



GMT Exploration Company, LLC

Elbert County, CO (NAD 83)

Ruby-Crystal Pad

CRYSTAL 6-65 22-10 9HN

Wellbore #1

Plan: Design #1

Standard Planning Report

24 May, 2019



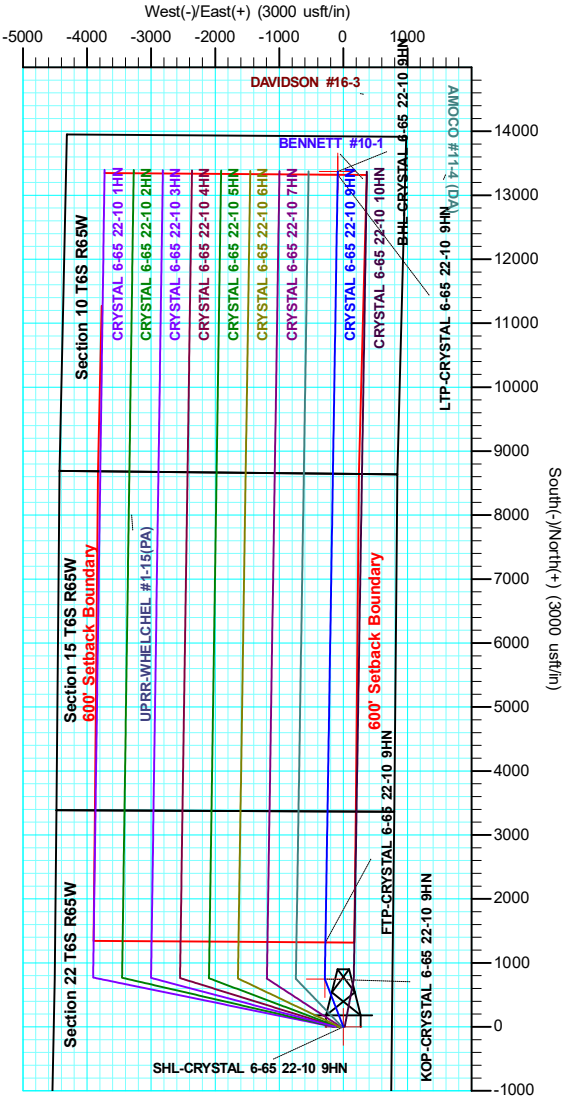
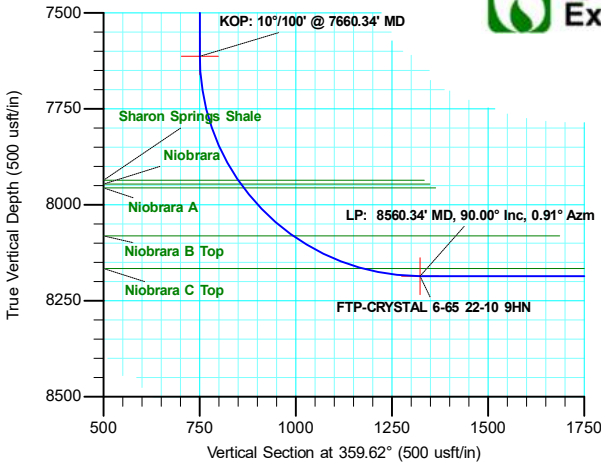
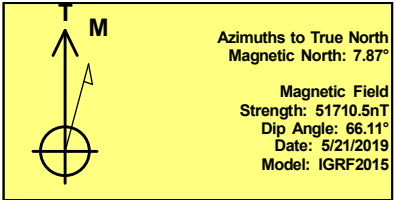
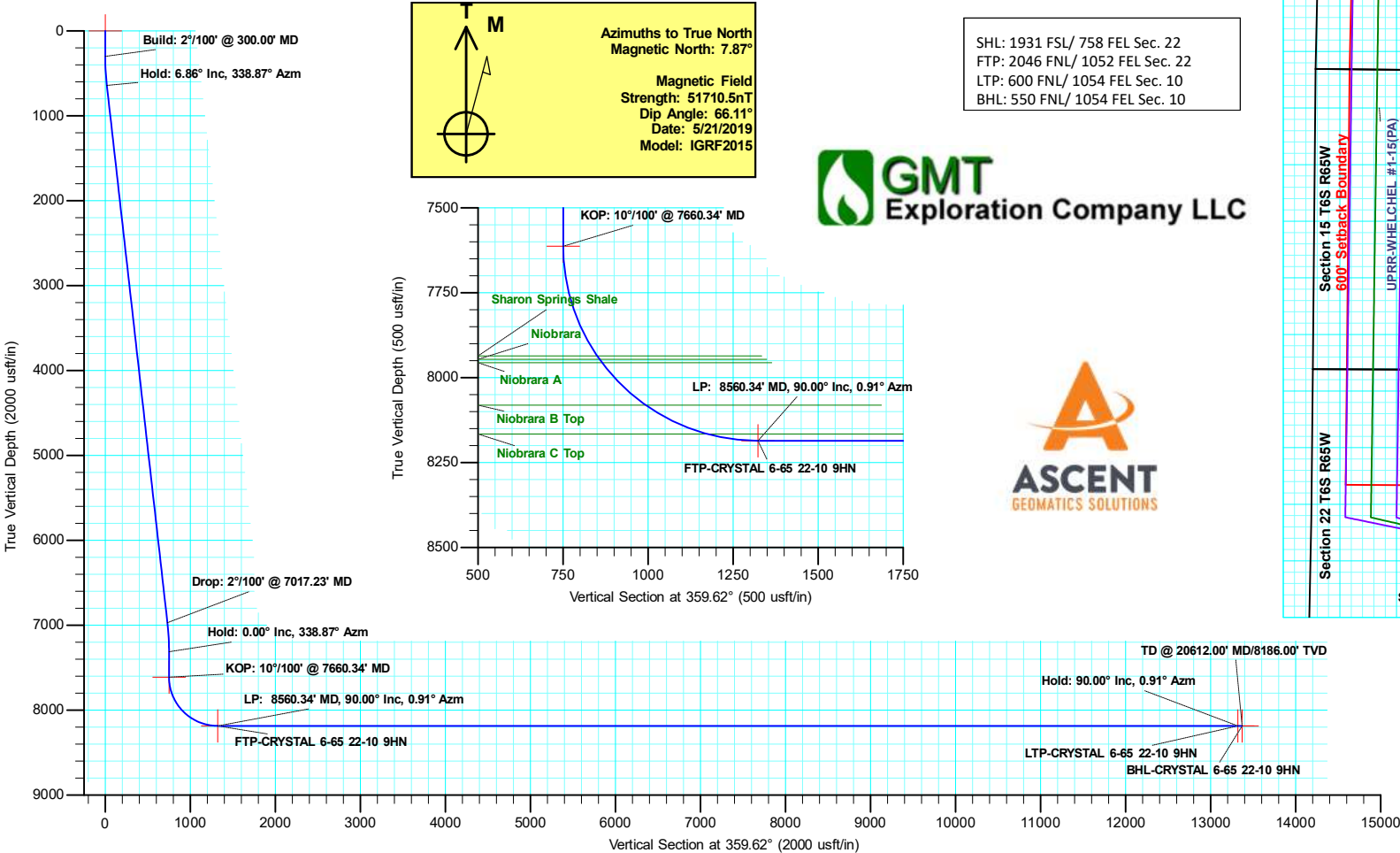
Project: Elbert County, CO (NAD 83)
Site: Ruby-Crystal Pad
Well: CRYSTAL 6-65 22-10 9HN
Wellbore: Wellbore #1
Design: Design #1

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 9HN					
+N/-S	+E/-W	Northing	Ground Level: Easting	6176.00 Latitude	Longitude
0.00	0.00	1612583.88	3241090.14	39.512207	-104.645468

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	
643.12	6.86	338.87	642.30	19.14	-7.40	2.00	338.87	19.19	
7017.23	6.86	338.87	6970.75	729.54	-281.95	0.00	0.00	731.38	
7360.34	0.00	0.00	7313.04	748.68	-289.35	2.00	180.00	750.57	
7660.34	0.00	0.00	7613.04	748.68	-289.35	0.00	0.00	750.57	
8560.34	90.00	0.91	8186.00	1321.57	-280.20	10.00	0.00	1323.38	FTP-CRYSTAL 6-65 22-10 9HN
20562.00	90.00	0.91	8186.00	13321.69	-88.66	0.00	0.00	13321.99	LTP-CRYSTAL 6-65 22-10 9HN
20612.00	90.00	0.91	8186.00	13371.69	-87.86	0.00	0.00	13371.98	BHL-CRYSTAL 6-65 22-10 9HN



Database:	Local	Local Co-ordinate Reference:	Well CRYSTAL6-65 22-10 9HN
Company:	GMT Exploration Company, LLC	TVD Reference:	KB @ 6196.00usft
Project:	Elbert County, CO (NAD 83)	MD Reference:	KB @ 6196.00usft
Site:	Ruby-Crystal Pad	North Reference:	True
Well:	CRYSTAL 6-65 22-10 9HN	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 9HN				
Well Position	+N-S	-700.47 usft	Northing:	1,612,583.88 usft	Latitude:	39.512207
	+E-W	1,881.73 usft	Easting:	3,241,090.14 usft	Longitude:	-104.645469
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	6,176.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/21/2019	7.87	66.11	51,710.46772660

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	359.62

Plan Survey Tool Program	Date	5/24/2019		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	20,611.99	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	
643.12	6.86	338.87	642.30	19.14	-7.40	2.00	2.00	0.00	338.87	
7,017.23	6.86	338.87	6,970.75	729.54	-281.95	0.00	0.00	0.00	0.00	
7,360.35	0.00	0.00	7,313.04	748.68	-289.35	2.00	-2.00	0.00	180.00	
7,660.35	0.00	0.00	7,613.04	748.68	-289.35	0.00	0.00	0.00	0.00	
8,560.35	90.00	0.91	8,186.00	1,321.57	-280.20	10.00	10.00	0.00	0.00	FTP-CRYSTAL 6-65
20,562.00	90.00	0.91	8,186.00	13,321.69	-88.66	0.00	0.00	0.00	0.00	LTP-CRYSTAL 6-65
20,612.00	90.00	0.91	8,186.00	13,371.69	-87.86	0.00	0.00	0.00	0.00	BHL-CRYSTAL 6-65

Database:	Local	Local Co-ordinate Reference:	Well CRYSTAL6-65 22-10 9HN
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Site:	Ruby-Crystal Pad	North Reference:	True
Well:	CRYSTAL 6-65 22-10 9HN	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 9HN									
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	338.87	399.98	1.63	-0.63	1.63	2.00	2.00	0.00
500.00	4.00	338.87	499.84	6.51	-2.52	6.53	2.00	2.00	0.00
600.00	6.00	338.87	599.45	14.64	-5.66	14.68	2.00	2.00	0.00
643.12	6.86	338.87	642.30	19.14	-7.40	19.19	2.00	2.00	0.00
Hold: 6.86° Inc, 338.87° Azm									
700.00	6.86	338.87	698.77	25.48	-9.85	25.55	0.00	0.00	0.00
800.00	6.86	338.87	798.06	36.63	-14.16	36.72	0.00	0.00	0.00
900.00	6.86	338.87	897.34	47.77	-18.46	47.89	0.00	0.00	0.00
1,000.00	6.86	338.87	996.62	58.92	-22.77	59.07	0.00	0.00	0.00
1,100.00	6.86	338.87	1,095.91	70.06	-27.08	70.24	0.00	0.00	0.00
1,200.00	6.86	338.87	1,195.19	81.21	-31.38	81.41	0.00	0.00	0.00
1,300.00	6.86	338.87	1,294.47	92.35	-35.69	92.59	0.00	0.00	0.00
1,400.00	6.86	338.87	1,393.76	103.50	-40.00	103.76	0.00	0.00	0.00
1,500.00	6.86	338.87	1,493.04	114.64	-44.31	114.93	0.00	0.00	0.00
1,600.00	6.86	338.87	1,592.33	125.79	-48.61	126.10	0.00	0.00	0.00
1,700.00	6.86	338.87	1,691.61	136.93	-52.92	137.28	0.00	0.00	0.00
1,800.00	6.86	338.87	1,790.89	148.08	-57.23	148.45	0.00	0.00	0.00
1,900.00	6.86	338.87	1,890.18	159.22	-61.54	159.62	0.00	0.00	0.00
2,000.00	6.86	338.87	1,989.46	170.37	-65.84	170.80	0.00	0.00	0.00
2,100.00	6.86	338.87	2,088.74	181.51	-70.15	181.97	0.00	0.00	0.00
2,200.00	6.86	338.87	2,188.03	192.66	-74.46	193.14	0.00	0.00	0.00
2,300.00	6.86	338.87	2,287.31	203.80	-78.76	204.32	0.00	0.00	0.00
2,400.00	6.86	338.87	2,386.59	214.95	-83.07	215.49	0.00	0.00	0.00
2,500.00	6.86	338.87	2,485.88	226.09	-87.38	226.66	0.00	0.00	0.00
2,600.00	6.86	338.87	2,585.16	237.24	-91.69	237.84	0.00	0.00	0.00
2,700.00	6.86	338.87	2,684.45	248.38	-95.99	249.01	0.00	0.00	0.00
2,800.00	6.86	338.87	2,783.73	259.53	-100.30	260.18	0.00	0.00	0.00
2,900.00	6.86	338.87	2,883.01	270.67	-104.61	271.35	0.00	0.00	0.00
3,000.00	6.86	338.87	2,982.30	281.82	-108.92	282.53	0.00	0.00	0.00
3,100.00	6.86	338.87	3,081.58	292.96	-113.22	293.70	0.00	0.00	0.00
3,200.00	6.86	338.87	3,180.86	304.11	-117.53	304.87	0.00	0.00	0.00
3,300.00	6.86	338.87	3,280.15	315.25	-121.84	316.05	0.00	0.00	0.00
3,400.00	6.86	338.87	3,379.43	326.40	-126.14	327.22	0.00	0.00	0.00
3,500.00	6.86	338.87	3,478.71	337.54	-130.45	338.39	0.00	0.00	0.00
3,600.00	6.86	338.87	3,578.00	348.69	-134.76	349.57	0.00	0.00	0.00
3,700.00	6.86	338.87	3,677.28	359.83	-139.07	360.74	0.00	0.00	0.00
3,800.00	6.86	338.87	3,776.56	370.98	-143.37	371.91	0.00	0.00	0.00
3,900.00	6.86	338.87	3,875.85	382.12	-147.68	383.09	0.00	0.00	0.00
4,000.00	6.86	338.87	3,975.13	393.27	-151.99	394.26	0.00	0.00	0.00
4,100.00	6.86	338.87	4,074.42	404.41	-156.30	405.43	0.00	0.00	0.00
4,200.00	6.86	338.87	4,173.70	415.56	-160.60	416.60	0.00	0.00	0.00
4,300.00	6.86	338.87	4,272.98	426.70	-164.91	427.78	0.00	0.00	0.00
4,400.00	6.86	338.87	4,372.27	437.85	-169.22	438.95	0.00	0.00	0.00
4,500.00	6.86	338.87	4,471.55	448.99	-173.52	450.12	0.00	0.00	0.00
4,600.00	6.86	338.87	4,570.83	460.14	-177.83	461.30	0.00	0.00	0.00
4,700.00	6.86	338.87	4,670.12	471.28	-182.14	472.47	0.00	0.00	0.00
4,800.00	6.86	338.87	4,769.40	482.43	-186.45	483.64	0.00	0.00	0.00

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Project:	Elbert County, CO (NAD 83)	MD Reference:	KB @ 6196.00usft
Site:	Ruby-Crystal Pad	North Reference:	True
Well:	CRYSTAL 6-65 22-10 9HN	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)
4,900.00	6.86	338.87	4,868.68	493.57	-190.75	494.82	0.00	0.00	0.00
5,000.00	6.86	338.87	4,967.97	504.72	-195.06	505.99	0.00	0.00	0.00
5,100.00	6.86	338.87	5,067.25	515.86	-199.37	517.16	0.00	0.00	0.00
5,200.00	6.86	338.87	5,166.54	527.01	-203.67	528.34	0.00	0.00	0.00
5,300.00	6.86	338.87	5,265.82	538.15	-207.98	539.51	0.00	0.00	0.00
5,400.00	6.86	338.87	5,365.10	549.30	-212.29	550.68	0.00	0.00	0.00
5,500.00	6.86	338.87	5,464.39	560.44	-216.60	561.86	0.00	0.00	0.00
5,600.00	6.86	338.87	5,563.67	571.59	-220.90	573.03	0.00	0.00	0.00
5,700.00	6.86	338.87	5,662.95	582.73	-225.21	584.20	0.00	0.00	0.00
5,800.00	6.86	338.87	5,762.24	593.88	-229.52	595.37	0.00	0.00	0.00
5,900.00	6.86	338.87	5,861.52	605.02	-233.83	606.55	0.00	0.00	0.00
6,000.00	6.86	338.87	5,960.80	616.17	-238.13	617.72	0.00	0.00	0.00
6,100.00	6.86	338.87	6,060.09	627.31	-242.44	628.89	0.00	0.00	0.00
6,200.00	6.86	338.87	6,159.37	638.46	-246.75	640.07	0.00	0.00	0.00
6,300.00	6.86	338.87	6,258.66	649.60	-251.05	651.24	0.00	0.00	0.00
6,400.00	6.86	338.87	6,357.94	660.75	-255.36	662.41	0.00	0.00	0.00
6,500.00	6.86	338.87	6,457.22	671.89	-259.67	673.59	0.00	0.00	0.00
6,600.00	6.86	338.87	6,556.51	683.04	-263.98	684.76	0.00	0.00	0.00
6,700.00	6.86	338.87	6,655.79	694.18	-268.28	695.93	0.00	0.00	0.00
6,800.00	6.86	338.87	6,755.07	705.33	-272.59	707.11	0.00	0.00	0.00
6,900.00	6.86	338.87	6,854.36	716.47	-276.90	718.28	0.00	0.00	0.00
7,000.00	6.86	338.87	6,953.64	727.62	-281.21	729.45	0.00	0.00	0.00
7,017.23	6.86	338.87	6,970.75	729.54	-281.95	731.38	0.00	0.00	0.00
Drop: 2°/100' @ 7017.23' MD									
7,100.00	5.21	338.87	7,053.06	737.66	-285.08	739.51	2.00	-2.00	0.00
7,200.00	3.21	338.87	7,152.78	744.50	-287.73	746.37	2.00	-2.00	0.00
7,300.00	1.21	338.87	7,252.70	748.09	-289.12	749.97	2.00	-2.00	0.00
7,360.35	0.00	0.00	7,313.04	748.68	-289.35	750.57	2.00	-2.00	0.00
Hold: 0.00° Inc, 338.87° Azm									
7,400.00	0.00	0.00	7,352.70	748.68	-289.35	750.57	0.00	0.00	0.00
7,500.00	0.00	0.00	7,452.70	748.68	-289.35	750.57	0.00	0.00	0.00
7,600.00	0.00	0.00	7,552.70	748.68	-289.35	750.57	0.00	0.00	0.00
7,660.35	0.00	0.00	7,613.04	748.68	-289.35	750.57	0.00	0.00	0.00
KOP: 10°/100' @ 7660.34' MD - KOP-CRYSTAL 6-65 22-10 9HN									
7,700.00	3.97	0.91	7,652.67	750.05	-289.32	751.94	10.00	10.00	0.00
7,750.00	8.97	0.91	7,702.33	755.68	-289.23	757.57	10.00	10.00	0.00
7,800.00	13.97	0.91	7,751.32	765.62	-289.08	767.50	10.00	10.00	0.00
7,850.00	18.97	0.91	7,799.25	779.78	-288.85	781.66	10.00	10.00	0.00
7,900.00	23.97	0.91	7,845.77	798.07	-288.56	799.95	10.00	10.00	0.00
7,950.00	28.97	0.91	7,890.52	820.34	-288.20	822.22	10.00	10.00	0.00
8,000.00	33.97	0.91	7,933.15	846.43	-287.79	848.30	10.00	10.00	0.00
8,050.00	38.97	0.91	7,973.35	876.14	-287.31	878.00	10.00	10.00	0.00
8,100.00	43.97	0.91	8,010.80	909.23	-286.78	911.09	10.00	10.00	0.00
8,150.00	48.97	0.91	8,045.23	945.46	-286.20	947.32	10.00	10.00	0.00
8,200.00	53.97	0.91	8,076.37	984.56	-285.58	986.41	10.00	10.00	0.00
8,250.00	58.97	0.91	8,103.99	1,026.21	-284.92	1,028.06	10.00	10.00	0.00
8,300.00	63.97	0.91	8,127.86	1,070.12	-284.22	1,071.97	10.00	10.00	0.00
8,350.00	68.97	0.91	8,147.82	1,115.94	-283.48	1,117.78	10.00	10.00	0.00
8,400.00	73.97	0.91	8,163.71	1,163.33	-282.73	1,165.16	10.00	10.00	0.00
8,450.00	78.97	0.91	8,175.41	1,211.92	-281.95	1,213.74	10.00	10.00	0.00
8,500.00	83.97	0.91	8,182.83	1,261.34	-281.16	1,263.16	10.00	10.00	0.00
8,550.00	88.97	0.91	8,185.91	1,311.22	-280.37	1,313.04	10.00	10.00	0.00
8,560.35	90.00	0.91	8,186.00	1,321.57	-280.20	1,323.38	10.00	10.00	0.00
LP: 8560.34' MD, 90.00° Inc, 0.91° Azm - FTP-CRYSTAL 6-65 22-10 9HN									

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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)
8,600.00	90.00	0.91	8,186.00	1,361.22	-279.57	1,363.02	0.00	0.00	0.00
8,700.00	90.00	0.91	8,186.00	1,461.20	-277.97	1,463.00	0.00	0.00	0.00
8,800.00	90.00	0.91	8,186.00	1,561.19	-276.38	1,562.97	0.00	0.00	0.00
8,900.00	90.00	0.91	8,186.00	1,661.18	-274.78	1,662.95	0.00	0.00	0.00
9,000.00	90.00	0.91	8,186.00	1,761.17	-273.18	1,762.92	0.00	0.00	0.00
9,100.00	90.00	0.91	8,186.00	1,861.15	-271.59	1,862.90	0.00	0.00	0.00
9,200.00	90.00	0.91	8,186.00	1,961.14	-269.99	1,962.87	0.00	0.00	0.00
9,300.00	90.00	0.91	8,186.00	2,061.13	-268.40	2,062.85	0.00	0.00	0.00
9,400.00	90.00	0.91	8,186.00	2,161.12	-266.80	2,162.82	0.00	0.00	0.00
9,500.00	90.00	0.91	8,186.00	2,261.10	-265.20	2,262.80	0.00	0.00	0.00
9,600.00	90.00	0.91	8,186.00	2,361.09	-263.61	2,362.77	0.00	0.00	0.00
9,700.00	90.00	0.91	8,186.00	2,461.08	-262.01	2,462.75	0.00	0.00	0.00
9,800.00	90.00	0.91	8,186.00	2,561.06	-260.42	2,562.72	0.00	0.00	0.00
9,900.00	90.00	0.91	8,186.00	2,661.05	-258.82	2,662.70	0.00	0.00	0.00
10,000.00	90.00	0.91	8,186.00	2,761.04	-257.23	2,762.67	0.00	0.00	0.00
10,100.00	90.00	0.91	8,186.00	2,861.03	-255.63	2,862.64	0.00	0.00	0.00
10,200.00	90.00	0.91	8,186.00	2,961.01	-254.03	2,962.62	0.00	0.00	0.00
10,300.00	90.00	0.91	8,186.00	3,061.00	-252.44	3,062.59	0.00	0.00	0.00
10,400.00	90.00	0.91	8,186.00	3,160.99	-250.84	3,162.57	0.00	0.00	0.00
10,500.00	90.00	0.91	8,186.00	3,260.98	-249.25	3,262.54	0.00	0.00	0.00
10,600.00	90.00	0.91	8,186.00	3,360.96	-247.65	3,362.52	0.00	0.00	0.00
10,700.00	90.00	0.91	8,186.00	3,460.95	-246.05	3,462.49	0.00	0.00	0.00
10,800.00	90.00	0.91	8,186.00	3,560.94	-244.46	3,562.47	0.00	0.00	0.00
10,900.00	90.00	0.91	8,186.00	3,660.92	-242.86	3,662.44	0.00	0.00	0.00
11,000.00	90.00	0.91	8,186.00	3,760.91	-241.27	3,762.42	0.00	0.00	0.00
11,100.00	90.00	0.91	8,186.00	3,860.90	-239.67	3,862.39	0.00	0.00	0.00
11,200.00	90.00	0.91	8,186.00	3,960.89	-238.07	3,962.37	0.00	0.00	0.00
11,300.00	90.00	0.91	8,186.00	4,060.87	-236.48	4,062.34	0.00	0.00	0.00
11,400.00	90.00	0.91	8,186.00	4,160.86	-234.88	4,162.31	0.00	0.00	0.00
11,500.00	90.00	0.91	8,186.00	4,260.85	-233.29	4,262.29	0.00	0.00	0.00
11,600.00	90.00	0.91	8,186.00	4,360.84	-231.69	4,362.26	0.00	0.00	0.00
11,700.00	90.00	0.91	8,186.00	4,460.82	-230.09	4,462.24	0.00	0.00	0.00
11,800.00	90.00	0.91	8,186.00	4,560.81	-228.50	4,562.21	0.00	0.00	0.00
11,900.00	90.00	0.91	8,186.00	4,660.80	-226.90	4,662.19	0.00	0.00	0.00
12,000.00	90.00	0.91	8,186.00	4,760.78	-225.31	4,762.16	0.00	0.00	0.00
12,100.00	90.00	0.91	8,186.00	4,860.77	-223.71	4,862.14	0.00	0.00	0.00
12,200.00	90.00	0.91	8,186.00	4,960.76	-222.11	4,962.11	0.00	0.00	0.00
12,300.00	90.00	0.91	8,186.00	5,060.75	-220.52	5,062.09	0.00	0.00	0.00
12,400.00	90.00	0.91	8,186.00	5,160.73	-218.92	5,162.06	0.00	0.00	0.00
12,500.00	90.00	0.91	8,186.00	5,260.72	-217.33	5,262.04	0.00	0.00	0.00
12,600.00	90.00	0.91	8,186.00	5,360.71	-215.73	5,362.01	0.00	0.00	0.00
12,700.00	90.00	0.91	8,186.00	5,460.70	-214.13	5,461.98	0.00	0.00	0.00
12,800.00	90.00	0.91	8,186.00	5,560.68	-212.54	5,561.96	0.00	0.00	0.00
12,900.00	90.00	0.91	8,186.00	5,660.67	-210.94	5,661.93	0.00	0.00	0.00
13,000.00	90.00	0.91	8,186.00	5,760.66	-209.35	5,761.91	0.00	0.00	0.00
13,100.00	90.00	0.91	8,186.00	5,860.64	-207.75	5,861.88	0.00	0.00	0.00
13,200.00	90.00	0.91	8,186.00	5,960.63	-206.15	5,961.86	0.00	0.00	0.00
13,300.00	90.00	0.91	8,186.00	6,060.62	-204.56	6,061.83	0.00	0.00	0.00
13,400.00	90.00	0.91	8,186.00	6,160.61	-202.96	6,161.81	0.00	0.00	0.00
13,500.00	90.00	0.91	8,186.00	6,260.59	-201.37	6,261.78	0.00	0.00	0.00
13,600.00	90.00	0.91	8,186.00	6,360.58	-199.77	6,361.76	0.00	0.00	0.00
13,700.00	90.00	0.91	8,186.00	6,460.57	-198.17	6,461.73	0.00	0.00	0.00
13,800.00	90.00	0.91	8,186.00	6,560.56	-196.58	6,561.71	0.00	0.00	0.00
13,900.00	90.00	0.91	8,186.00	6,660.54	-194.98	6,661.68	0.00	0.00	0.00

Database:	Local	Local Co-ordinate Reference:	Well CRYSTAL6-65 22-10 9HN
Company:	GMT Exploration Company, LLC	TVD Reference:	KB @ 6196.00usft
Project:	Elbert County, CO (NAD 83)	MD Reference:	KB @ 6196.00usft
Site:	Ruby-Crystal Pad	North Reference:	True
Well:	CRYSTAL 6-65 22-10 9HN	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)
14,000.00	90.00	0.91	8,186.00	6,760.53	-193.39	6,761.65	0.00	0.00	0.00
14,100.00	90.00	0.91	8,186.00	6,860.52	-191.79	6,861.63	0.00	0.00	0.00
14,200.00	90.00	0.91	8,186.00	6,960.50	-190.19	6,961.60	0.00	0.00	0.00
14,300.00	90.00	0.91	8,186.00	7,060.49	-188.60	7,061.58	0.00	0.00	0.00
14,400.00	90.00	0.91	8,186.00	7,160.48	-187.00	7,161.55	0.00	0.00	0.00
14,500.00	90.00	0.91	8,186.00	7,260.47	-185.41	7,261.53	0.00	0.00	0.00
14,600.00	90.00	0.91	8,186.00	7,360.45	-183.81	7,361.50	0.00	0.00	0.00
14,700.00	90.00	0.91	8,186.00	7,460.44	-182.21	7,461.48	0.00	0.00	0.00
14,800.00	90.00	0.91	8,186.00	7,560.43	-180.62	7,561.45	0.00	0.00	0.00
14,900.00	90.00	0.91	8,186.00	7,660.42	-179.02	7,661.43	0.00	0.00	0.00
15,000.00	90.00	0.91	8,186.00	7,760.40	-177.43	7,761.40	0.00	0.00	0.00
15,100.00	90.00	0.91	8,186.00	7,860.39	-175.83	7,861.38	0.00	0.00	0.00
15,200.00	90.00	0.91	8,186.00	7,960.38	-174.23	7,961.35	0.00	0.00	0.00
15,300.00	90.00	0.91	8,186.00	8,060.36	-172.64	8,061.32	0.00	0.00	0.00
15,400.00	90.00	0.91	8,186.00	8,160.35	-171.04	8,161.30	0.00	0.00	0.00
15,500.00	90.00	0.91	8,186.00	8,260.34	-169.45	8,261.27	0.00	0.00	0.00
15,600.00	90.00	0.91	8,186.00	8,360.33	-167.85	8,361.25	0.00	0.00	0.00
15,700.00	90.00	0.91	8,186.00	8,460.31	-166.26	8,461.22	0.00	0.00	0.00
15,800.00	90.00	0.91	8,186.00	8,560.30	-164.66	8,561.20	0.00	0.00	0.00
15,900.00	90.00	0.91	8,186.00	8,660.29	-163.06	8,661.17	0.00	0.00	0.00
16,000.00	90.00	0.91	8,186.00	8,760.28	-161.47	8,761.15	0.00	0.00	0.00
16,100.00	90.00	0.91	8,186.00	8,860.26	-159.87	8,861.12	0.00	0.00	0.00
16,200.00	90.00	0.91	8,186.00	8,960.25	-158.28	8,961.10	0.00	0.00	0.00
16,300.00	90.00	0.91	8,186.00	9,060.24	-156.68	9,061.07	0.00	0.00	0.00
16,400.00	90.00	0.91	8,186.00	9,160.22	-155.08	9,161.05	0.00	0.00	0.00
16,500.00	90.00	0.91	8,186.00	9,260.21	-153.49	9,261.02	0.00	0.00	0.00
16,600.00	90.00	0.91	8,186.00	9,360.20	-151.89	9,360.99	0.00	0.00	0.00
16,700.00	90.00	0.91	8,186.00	9,460.19	-150.30	9,460.97	0.00	0.00	0.00
16,800.00	90.00	0.91	8,186.00	9,560.17	-148.70	9,560.94	0.00	0.00	0.00
16,900.00	90.00	0.91	8,186.00	9,660.16	-147.10	9,660.92	0.00	0.00	0.00
17,000.00	90.00	0.91	8,186.00	9,760.15	-145.51	9,760.89	0.00	0.00	0.00
17,100.00	90.00	0.91	8,186.00	9,860.14	-143.91	9,860.87	0.00	0.00	0.00
17,200.00	90.00	0.91	8,186.00	9,960.12	-142.32	9,960.84	0.00	0.00	0.00
17,300.00	90.00	0.91	8,186.00	10,060.11	-140.72	10,060.82	0.00	0.00	0.00
17,400.00	90.00	0.91	8,186.00	10,160.10	-139.12	10,160.79	0.00	0.00	0.00
17,500.00	90.00	0.91	8,186.00	10,260.08	-137.53	10,260.77	0.00	0.00	0.00
17,600.00	90.00	0.91	8,186.00	10,360.07	-135.93	10,360.74	0.00	0.00	0.00
17,700.00	90.00	0.91	8,186.00	10,460.06	-134.34	10,460.72	0.00	0.00	0.00
17,800.00	90.00	0.91	8,186.00	10,560.05	-132.74	10,560.69	0.00	0.00	0.00
17,900.00	90.00	0.91	8,186.00	10,660.03	-131.14	10,660.66	0.00	0.00	0.00
18,000.00	90.00	0.91	8,186.00	10,760.02	-129.55	10,760.64	0.00	0.00	0.00
18,100.00	90.00	0.91	8,186.00	10,860.01	-127.95	10,860.61	0.00	0.00	0.00
18,200.00	90.00	0.91	8,186.00	10,959.99	-126.36	10,960.59	0.00	0.00	0.00
18,300.00	90.00	0.91	8,186.00	11,059.98	-124.76	11,060.56	0.00	0.00	0.00
18,400.00	90.00	0.91	8,186.00	11,159.97	-123.16	11,160.54	0.00	0.00	0.00
18,500.00	90.00	0.91	8,186.00	11,259.96	-121.57	11,260.51	0.00	0.00	0.00
18,600.00	90.00	0.91	8,186.00	11,359.94	-119.97	11,360.49	0.00	0.00	0.00
18,700.00	90.00	0.91	8,186.00	11,459.93	-118.38	11,460.46	0.00	0.00	0.00
18,800.00	90.00	0.91	8,186.00	11,559.92	-116.78	11,560.44	0.00	0.00	0.00
18,900.00	90.00	0.91	8,186.00	11,659.91	-115.18	11,660.41	0.00	0.00	0.00
19,000.00	90.00	0.91	8,186.00	11,759.89	-113.59	11,760.39	0.00	0.00	0.00
19,100.00	90.00	0.91	8,186.00	11,859.88	-111.99	11,860.36	0.00	0.00	0.00
19,200.00	90.00	0.91	8,186.00	11,959.87	-110.40	11,960.33	0.00	0.00	0.00
19,300.00	90.00	0.91	8,186.00	12,059.85	-108.80	12,060.31	0.00	0.00	0.00

Database:	Local	Local Co-ordinate Reference:	Well CRYSTAL6-65 22-10 9HN
Company:	GMT Exploration Company, LLC	TVD Reference:	KB @ 6196.00usft
Project:	Elbert County, CO (NAD 83)	MD Reference:	KB @ 6196.00usft
Site:	Ruby-Crystal Pad	North Reference:	True
Well:	CRYSTAL 6-65 22-10 9HN	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)	
19,400.00	90.00	0.91	8,186.00	12,159.84	-107.20	12,160.28	0.00	0.00	0.00	
19,500.00	90.00	0.91	8,186.00	12,259.83	-105.61	12,260.26	0.00	0.00	0.00	
19,600.00	90.00	0.91	8,186.00	12,359.82	-104.01	12,360.23	0.00	0.00	0.00	
19,700.00	90.00	0.91	8,186.00	12,459.80	-102.42	12,460.21	0.00	0.00	0.00	
19,800.00	90.00	0.91	8,186.00	12,559.79	-100.82	12,560.18	0.00	0.00	0.00	
19,900.00	90.00	0.91	8,186.00	12,659.78	-99.22	12,660.16	0.00	0.00	0.00	
20,000.00	90.00	0.91	8,186.00	12,759.77	-97.63	12,760.13	0.00	0.00	0.00	
20,100.00	90.00	0.91	8,186.00	12,859.75	-96.03	12,860.11	0.00	0.00	0.00	
20,200.00	90.00	0.91	8,186.00	12,959.74	-94.44	12,960.08	0.00	0.00	0.00	
20,300.00	90.00	0.91	8,186.00	13,059.73	-92.84	13,060.06	0.00	0.00	0.00	
20,400.00	90.00	0.91	8,186.00	13,159.71	-91.24	13,160.03	0.00	0.00	0.00	
20,500.00	90.00	0.91	8,186.00	13,259.70	-89.65	13,260.00	0.00	0.00	0.00	
20,562.00	90.00	0.91	8,186.00	13,321.69	-88.66	13,321.99	0.00	0.00	0.00	
Hold: 90.00° Inc, 0.91° Azm - LTP-CRYSTAL 6-65 22-10 9HN										
20,600.00	90.00	0.91	8,186.00	13,359.69	-88.05	13,359.98	0.00	0.00	0.00	
20,612.00	90.00	0.91	8,186.00	13,371.69	-87.86	13,371.98	0.00	0.00	0.00	
TD @ 20612.00' MD/8186.00' TVD - BHL-CRYSTAL 6-65 22-10 9HN										

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										
SHL-CRYSTAL 6-65 2	0.00	0.00	0.00	0.00	0.00	1,612,583.88	3,241,090.14	39.512207	-104.645469	
- plan hits target center										
- Point										
KOP-CRYSTAL 6-65 1	0.00	0.00	7,613.04	748.68	-289.35	1,613,329.80	3,240,793.77	39.514262	-104.646494	
- plan hits target center										
- Point										
FTP-CRYSTAL 6-65 2	0.00	0.00	8,186.00	1,321.57	-280.20	1,613,902.75	3,240,797.52	39.515835	-104.646462	
- plan hits target center										
- Point										
LTP-CRYSTAL 6-65 2	0.00	0.00	8,186.00	13,321.69	-88.66	1,625,904.14	3,240,876.18	39.548780	-104.645783	
- plan hits target center										
- Point										
BHL-CRYSTAL 6-65 2	0.00	0.00	8,186.00	13,371.69	-87.86	1,625,954.15	3,240,876.51	39.548918	-104.645780	
- plan hits target center										
- Point										

Database:	Local	Local Co-ordinate Reference:	Well CRYSTAL6-65 22-10 9HN
Company:	GMT Exploration Company, LLC	TVD Reference:	KB @ 6196.00usft
Project:	Elbert County, CO (NAD 83)	MD Reference:	KB @ 6196.00usft
Site:	Ruby-Crystal Pad	North Reference:	True
Well:	CRYSTAL 6-65 22-10 9HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
456.08	456.00	Denver				
1,538.23	1,531.00	Upper Arapahoe				
2,243.28	2,231.00	Laramie - Fox Hills				
2,414.51	2,401.00	Pierre Shale (Base of Fox Hills)				
5,662.78	5,626.00	Sussex Sandstone				
8,003.44	7,936.00	Sharon Springs Shale				
8,015.64	7,946.00	Niobrara				
8,028.02	7,956.00	Niobrara A				
8,207.94	8,081.00	Niobrara B Top				
8,408.51	8,166.00	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
643.12	642.30	19.14	-7.40	Hold: 6.86° Inc, 338.87° Azm
7,017.23	6,970.75	729.54	-281.95	Drop: 2°/100' @ 7017.23' MD
7,360.35	7,313.04	748.68	-289.35	Hold: 0.00° Inc, 338.87° Azm
7,660.35	7,613.04	748.68	-289.35	KOP: 10°/100' @ 7660.34' MD
8,560.35	8,186.00	1,321.57	-280.20	LP: 8560.34' MD, 90.00° Inc, 0.91° Azm
20,562.00	8,186.00	13,321.69	-88.66	Hold: 90.00° Inc, 0.91° Azm
20,612.00	8,186.00	13,371.69	-87.86	TD @ 20612.00' MD/8186.00' TVD