839.49	-2,879.53	1,391.43	10.00	10.00	0.00
8,650.00	34.58	0.84	7,941.27	866.04	-2,879.14	1,417.38	10.00	10.00	0.00
8,700.00	39.58	0.84	7,981.14	896.18	-2,878.70	1,446.84	10.00	10.00	0.00
8,750.00	44.58	0.84	8,018.24	929.68	-2,878.21	1,479.58	10.00	10.00	0.00
8,800.00	49.58	0.84	8,052.27	966.28	-2,877.68	1,515.36	10.00	10.00	0.00
8,850.00	54.58	0.84	8,082.99	1,005.71	-2,877.10	1,553.90	10.00	10.00	0.00
8,900.00	59.58	0.84	8,110.15	1,047.66	-2,876.49	1,594.91	10.00	10.00	0.00
8,950.00	64.58	0.84	8,133.55	1,091.83	-2,875.85	1,638.07	10.00	10.00	0.00
9,000.00	69.58	0.84	8,153.01	1,137.86	-2,875.18	1,683.07	10.00	10.00	0.00
9,050.00	74.58	0.84	8,168.39	1,185.42	-2,874.48	1,729.55	10.00	10.00	0.00
9,100.00	79.58	0.84	8,179.56	1,234.13	-2,873.77	1,777.17	10.00	10.00	0.00

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Well:	CRYSTAL 6-65 22-10 3HN	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)	
9,150.00	84.58	0.84	8,186.44	1,283.63	-2,873.05	1,825.55	10.00	10.00	0.00	
9,204.15	90.00	0.84	8,189.00	1,337.70	-2,872.26	1,878.40	10.00	10.00	0.00	
LP: 9204.15' MD, 90.00° Inc, 0.84° Azm - FTP-CRYSTAL 6-65 22-10 3HN										
9,300.00	90.00	0.84	8,189.00	1,433.54	-2,870.87	1,972.08	0.00	0.00	0.00	
9,400.00	90.00	0.84	8,189.00	1,533.53	-2,869.41	2,069.81	0.00	0.00	0.00	
9,500.00	90.00	0.84	8,189.00	1,633.52	-2,867.95	2,167.54	0.00	0.00	0.00	
9,600.00	90.00	0.84	8,189.00	1,733.51	-2,866.49	2,265.28	0.00	0.00	0.00	
9,700.00	90.00	0.84	8,189.00	1,833.50	-2,865.03	2,363.01	0.00	0.00	0.00	
9,800.00	90.00	0.84	8,189.00	1,933.48	-2,863.58	2,460.74	0.00	0.00	0.00	
9,900.00	90.00	0.84	8,189.00	2,033.47	-2,862.12	2,558.48	0.00	0.00	0.00	
10,000.00	90.00	0.84	8,189.00	2,133.46	-2,860.66	2,656.21	0.00	0.00	0.00	
10,100.00	90.00	0.84	8,189.00	2,233.45	-2,859.20	2,753.95	0.00	0.00	0.00	
10,200.00	90.00	0.84	8,189.00	2,333.44	-2,857.74	2,851.68	0.00	0.00	0.00	
10,300.00	90.00	0.84	8,189.00	2,433.43	-2,856.29	2,949.41	0.00	0.00	0.00	
10,400.00	90.00	0.84	8,189.00	2,533.42	-2,854.83	3,047.15	0.00	0.00	0.00	
10,500.00	90.00	0.84	8,189.00	2,633.41	-2,853.37	3,144.88	0.00	0.00	0.00	
10,600.00	90.00	0.84	8,189.00	2,733.40	-2,851.91	3,242.61	0.00	0.00	0.00	
10,700.00	90.00	0.84	8,189.00	2,833.39	-2,850.45	3,340.35	0.00	0.00	0.00	
10,800.00	90.00	0.84	8,189.00	2,933.38	-2,848.99	3,438.08	0.00	0.00	0.00	
10,900.00	90.00	0.84	8,189.00	3,033.37	-2,847.54	3,535.82	0.00	0.00	0.00	
11,000.00	90.00	0.84	8,189.00	3,133.36	-2,846.08	3,633.55	0.00	0.00	0.00	
11,100.00	90.00	0.84	8,189.00	3,233.35	-2,844.62	3,731.28	0.00	0.00	0.00	
11,200.00	90.00	0.84	8,189.00	3,333.34	-2,843.16	3,829.02	0.00	0.00	0.00	
11,300.00	90.00	0.84	8,189.00	3,433.33	-2,841.70	3,926.75	0.00	0.00	0.00	
11,400.00	90.00	0.84	8,189.00	3,533.31	-2,840.25	4,024.48	0.00	0.00	0.00	
11,500.00	90.00	0.84	8,189.00	3,633.30	-2,838.79	4,122.22	0.00	0.00	0.00	
11,600.00	90.00	0.84	8,189.00	3,733.29	-2,837.33	4,219.95	0.00	0.00	0.00	
11,700.00	90.00	0.84	8,189.00	3,833.28	-2,835.87	4,317.69	0.00	0.00	0.00	
11,800.00	90.00	0.84	8,189.00	3,933.27	-2,834.41	4,415.42	0.00	0.00	0.00	
11,900.00	90.00	0.84	8,189.00	4,033.26	-2,832.96	4,513.15	0.00	0.00	0.00	
12,000.00	90.00	0.84	8,189.00	4,133.25	-2,831.50	4,610.89	0.00	0.00	0.00	
12,100.00	90.00	0.84	8,189.00	4,233.24	-2,830.04	4,708.62	0.00	0.00	0.00	
12,200.00	90.00	0.84	8,189.00	4,333.23	-2,828.58	4,806.35	0.00	0.00	0.00	
12,300.00	90.00	0.84	8,189.00	4,433.22	-2,827.12	4,904.09	0.00	0.00	0.00	
12,400.00	90.00	0.84	8,189.00	4,533.21	-2,825.67	5,001.82	0.00	0.00	0.00	
12,500.00	90.00	0.84	8,189.00	4,633.20	-2,824.21	5,099.56	0.00	0.00	0.00	
12,600.00	90.00	0.84	8,189.00	4,733.19	-2,822.75	5,197.29	0.00	0.00	0.00	
12,700.00	90.00	0.84	8,189.00	4,833.18	-2,821.29	5,295.02	0.00	0.00	0.00	
12,800.00	90.00	0.84	8,189.00	4,933.17	-2,819.83	5,392.76	0.00	0.00	0.00	
12,900.00	90.00	0.84	8,189.00	5,033.16	-2,818.37	5,490.49	0.00	0.00	0.00	
13,000.00	90.00	0.84	8,189.00	5,133.14	-2,816.92	5,588.22	0.00	0.00	0.00	
13,100.00	90.00	0.84	8,189.00	5,233.13	-2,815.46	5,685.96	0.00	0.00	0.00	
13,200.00	90.00	0.84	8,189.00	5,333.12	-2,814.00	5,783.69	0.00	0.00	0.00	
13,300.00	90.00	0.84	8,189.00	5,433.11	-2,812.54	5,881.43	0.00	0.00	0.00	
13,400.00	90.00	0.84	8,189.00	5,533.10	-2,811.08	5,979.16	0.00	0.00	0.00	
13,500.00	90.00	0.84	8,189.00	5,633.09	-2,809.63	6,076.89	0.00	0.00	0.00	
13,600.00	90.00	0.84	8,189.00	5,733.08	-2,808.17	6,174.63	0.00	0.00	0.00	
13,700.00	90.00	0.84	8,189.00	5,833.07	-2,806.71	6,272.36	0.00	0.00	0.00	
13,800.00	90.00	0.84	8,189.00	5,933.06	-2,805.25	6,370.09	0.00	0.00	0.00	
13,900.00	90.00	0.84	8,189.00	6,033.05	-2,803.79	6,467.83	0.00	0.00	0.00	
14,000.00	90.00	0.84	8,189.00	6,133.04	-2,802.34	6,565.56	0.00	0.00	0.00	
14,100.00	90.00	0.84	8,189.00	6,233.03	-2,800.88	6,663.30	0.00	0.00	0.00	
14,200.00	90.00	0.84	8,189.00	6,333.02	-2,799.42	6,761.03	0.00	0.00	0.00	
14,300.00	90.00	0.84	8,189.00	6,433.01	-2,797.96	6,858.76	0.00	0.00	0.00	

Database:	Local	Local Co-ordinate Reference:	Well CRYSTAL6-65 22-10 3HN
Company:	GMT Exploration Company, LLC	TVD Reference:	KB @ 6199.00usft
Project:	Elbert County, CO (NAD 83)	MD Reference:	KB @ 6199.00usft
Site:	Ruby-Crystal Pad	North Reference:	True
Well:	CRYSTAL 6-65 22-10 3HN	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)
14,400.00	90.00	0.84	8,189.00	6,533.00	-2,796.50	6,956.50	0.00	0.00	0.00
14,500.00	90.00	0.84	8,189.00	6,632.99	-2,795.05	7,054.23	0.00	0.00	0.00
14,600.00	90.00	0.84	8,189.00	6,732.97	-2,793.59	7,151.96	0.00	0.00	0.00
14,700.00	90.00	0.84	8,189.00	6,832.96	-2,792.13	7,249.70	0.00	0.00	0.00
14,800.00	90.00	0.84	8,189.00	6,932.95	-2,790.67	7,347.43	0.00	0.00	0.00
14,900.00	90.00	0.84	8,189.00	7,032.94	-2,789.21	7,445.17	0.00	0.00	0.00
15,000.00	90.00	0.84	8,189.00	7,132.93	-2,787.76	7,542.90	0.00	0.00	0.00
15,100.00	90.00	0.84	8,189.00	7,232.92	-2,786.30	7,640.63	0.00	0.00	0.00
15,200.00	90.00	0.84	8,189.00	7,332.91	-2,784.84	7,738.37	0.00	0.00	0.00
15,300.00	90.00	0.84	8,189.00	7,432.90	-2,783.38	7,836.10	0.00	0.00	0.00
15,400.00	90.00	0.84	8,189.00	7,532.89	-2,781.92	7,933.83	0.00	0.00	0.00
15,500.00	90.00	0.84	8,189.00	7,632.88	-2,780.46	8,031.57	0.00	0.00	0.00
15,600.00	90.00	0.84	8,189.00	7,732.87	-2,779.01	8,129.30	0.00	0.00	0.00
15,700.00	90.00	0.84	8,189.00	7,832.86	-2,777.55	8,227.04	0.00	0.00	0.00
15,800.00	90.00	0.84	8,189.00	7,932.85	-2,776.09	8,324.77	0.00	0.00	0.00
15,900.00	90.00	0.84	8,189.00	8,032.84	-2,774.63	8,422.50	0.00	0.00	0.00
16,000.00	90.00	0.84	8,189.00	8,132.83	-2,773.17	8,520.24	0.00	0.00	0.00
16,100.00	90.00	0.84	8,189.00	8,232.82	-2,771.72	8,617.97	0.00	0.00	0.00
16,200.00	90.00	0.84	8,189.00	8,332.80	-2,770.26	8,715.70	0.00	0.00	0.00
16,300.00	90.00	0.84	8,189.00	8,432.79	-2,768.80	8,813.44	0.00	0.00	0.00
16,400.00	90.00	0.84	8,189.00	8,532.78	-2,767.34	8,911.17	0.00	0.00	0.00
16,500.00	90.00	0.84	8,189.00	8,632.77	-2,765.88	9,008.91	0.00	0.00	0.00
16,600.00	90.00	0.84	8,189.00	8,732.76	-2,764.43	9,106.64	0.00	0.00	0.00
16,700.00	90.00	0.84	8,189.00	8,832.75	-2,762.97	9,204.37	0.00	0.00	0.00
16,800.00	90.00	0.84	8,189.00	8,932.74	-2,761.51	9,302.11	0.00	0.00	0.00
16,900.00	90.00	0.84	8,189.00	9,032.73	-2,760.05	9,399.84	0.00	0.00	0.00
17,000.00	90.00	0.84	8,189.00	9,132.72	-2,758.59	9,497.57	0.00	0.00	0.00
17,100.00	90.00	0.84	8,189.00	9,232.71	-2,757.14	9,595.31	0.00	0.00	0.00
17,200.00	90.00	0.84	8,189.00	9,332.70	-2,755.68	9,693.04	0.00	0.00	0.00
17,300.00	90.00	0.84	8,189.00	9,432.69	-2,754.22	9,790.78	0.00	0.00	0.00
17,400.00	90.00	0.84	8,189.00	9,532.68	-2,752.76	9,888.51	0.00	0.00	0.00
17,500.00	90.00	0.84	8,189.00	9,632.67	-2,751.30	9,986.24	0.00	0.00	0.00
17,600.00	90.00	0.84	8,189.00	9,732.66	-2,749.84	10,083.98	0.00	0.00	0.00
17,700.00	90.00	0.84	8,189.00	9,832.65	-2,748.39	10,181.71	0.00	0.00	0.00
17,800.00	90.00	0.84	8,189.00	9,932.63	-2,746.93	10,279.44	0.00	0.00	0.00
17,900.00	90.00	0.84	8,189.00	10,032.62	-2,745.47	10,377.18	0.00	0.00	0.00
18,000.00	90.00	0.84	8,189.00	10,132.61	-2,744.01	10,474.91	0.00	0.00	0.00
18,100.00	90.00	0.84	8,189.00	10,232.60	-2,742.55	10,572.65	0.00	0.00	0.00
18,200.00	90.00	0.84	8,189.00	10,332.59	-2,741.10	10,670.38	0.00	0.00	0.00
18,300.00	90.00	0.84	8,189.00	10,432.58	-2,739.64	10,768.11	0.00	0.00	0.00
18,400.00	90.00	0.84	8,189.00	10,532.57	-2,738.18	10,865.85	0.00	0.00	0.00
18,500.00	90.00	0.84	8,189.00	10,632.56	-2,736.72	10,963.58	0.00	0.00	0.00
18,600.00	90.00	0.84	8,189.00	10,732.55	-2,735.26	11,061.31	0.00	0.00	0.00
18,700.00	90.00	0.84	8,189.00	10,832.54	-2,733.81	11,159.05	0.00	0.00	0.00
18,800.00	90.00	0.84	8,189.00	10,932.53	-2,732.35	11,256.78	0.00	0.00	0.00
18,900.00	90.00	0.84	8,189.00	11,032.52	-2,730.89	11,354.52	0.00	0.00	0.00
19,000.00	90.00	0.84	8,189.00	11,132.51	-2,729.43	11,452.25	0.00	0.00	0.00
19,100.00	90.00	0.84	8,189.00	11,232.50	-2,727.97	11,549.98	0.00	0.00	0.00
19,200.00	90.00	0.84	8,189.00	11,332.49	-2,726.52	11,647.72	0.00	0.00	0.00
19,300.00	90.00	0.84	8,189.00	11,432.48	-2,725.06	11,745.45	0.00	0.00	0.00
19,400.00	90.00	0.84	8,189.00	11,532.46	-2,723.60	11,843.18	0.00	0.00	0.00
19,500.00	90.00	0.84	8,189.00	11,632.45	-2,722.14	11,940.92	0.00	0.00	0.00
19,600.00	90.00	0.84	8,189.00	11,732.44	-2,720.68	12,038.65	0.00	0.00	0.00
19,700.00	90.00	0.84	8,189.00	11,832.43	-2,719.23	12,136.39	0.00	0.00	0.00

Database:	Local	Local Co-ordinate Reference:	Well CRYSTAL6-65 22-10 3HN
Company:	GMT Exploration Company, LLC	TVD Reference:	KB @ 6199.00usft
Project:	Elbert County, CO (NAD 83)	MD Reference:	KB @ 6199.00usft
Site:	Ruby-Crystal Pad	North Reference:	True
Well:	CRYSTAL 6-65 22-10 3HN	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)
19,800.00	90.00	0.84	8,189.00	11,932.42	-2,717.77	12,234.12	0.00	0.00	0.00
19,900.00	90.00	0.84	8,189.00	12,032.41	-2,716.31	12,331.85	0.00	0.00	0.00
20,000.00	90.00	0.84	8,189.00	12,132.40	-2,714.85	12,429.59	0.00	0.00	0.00
20,100.00	90.00	0.84	8,189.00	12,232.39	-2,713.39	12,527.32	0.00	0.00	0.00
20,200.00	90.00	0.84	8,189.00	12,332.38	-2,711.93	12,625.05	0.00	0.00	0.00
20,300.00	90.00	0.84	8,189.00	12,432.37	-2,710.48	12,722.79	0.00	0.00	0.00
20,400.00	90.00	0.84	8,189.00	12,532.36	-2,709.02	12,820.52	0.00	0.00	0.00
20,500.00	90.00	0.84	8,189.00	12,632.35	-2,707.56	12,918.26	0.00	0.00	0.00
20,600.00	90.00	0.84	8,189.00	12,732.34	-2,706.10	13,015.99	0.00	0.00	0.00
20,700.00	90.00	0.84	8,189.00	12,832.33	-2,704.64	13,113.72	0.00	0.00	0.00
20,800.00	90.00	0.84	8,189.00	12,932.32	-2,703.19	13,211.46	0.00	0.00	0.00
20,900.00	90.00	0.84	8,189.00	13,032.31	-2,701.73	13,309.19	0.00	0.00	0.00
21,000.00	90.00	0.84	8,189.00	13,132.29	-2,700.27	13,406.92	0.00	0.00	0.00
21,100.00	90.00	0.84	8,189.00	13,232.28	-2,698.81	13,504.66	0.00	0.00	0.00
21,208.08	90.00	0.84	8,189.00	13,340.35	-2,697.24	13,610.29	0.00	0.00	0.00
Hold: 90.00° Inc, 0.84° Azm - LTP-CRYSTAL 6-65 22-10 3HN									
21,258.08	90.00	0.84	8,189.00	13,390.35	-2,696.51	13,659.16	0.00	0.00	0.00
TD @ 21258.08' MD/8189.00' TVD - BHL-CRYSTAL 6-65 22-10 3HN									

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 - hit/miss target - Shape - Point	0.00	0.00	0.00	0.00	0.00	1,612,583.88	3,240,970.14	39.512210	-104.645894
KOP-CRYSTAL 6-65 1 - plan hits target center - Point	0.00	0.00	7,616.04	764.80	-2,880.62	1,613,321.56	3,238,082.46	39.514309	-104.656104
LTP-CRYSTAL 6-65 2 - plan hits target center - Point	0.00	0.00	8,189.00	13,340.35	-2,697.24	1,625,898.28	3,238,147.61	39.548834	-104.655459
FTP-CRYSTAL 6-65 2 - plan hits target center - Point	0.00	0.00	8,189.00	1,337.70	-2,872.26	1,613,894.51	3,238,085.43	39.515882	-104.656075
BHL-CRYSTAL 6-65 2 - plan hits target center - Point	0.00	0.00	8,189.00	13,390.35	-2,696.51	1,625,948.28	3,238,147.86	39.548972	-104.655456

Database:	Local	Local Co-ordinate Reference:	Well CRYSTAL6-65 22-10 3HN
Company:	GMT Exploration Company, LLC	TVD Reference:	KB @ 6199.00usft
Project:	Elbert County, CO (NAD 83)	MD Reference:	KB @ 6199.00usft
Site:	Ruby-Crystal Pad	North Reference:	True
Well:	CRYSTAL 6-65 22-10 3HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
459.08	459.00	Denver				
1,575.75	1,534.00	Upper Arapahoe				
2,367.76	2,234.00	Laramie - Fox Hills				
2,560.47	2,404.00	Pierre Shale (Base of Fox Hills)				
6,216.34	5,629.00	Sussex Sandstone				
8,647.25	7,939.00	Sharon Springs Shale				
8,659.45	7,949.00	Niobrara				
8,671.83	7,959.00	Niobrara A				
8,851.75	8,084.00	Niobrara B Top				
9,052.32	8,169.00	Niobrara C Top				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
300.00	300.00	0.00	0.00	Build: 2°/100' @ 300.00' MD	
1,704.90	1,649.26	86.64	-326.33	Hold: 28.10° Inc, 284.87° Azm	
6,599.25	5,966.78	678.16	-2,554.29	Drop: 2°/100' @ 6599.25' MD	
8,004.15	7,316.04	764.80	-2,880.62	Hold: 0.00° Inc, 0.00° Azm	
8,304.15	7,616.04	764.80	-2,880.62	KOP: 10°/100' @ 8304.15' MD	
9,204.15	8,189.00	1,337.70	-2,872.26	LP: 9204.15' MD, 90.00° Inc, 0.84° Azm	
21,208.08	8,189.00	13,340.35	-2,697.24	Hold: 90.00° Inc, 0.84° Azm	
21,258.08	8,189.00	13,390.35	-2,696.51	TD @ 21258.08' MD/8189.00' TVD	