



GMT Exploration Company, LLC

Elbert County, CO (NAD 83)

Irwin-Taylor Pad

IRWIN 6-65 23-11 4HN

Wellbore #1

Plan: Design #1

Standard Planning Report

25 May, 2019



Project: Elbert County, CO (NAD 83)
 Site: Irwin-Taylor Pad
 Well: IRWIN 6-65 23-11 4HN
 Wellbore: Wellbore #1
 Design: Design #1

GMT Exploration Company, LLC

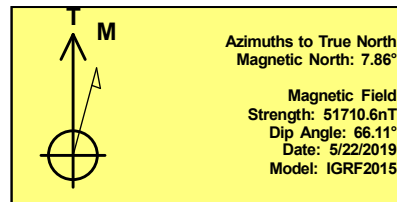
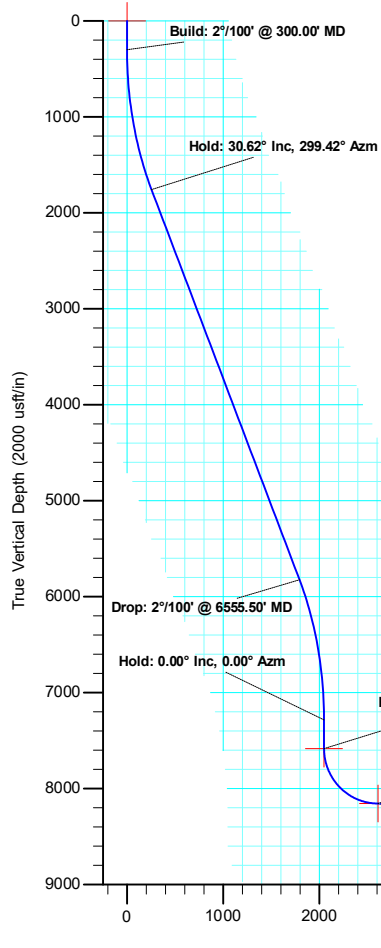
Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Colorado Central Zone
 System Datum: Mean Sea Level

WELL DETAILS: IRWIN 6-65 23-11 4HN

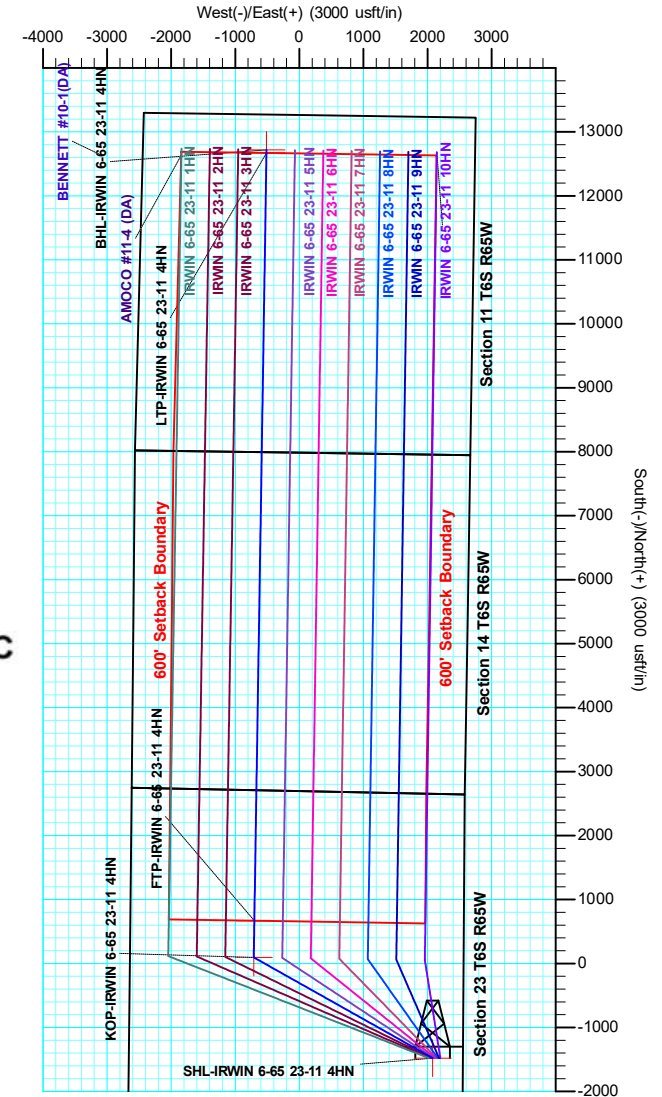
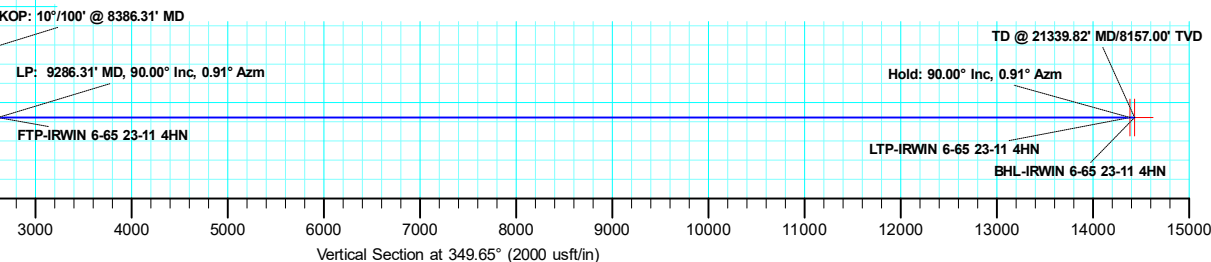
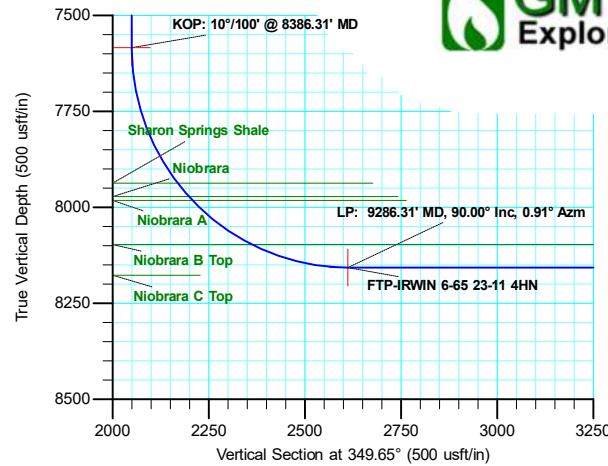
| | | | | | |
|----------|---------|------------|--------------------------|---------------------|----------------------|
| +N/-S | +E/-W | Northing | Ground Level: Easting | 6222.00 Latitude | 6222.00 Longitude |
| -1478.01 | 2080.76 | 1611774.07 | 3246586.90 | 39.509840 | -104.626014 |

SECTION DETAILS

| MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | TFace | VSec | Target |
|----------|-------|--------|---------|----------|---------|-------|--------|----------|--------------------------|
| 0.00 | 0.00 | 0.00 | 0.00 | -1478.01 | 2080.76 | 0.00 | 0.00 | 0.00 | |
| 300.00 | 0.00 | 0.00 | 300.00 | -1478.01 | 2080.76 | 0.00 | 0.00 | 0.00 | |
| 1830.81 | 30.62 | 299.41 | 1759.00 | -1281.88 | 1732.88 | 2.00 | 299.41 | 255.43 | |
| 6555.50 | 30.62 | 299.41 | 5825.05 | -100.15 | -363.15 | 0.00 | 0.00 | 1794.44 | |
| 8086.31 | 0.00 | 0.00 | 7284.04 | 95.98 | -711.03 | 2.00 | 180.00 | 2049.87 | |
| 8386.31 | 0.00 | 0.00 | 7584.04 | 95.98 | -711.03 | 0.00 | 0.00 | 2049.87 | |
| 9286.31 | 90.00 | 0.90 | 8157.00 | 668.87 | -701.99 | 10.00 | 0.00 | 2611.81 | FTP-IRWIN 6-65 23-11 4HN |
| 21289.82 | 90.00 | 0.90 | 8157.00 | 12670.89 | -512.64 | 0.00 | 0.00 | 14384.61 | LTP-IRWIN 6-65 23-11 4HN |
| 21339.82 | 90.00 | 0.90 | 8157.00 | 12720.88 | -511.85 | 0.00 | 0.00 | 14433.65 | BHL-IRWIN 6-65 23-11 4HN |



SHL: 1124 FSL/ 471 FEL Sec. 23
 FTP: 2040 FNL/ 1934 FWL Sec. 23
 LTP: 600 FNL/ 1928 FWL Sec. 11
 BHL: 550 FNL/ 1928 FWL Sec. 11





| | | | |
|------------------|------------------------------|-------------------------------------|---------------------------|
| Database: | Local | Local Co-ordinate Reference: | Well IRWIN 6-65 23-11 4HN |
| Company: | GMT Exploration Company, LLC | TVD Reference: | KB @ 6242.00usft |
| Project: | Elbert County, CO (NAD 83) | MD Reference: | KB @ 6242.00usft |
| Site: | Irwin-Taylor Pad | North Reference: | True |
| Well: | IRWIN 6-65 23-11 4HN | 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 | Irwin-Taylor Pad | | | | |
| Site Position: | | Northing: | 1,613,232.16 usft | Latitude: | 39.513898 |
| From: | Lat/Long | Easting: | 3,244,492.14 usft | Longitude: | -104.633389 |
| Position Uncertainty: | 0.00 usft | Slot Radius: | 13-3/16 " | Grid Convergence: | 0.55 ° |

| | | | | | | |
|-----------------------------|----------------------|----------------|----------------------------|-------------------|----------------------|---------------|
| Well | IRWIN 6-65 23-11 4HN | | | | | |
| Well Position | +N/-S | -1,478.01 usft | Northing: | 1,611,774.07 usft | Latitude: | 39.509840 |
| | +E/-W | 2,080.76 usft | Easting: | 3,246,586.90 usft | Longitude: | -104.626014 |
| Position Uncertainty | | 0.00 usft | Wellhead Elevation: | | Ground Level: | 6,222.00 usft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Wellbore #1 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2015 | 5/22/2019 | 7.86 | 66.11 | 51,710.59097346 |

| | | | | |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|
| 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 | 349.66 |

| | | | | | |
|---------------------------------|------------------------|--------------------------|-------------------------|---------------------|--|
| Plan Survey Tool Program | Date | 5/24/2019 | | | |
| Depth From (usft) | Depth To (usft) | Survey (Wellbore) | Tool Name | Remarks | |
| 1 | 0.00 | 21,339.82 | 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 | | |
| 1,830.81 | 30.62 | 299.42 | 1,759.00 | 196.16 | -347.86 | 2.00 | 2.00 | 0.00 | 299.42 | | |
| 6,555.50 | 30.62 | 299.42 | 5,825.05 | 1,378.06 | -2,443.80 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| 8,086.31 | 0.00 | 0.00 | 7,284.04 | 1,574.22 | -2,791.66 | 2.00 | -2.00 | 0.00 | 180.00 | | |
| 8,386.31 | 0.00 | 0.00 | 7,584.04 | 1,574.22 | -2,791.66 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| 9,286.31 | 90.00 | 0.91 | 8,157.00 | 2,147.11 | -2,782.58 | 10.00 | 10.00 | 0.00 | 0.00 | FTP-IRWIN 6-65 23 | |
| 21,289.82 | 90.00 | 0.91 | 8,157.00 | 14,149.11 | -2,592.25 | 0.00 | 0.00 | 0.00 | 0.00 | LTP-IRWIN 6-65 23 | |
| 21,339.82 | 90.00 | 0.91 | 8,157.00 | 14,199.11 | -2,591.46 | 0.00 | 0.00 | 0.00 | 0.00 | BHL-IRWIN 6-65 23 | |



| | | | |
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| Company: | GMT Exploration Company, LLC | TVD Reference: | KB @ 6242.00usft |
| Project: | Elbert County, CO (NAD 83) | MD Reference: | KB @ 6242.00usft |
| Site: | Irwin-Taylor Pad | North Reference: | True |
| Well: | IRWIN 6-65 23-11 4HN | 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-IRWIN 6-65 23-11 4HN | | | | | | | | | | |
| 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 | 299.42 | 399.98 | 0.86 | -1.52 | 1.12 | 2.00 | 2.00 | 2.00 | 0.00 |
| 500.00 | 4.00 | 299.42 | 499.84 | 3.43 | -6.08 | 4.46 | 2.00 | 2.00 | 2.00 | 0.00 |
| 600.00 | 6.00 | 299.42 | 599.45 | 7.71 | -13.67 | 10.04 | 2.00 | 2.00 | 2.00 | 0.00 |
| 700.00 | 8.00 | 299.42 | 698.70 | 13.69 | -24.28 | 17.83 | 2.00 | 2.00 | 2.00 | 0.00 |
| 800.00 | 10.00 | 299.42 | 797.47 | 21.38 | -37.91 | 27.84 | 2.00 | 2.00 | 2.00 | 0.00 |
| 900.00 | 12.00 | 299.42 | 895.62 | 30.75 | -54.53 | 40.04 | 2.00 | 2.00 | 2.00 | 0.00 |
| 1,000.00 | 14.00 | 299.42 | 993.06 | 41.80 | -74.12 | 54.43 | 2.00 | 2.00 | 2.00 | 0.00 |
| 1,100.00 | 16.00 | 299.42 | 1,089.64 | 54.51 | -96.67 | 70.98 | 2.00 | 2.00 | 2.00 | 0.00 |
| 1,200.00 | 18.00 | 299.42 | 1,185.27 | 68.87 | -122.13 | 89.68 | 2.00 | 2.00 | 2.00 | 0.00 |
| 1,300.00 | 20.00 | 299.42 | 1,279.82 | 84.86 | -150.49 | 110.50 | 2.00 | 2.00 | 2.00 | 0.00 |
| 1,400.00 | 22.00 | 299.42 | 1,373.17 | 102.46 | -181.70 | 133.42 | 2.00 | 2.00 | 2.00 | 0.00 |
| 1,500.00 | 24.00 | 299.42 | 1,465.21 | 121.65 | -215.74 | 158.41 | 2.00 | 2.00 | 2.00 | 0.00 |
| 1,600.00 | 26.00 | 299.42 | 1,555.84 | 142.41 | -252.55 | 185.44 | 2.00 | 2.00 | 2.00 | 0.00 |
| 1,700.00 | 28.00 | 299.42 | 1,644.94 | 164.71 | -292.09 | 214.48 | 2.00 | 2.00 | 2.00 | 0.00 |
| 1,800.00 | 30.00 | 299.42 | 1,732.39 | 188.52 | -334.32 | 245.48 | 2.00 | 2.00 | 2.00 | 0.00 |
| 1,830.81 | 30.62 | 299.42 | 1,759.00 | 196.16 | -347.86 | 255.43 | 2.00 | 2.00 | 2.00 | 0.00 |
| Hold: 30.62° Inc, 299.42° Azm | | | | | | | | | | |
| 1,900.00 | 30.62 | 299.42 | 1,818.54 | 213.47 | -378.56 | 277.97 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,000.00 | 30.62 | 299.42 | 1,904.60 | 238.48 | -422.92 | 310.54 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,100.00 | 30.62 | 299.42 | 1,990.66 | 263.50 | -467.28 | 343.11 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,200.00 | 30.62 | 299.42 | 2,076.72 | 288.51 | -511.64 | 375.69 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,300.00 | 30.62 | 299.42 | 2,162.78 | 313.53 | -556.00 | 408.26 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,400.00 | 30.62 | 299.42 | 2,248.84 | 338.55 | -600.36 | 440.83 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,500.00 | 30.62 | 299.42 | 2,334.90 | 363.56 | -644.72 | 473.41 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,600.00 | 30.62 | 299.42 | 2,420.96 | 388.58 | -689.09 | 505.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,700.00 | 30.62 | 299.42 | 2,507.02 | 413.59 | -733.45 | 538.56 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,800.00 | 30.62 | 299.42 | 2,593.08 | 438.61 | -777.81 | 571.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,900.00 | 30.62 | 299.42 | 2,679.14 | 463.62 | -822.17 | 603.70 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,000.00 | 30.62 | 299.42 | 2,765.20 | 488.64 | -866.53 | 636.28 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,100.00 | 30.62 | 299.42 | 2,851.26 | 513.65 | -910.89 | 668.85 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,200.00 | 30.62 | 299.42 | 2,937.32 | 538.67 | -955.25 | 701.43 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,300.00 | 30.62 | 299.42 | 3,023.37 | 563.69 | -999.62 | 734.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,400.00 | 30.62 | 299.42 | 3,109.43 | 588.70 | -1,043.98 | 766.57 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,500.00 | 30.62 | 299.42 | 3,195.49 | 613.72 | -1,088.34 | 799.15 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,600.00 | 30.62 | 299.42 | 3,281.55 | 638.73 | -1,132.70 | 831.72 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,700.00 | 30.62 | 299.42 | 3,367.61 | 663.75 | -1,177.06 | 864.29 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,800.00 | 30.62 | 299.42 | 3,453.67 | 688.76 | -1,221.42 | 896.87 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,900.00 | 30.62 | 299.42 | 3,539.73 | 713.78 | -1,265.78 | 929.44 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,000.00 | 30.62 | 299.42 | 3,625.79 | 738.79 | -1,310.15 | 962.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,100.00 | 30.62 | 299.42 | 3,711.85 | 763.81 | -1,354.51 | 994.59 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,200.00 | 30.62 | 299.42 | 3,797.91 | 788.82 | -1,398.87 | 1,027.16 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,300.00 | 30.62 | 299.42 | 3,883.97 | 813.84 | -1,443.23 | 1,059.74 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,400.00 | 30.62 | 299.42 | 3,970.03 | 838.86 | -1,487.59 | 1,092.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,500.00 | 30.62 | 299.42 | 4,056.09 | 863.87 | -1,531.95 | 1,124.88 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,600.00 | 30.62 | 299.42 | 4,142.15 | 888.89 | -1,576.32 | 1,157.46 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,700.00 | 30.62 | 299.42 | 4,228.21 | 913.90 | -1,620.68 | 1,190.03 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,800.00 | 30.62 | 299.42 | 4,314.27 | 938.92 | -1,665.04 | 1,222.61 | 0.00 | 0.00 | 0.00 | 0.00 |



| | | | |
|------------------|------------------------------|-------------------------------------|--------------------------|
| Database: | Local | Local Co-ordinate Reference: | Well IRWIN6-65 23-11 4HN |
| Company: | GMT Exploration Company, LLC | TVD Reference: | KB @ 6242.00usft |
| Project: | Elbert County, CO (NAD 83) | MD Reference: | KB @ 6242.00usft |
| Site: | Irwin-Taylor Pad | North Reference: | True |
| Well: | IRWIN 6-65 23-11 4HN | 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 | 30.62 | 299.42 | 4,400.33 | 963.93 | -1,709.40 | 1,255.18 | 0.00 | 0.00 | 0.00 | |
| 5,000.00 | 30.62 | 299.42 | 4,486.39 | 988.95 | -1,753.76 | 1,287.75 | 0.00 | 0.00 | 0.00 | |
| 5,100.00 | 30.62 | 299.42 | 4,572.45 | 1,013.96 | -1,798.12 | 1,320.33 | 0.00 | 0.00 | 0.00 | |
| 5,200.00 | 30.62 | 299.42 | 4,658.51 | 1,038.98 | -1,842.48 | 1,352.90 | 0.00 | 0.00 | 0.00 | |
| 5,300.00 | 30.62 | 299.42 | 4,744.57 | 1,064.00 | -1,886.85 | 1,385.47 | 0.00 | 0.00 | 0.00 | |
| 5,400.00 | 30.62 | 299.42 | 4,830.63 | 1,089.01 | -1,931.21 | 1,418.05 | 0.00 | 0.00 | 0.00 | |
| 5,500.00 | 30.62 | 299.42 | 4,916.69 | 1,114.03 | -1,975.57 | 1,450.62 | 0.00 | 0.00 | 0.00 | |
| 5,600.00 | 30.62 | 299.42 | 5,002.75 | 1,139.04 | -2,019.93 | 1,483.20 | 0.00 | 0.00 | 0.00 | |
| 5,700.00 | 30.62 | 299.42 | 5,088.81 | 1,164.06 | -2,064.29 | 1,515.77 | 0.00 | 0.00 | 0.00 | |
| 5,800.00 | 30.62 | 299.42 | 5,174.87 | 1,189.07 | -2,108.65 | 1,548.34 | 0.00 | 0.00 | 0.00 | |
| 5,900.00 | 30.62 | 299.42 | 5,260.93 | 1,214.09 | -2,153.01 | 1,580.92 | 0.00 | 0.00 | 0.00 | |
| 6,000.00 | 30.62 | 299.42 | 5,346.99 | 1,239.10 | -2,197.38 | 1,613.49 | 0.00 | 0.00 | 0.00 | |
| 6,100.00 | 30.62 | 299.42 | 5,433.05 | 1,264.12 | -2,241.74 | 1,646.07 | 0.00 | 0.00 | 0.00 | |
| 6,200.00 | 30.62 | 299.42 | 5,519.11 | 1,289.14 | -2,286.10 | 1,678.64 | 0.00 | 0.00 | 0.00 | |
| 6,300.00 | 30.62 | 299.42 | 5,605.17 | 1,314.15 | -2,330.46 | 1,711.21 | 0.00 | 0.00 | 0.00 | |
| 6,400.00 | 30.62 | 299.42 | 5,691.23 | 1,339.17 | -2,374.82 | 1,743.79 | 0.00 | 0.00 | 0.00 | |
| 6,500.00 | 30.62 | 299.42 | 5,777.29 | 1,364.18 | -2,419.18 | 1,776.36 | 0.00 | 0.00 | 0.00 | |
| 6,555.50 | 30.62 | 299.42 | 5,825.05 | 1,378.06 | -2,443.80 | 1,794.44 | 0.00 | 0.00 | 0.00 | |
| Drop: 2°/100' @ 6555.50' MD | | | | | | | | | | |
| 6,600.00 | 29.73 | 299.42 | 5,863.52 | 1,389.05 | -2,463.28 | 1,808.74 | 2.00 | -2.00 | 0.00 | |
| 6,700.00 | 27.73 | 299.42 | 5,951.21 | 1,412.66 | -2,505.15 | 1,839.48 | 2.00 | -2.00 | 0.00 | |
| 6,800.00 | 25.73 | 299.42 | 6,040.52 | 1,434.75 | -2,544.32 | 1,868.25 | 2.00 | -2.00 | 0.00 | |
| 6,900.00 | 23.73 | 299.42 | 6,131.35 | 1,455.29 | -2,580.75 | 1,895.00 | 2.00 | -2.00 | 0.00 | |
| 7,000.00 | 21.73 | 299.42 | 6,223.58 | 1,474.27 | -2,614.40 | 1,919.71 | 2.00 | -2.00 | 0.00 | |
| 7,100.00 | 19.73 | 299.42 | 6,317.10 | 1,491.65 | -2,645.23 | 1,942.34 | 2.00 | -2.00 | 0.00 | |
| 7,200.00 | 17.73 | 299.42 | 6,411.81 | 1,507.42 | -2,673.19 | 1,962.87 | 2.00 | -2.00 | 0.00 | |
| 7,300.00 | 15.73 | 299.42 | 6,507.57 | 1,521.55 | -2,698.26 | 1,981.28 | 2.00 | -2.00 | 0.00 | |
| 7,400.00 | 13.73 | 299.42 | 6,604.28 | 1,534.04 | -2,720.40 | 1,997.54 | 2.00 | -2.00 | 0.00 | |
| 7,500.00 | 11.73 | 299.42 | 6,701.82 | 1,544.86 | -2,739.59 | 2,011.63 | 2.00 | -2.00 | 0.00 | |
| 7,600.00 | 9.73 | 299.42 | 6,800.07 | 1,554.00 | -2,755.80 | 2,023.53 | 2.00 | -2.00 | 0.00 | |
| 7,700.00 | 7.73 | 299.42 | 6,898.90 | 1,561.45 | -2,769.01 | 2,033.23 | 2.00 | -2.00 | 0.00 | |
| 7,800.00 | 5.73 | 299.42 | 6,998.21 | 1,567.20 | -2,779.21 | 2,040.72 | 2.00 | -2.00 | 0.00 | |
| 7,900.00 | 3.73 | 299.42 | 7,097.87 | 1,571.25 | -2,786.39 | 2,045.99 | 2.00 | -2.00 | 0.00 | |
| 8,000.00 | 1.73 | 299.42 | 7,197.75 | 1,573.59 | -2,790.53 | 2,049.03 | 2.00 | -2.00 | 0.00 | |
| 8,086.31 | 0.00 | 0.00 | 7,284.04 | 1,574.22 | -2,791.66 | 2,049.87 | 2.00 | -2.00 | 0.00 | |
| Hold: 0.00° Inc, 0.00° Azm | | | | | | | | | | |
| 8,100.00 | 0.00 | 0.00 | 7,297.73 | 1,574.22 | -2,791.66 | 2,049.87 | 0.00 | 0.00 | 0.00 | |
| 8,200.00 | 0.00 | 0.00 | 7,397.73 | 1,574.22 | -2,791.66 | 2,049.87 | 0.00 | 0.00 | 0.00 | |
| 8,300.00 | 0.00 | 0.00 | 7,497.73 | 1,574.22 | -2,791.66 | 2,049.87 | 0.00 | 0.00 | 0.00 | |
| 8,386.31 | 0.00 | 0.00 | 7,584.04 | 1,574.22 | -2,791.66 | 2,049.87 | 0.00 | 0.00 | 0.00 | |
| KOP: 10°/100' @ 8386.31' MD - KOP-IRWIN 6-65 23-11 4HN | | | | | | | | | | |
| 8,400.00 | 1.37 | 0.91 | 7,597.73 | 1,574.39 | -2,791.66 | 2,050.03 | 10.00 | 10.00 | 0.00 | |
| 8,450.00 | 6.37 | 0.91 | 7,647.60 | 1,577.76 | -2,791.61 | 2,053.33 | 10.00 | 10.00 | 0.00 | |
| 8,500.00 | 11.37 | 0.91 | 7,696.99 | 1,585.47 | -2,791.49 | 2,060.89 | 10.00 | 10.00 | 0.00 | |
| 8,550.00 | 16.37 | 0.91 | 7,745.52 | 1,597.45 | -2,791.30 | 2,072.64 | 10.00 | 10.00 | 0.00 | |
| 8,600.00 | 21.37 | 0.91 | 7,792.81 | 1,613.61 | -2,791.04 | 2,088.50 | 10.00 | 10.00 | 0.00 | |
| 8,650.00 | 26.37 | 0.91 | 7,838.52 | 1,633.83 | -2,790.72 | 2,108.34 | 10.00 | 10.00 | 0.00 | |
| 8,700.00 | 31.37 | 0.91 | 7,882.30 | 1,657.96 | -2,790.34 | 2,132.01 | 10.00 | 10.00 | 0.00 | |
| 8,750.00 | 36.37 | 0.91 | 7,923.80 | 1,685.82 | -2,789.89 | 2,159.33 | 10.00 | 10.00 | 0.00 | |
| 8,800.00 | 41.37 | 0.91 | 7,962.71 | 1,717.18 | -2,789.40 | 2,190.09 | 10.00 | 10.00 | 0.00 | |
| 8,850.00 | 46.37 | 0.91 | 7,998.75 | 1,751.81 | -2,788.85 | 2,224.06 | 10.00 | 10.00 | 0.00 | |
| 8,900.00 | 51.37 | 0.91 | 8,031.63 | 1,789.46 | -2,788.25 | 2,260.99 | 10.00 | 10.00 | 0.00 | |
| 8,950.00 | 56.37 | 0.91 | 8,061.10 | 1,829.82 | -2,787.61 | 2,300.58 | 10.00 | 10.00 | 0.00 | |



| | | | |
|------------------|------------------------------|-------------------------------------|--------------------------|
| Database: | Local | Local Co-ordinate Reference: | Well IRWIN6-65 23-11 4HN |
| Company: | GMT Exploration Company, LLC | TVD Reference: | KB @ 6242.00usft |
| Project: | Elbert County, CO (NAD 83) | MD Reference: | KB @ 6242.00usft |
| Site: | Irwin-Taylor Pad | North Reference: | True |
| Well: | IRWIN 6-65 23-11 4HN | 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) |
|--|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 9,000.00 | 61.37 | 0.91 | 8,086.94 | 1,872.60 | -2,786.93 | 2,342.55 | 10.00 | 10.00 | 0.00 |
| 9,050.00 | 66.37 | 0.91 | 8,108.96 | 1,917.47 | -2,786.22 | 2,386.56 | 10.00 | 10.00 | 0.00 |
| 9,100.00 | 71.37 | 0.91 | 8,126.98 | 1,964.09 | -2,785.48 | 2,432.29 | 10.00 | 10.00 | 0.00 |
| 9,150.00 | 76.37 | 0.91 | 8,140.86 | 2,012.10 | -2,784.72 | 2,479.38 | 10.00 | 10.00 | 0.00 |
| 9,200.00 | 81.37 | 0.91 | 8,150.51 | 2,061.14 | -2,783.94 | 2,527.48 | 10.00 | 10.00 | 0.00 |
| 9,250.00 | 86.37 | 0.91 | 8,155.85 | 2,110.83 | -2,783.15 | 2,576.23 | 10.00 | 10.00 | 0.00 |
| 9,286.31 | 90.00 | 0.91 | 8,157.00 | 2,147.11 | -2,782.58 | 2,611.81 | 10.00 | 10.00 | 0.00 |
| LP: 9286.31' MD, 90.00° Inc, 0.91° Azm - FTP-IRWIN 6-65 23-11 4HN | | | | | | | | | |
| 9,300.00 | 90.00 | 0.91 | 8,157.00 | 2,160.80 | -2,782.36 | 2,625.24 | 0.00 | 0.00 | 0.00 |
| 9,400.00 | 90.00 | 0.91 | 8,157.00 | 2,260.79 | -2,780.78 | 2,723.32 | 0.00 | 0.00 | 0.00 |
| 9,500.00 | 90.00 | 0.91 | 8,157.00 | 2,360.78 | -2,779.19 | 2,821.40 | 0.00 | 0.00 | 0.00 |
| 9,600.00 | 90.00 | 0.91 | 8,157.00 | 2,460.76 | -2,777.61 | 2,919.47 | 0.00 | 0.00 | 0.00 |
| 9,700.00 | 90.00 | 0.91 | 8,157.00 | 2,560.75 | -2,776.02 | 3,017.55 | 0.00 | 0.00 | 0.00 |
| 9,800.00 | 90.00 | 0.91 | 8,157.00 | 2,660.74 | -2,774.43 | 3,115.63 | 0.00 | 0.00 | 0.00 |
| 9,900.00 | 90.00 | 0.91 | 8,157.00 | 2,760.72 | -2,772.85 | 3,213.71 | 0.00 | 0.00 | 0.00 |
| 10,000.00 | 90.00 | 0.91 | 8,157.00 | 2,860.71 | -2,771.26 | 3,311.79 | 0.00 | 0.00 | 0.00 |
| 10,100.00 | 90.00 | 0.91 | 8,157.00 | 2,960.70 | -2,769.68 | 3,409.86 | 0.00 | 0.00 | 0.00 |
| 10,200.00 | 90.00 | 0.91 | 8,157.00 | 3,060.69 | -2,768.09 | 3,507.94 | 0.00 | 0.00 | 0.00 |
| 10,300.00 | 90.00 | 0.91 | 8,157.00 | 3,160.67 | -2,766.51 | 3,606.02 | 0.00 | 0.00 | 0.00 |
| 10,400.00 | 90.00 | 0.91 | 8,157.00 | 3,260.66 | -2,764.92 | 3,704.10 | 0.00 | 0.00 | 0.00 |
| 10,500.00 | 90.00 | 0.91 | 8,157.00 | 3,360.65 | -2,763.33 | 3,802.18 | 0.00 | 0.00 | 0.00 |
| 10,600.00 | 90.00 | 0.91 | 8,157.00 | 3,460.64 | -2,761.75 | 3,900.25 | 0.00 | 0.00 | 0.00 |
| 10,700.00 | 90.00 | 0.91 | 8,157.00 | 3,560.62 | -2,760.16 | 3,998.33 | 0.00 | 0.00 | 0.00 |
| 10,800.00 | 90.00 | 0.91 | 8,157.00 | 3,660.61 | -2,758.58 | 4,096.41 | 0.00 | 0.00 | 0.00 |
| 10,900.00 | 90.00 | 0.91 | 8,157.00 | 3,760.60 | -2,756.99 | 4,194.49 | 0.00 | 0.00 | 0.00 |
| 11,000.00 | 90.00 | 0.91 | 8,157.00 | 3,860.59 | -2,755.41 | 4,292.57 | 0.00 | 0.00 | 0.00 |
| 11,100.00 | 90.00 | 0.91 | 8,157.00 | 3,960.57 | -2,753.82 | 4,390.64 | 0.00 | 0.00 | 0.00 |
| 11,200.00 | 90.00 | 0.91 | 8,157.00 | 4,060.56 | -2,752.24 | 4,488.72 | 0.00 | 0.00 | 0.00 |
| 11,300.00 | 90.00 | 0.91 | 8,157.00 | 4,160.55 | -2,750.65 | 4,586.80 | 0.00 | 0.00 | 0.00 |
| 11,400.00 | 90.00 | 0.91 | 8,157.00 | 4,260.54 | -2,749.06 | 4,684.88 | 0.00 | 0.00 | 0.00 |
| 11,500.00 | 90.00 | 0.91 | 8,157.00 | 4,360.52 | -2,747.48 | 4,782.96 | 0.00 | 0.00 | 0.00 |
| 11,600.00 | 90.00 | 0.91 | 8,157.00 | 4,460.51 | -2,745.89 | 4,881.03 | 0.00 | 0.00 | 0.00 |
| 11,700.00 | 90.00 | 0.91 | 8,157.00 | 4,560.50 | -2,744.31 | 4,979.11 | 0.00 | 0.00 | 0.00 |
| 11,800.00 | 90.00 | 0.91 | 8,157.00 | 4,660.49 | -2,742.72 | 5,077.19 | 0.00 | 0.00 | 0.00 |
| 11,900.00 | 90.00 | 0.91 | 8,157.00 | 4,760.47 | -2,741.14 | 5,175.27 | 0.00 | 0.00 | 0.00 |
| 12,000.00 | 90.00 | 0.91 | 8,157.00 | 4,860.46 | -2,739.55 | 5,273.35 | 0.00 | 0.00 | 0.00 |
| 12,100.00 | 90.00 | 0.91 | 8,157.00 | 4,960.45 | -2,737.96 | 5,371.42 | 0.00 | 0.00 | 0.00 |
| 12,200.00 | 90.00 | 0.91 | 8,157.00 | 5,060.44 | -2,736.38 | 5,469.50 | 0.00 | 0.00 | 0.00 |
| 12,300.00 | 90.00 | 0.91 | 8,157.00 | 5,160.42 | -2,734.79 | 5,567.58 | 0.00 | 0.00 | 0.00 |
| 12,400.00 | 90.00 | 0.91 | 8,157.00 | 5,260.41 | -2,733.21 | 5,665.66 | 0.00 | 0.00 | 0.00 |
| 12,500.00 | 90.00 | 0.91 | 8,157.00 | 5,360.40 | -2,731.62 | 5,763.74 | 0.00 | 0.00 | 0.00 |
| 12,600.00 | 90.00 | 0.91 | 8,157.00 | 5,460.39 | -2,730.04 | 5,861.81 | 0.00 | 0.00 | 0.00 |
| 12,700.00 | 90.00 | 0.91 | 8,157.00 | 5,560.37 | -2,728.45 | 5,959.89 | 0.00 | 0.00 | 0.00 |
| 12,800.00 | 90.00 | 0.91 | 8,157.00 | 5,660.36 | -2,726.87 | 6,057.97 | 0.00 | 0.00 | 0.00 |
| 12,900.00 | 90.00 | 0.91 | 8,157.00 | 5,760.35 | -2,725.28 | 6,156.05 | 0.00 | 0.00 | 0.00 |
| 13,000.00 | 90.00 | 0.91 | 8,157.00 | 5,860.34 | -2,723.69 | 6,254.13 | 0.00 | 0.00 | 0.00 |
| 13,100.00 | 90.00 | 0.91 | 8,157.00 | 5,960.32 | -2,722.11 | 6,352.20 | 0.00 | 0.00 | 0.00 |
| 13,200.00 | 90.00 | 0.91 | 8,157.00 | 6,060.31 | -2,720.52 | 6,450.28 | 0.00 | 0.00 | 0.00 |
| 13,300.00 | 90.00 | 0.91 | 8,157.00 | 6,160.30 | -2,718.94 | 6,548.36 | 0.00 | 0.00 | 0.00 |
| 13,400.00 | 90.00 | 0.91 | 8,157.00 | 6,260.28 | -2,717.35 | 6,646.44 | 0.00 | 0.00 | 0.00 |
| 13,500.00 | 90.00 | 0.91 | 8,157.00 | 6,360.27 | -2,715.77 | 6,744.51 | 0.00 | 0.00 | 0.00 |
| 13,600.00 | 90.00 | 0.91 | 8,157.00 | 6,460.26 | -2,714.18 | 6,842.59 | 0.00 | 0.00 | 0.00 |
| 13,700.00 | 90.00 | 0.91 | 8,157.00 | 6,560.25 | -2,712.59 | 6,940.67 | 0.00 | 0.00 | 0.00 |
| 13,800.00 | 90.00 | 0.91 | 8,157.00 | 6,660.23 | -2,711.01 | 7,038.75 | 0.00 | 0.00 | 0.00 |



| | | | |
|------------------|------------------------------|-------------------------------------|--------------------------|
| Database: | Local | Local Co-ordinate Reference: | Well IRWIN6-65 23-11 4HN |
| Company: | GMT Exploration Company, LLC | TVD Reference: | KB @ 6242.00usft |
| Project: | Elbert County, CO (NAD 83) | MD Reference: | KB @ 6242.00usft |
| Site: | Irwin-Taylor Pad | North Reference: | True |
| Well: | IRWIN 6-65 23-11 4HN | 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) |
| 13,900.00 | 90.00 | 0.91 | 8,157.00 | 6,760.22 | -2,709.42 | 7,136.83 | 0.00 | 0.00 | 0.00 |
| 14,000.00 | 90.00 | 0.91 | 8,157.00 | 6,860.21 | -2,707.84 | 7,234.90 | 0.00 | 0.00 | 0.00 |
| 14,100.00 | 90.00 | 0.91 | 8,157.00 | 6,960.20 | -2,706.25 | 7,332.98 | 0.00 | 0.00 | 0.00 |
| 14,200.00 | 90.00 | 0.91 | 8,157.00 | 7,060.18 | -2,704.67 | 7,431.06 | 0.00 | 0.00 | 0.00 |
| 14,300.00 | 90.00 | 0.91 | 8,157.00 | 7,160.17 | -2,703.08 | 7,529.14 | 0.00 | 0.00 | 0.00 |
| 14,400.00 | 90.00 | 0.91 | 8,157.00 | 7,260.16 | -2,701.50 | 7,627.22 | 0.00 | 0.00 | 0.00 |
| 14,500.00 | 90.00 | 0.91 | 8,157.00 | 7,360.15 | -2,699.91 | 7,725.29 | 0.00 | 0.00 | 0.00 |
| 14,600.00 | 90.00 | 0.91 | 8,157.00 | 7,460.13 | -2,698.32 | 7,823.37 | 0.00 | 0.00 | 0.00 |
| 14,700.00 | 90.00 | 0.91 | 8,157.00 | 7,560.12 | -2,696.74 | 7,921.45 | 0.00 | 0.00 | 0.00 |
| 14,800.00 | 90.00 | 0.91 | 8,157.00 | 7,660.11 | -2,695.15 | 8,019.53 | 0.00 | 0.00 | 0.00 |
| 14,900.00 | 90.00 | 0.91 | 8,157.00 | 7,760.10 | -2,693.57 | 8,117.61 | 0.00 | 0.00 | 0.00 |
| 15,000.00 | 90.00 | 0.91 | 8,157.00 | 7,860.08 | -2,691.98 | 8,215.68 | 0.00 | 0.00 | 0.00 |
| 15,100.00 | 90.00 | 0.91 | 8,157.00 | 7,960.07 | -2,690.40 | 8,313.76 | 0.00 | 0.00 | 0.00 |
| 15,200.00 | 90.00 | 0.91 | 8,157.00 | 8,060.06 | -2,688.81 | 8,411.84 | 0.00 | 0.00 | 0.00 |
| 15,300.00 | 90.00 | 0.91 | 8,157.00 | 8,160.05 | -2,687.22 | 8,509.92 | 0.00 | 0.00 | 0.00 |
| 15,400.00 | 90.00 | 0.91 | 8,157.00 | 8,260.03 | -2,685.64 | 8,608.00 | 0.00 | 0.00 | 0.00 |
| 15,500.00 | 90.00 | 0.91 | 8,157.00 | 8,360.02 | -2,684.05 | 8,706.07 | 0.00 | 0.00 | 0.00 |
| 15,600.00 | 90.00 | 0.91 | 8,157.00 | 8,460.01 | -2,682.47 | 8,804.15 | 0.00 | 0.00 | 0.00 |
| 15,700.00 | 90.00 | 0.91 | 8,157.00 | 8,560.00 | -2,680.88 | 8,902.23 | 0.00 | 0.00 | 0.00 |
| 15,800.00 | 90.00 | 0.91 | 8,157.00 | 8,659.98 | -2,679.30 | 9,000.31 | 0.00 | 0.00 | 0.00 |
| 15,900.00 | 90.00 | 0.91 | 8,157.00 | 8,759.97 | -2,677.71 | 9,098.39 | 0.00 | 0.00 | 0.00 |
| 16,000.00 | 90.00 | 0.91 | 8,157.00 | 8,859.96 | -2,676.13 | 9,196.46 | 0.00 | 0.00 | 0.00 |
| 16,100.00 | 90.00 | 0.91 | 8,157.00 | 8,959.95 | -2,674.54 | 9,294.54 | 0.00 | 0.00 | 0.00 |
| 16,200.00 | 90.00 | 0.91 | 8,157.00 | 9,059.93 | -2,672.95 | 9,392.62 | 0.00 | 0.00 | 0.00 |
| 16,300.00 | 90.00 | 0.91 | 8,157.00 | 9,159.92 | -2,671.37 | 9,490.70 | 0.00 | 0.00 | 0.00 |
| 16,400.00 | 90.00 | 0.91 | 8,157.00 | 9,259.91 | -2,669.78 | 9,588.78 | 0.00 | 0.00 | 0.00 |
| 16,500.00 | 90.00 | 0.91 | 8,157.00 | 9,359.90 | -2,668.20 | 9,686.85 | 0.00 | 0.00 | 0.00 |
| 16,600.00 | 90.00 | 0.91 | 8,157.00 | 9,459.88 | -2,666.61 | 9,784.93 | 0.00 | 0.00 | 0.00 |
| 16,700.00 | 90.00 | 0.91 | 8,157.00 | 9,559.87 | -2,665.03 | 9,883.01 | 0.00 | 0.00 | 0.00 |
| 16,800.00 | 90.00 | 0.91 | 8,157.00 | 9,659.86 | -2,663.44 | 9,981.09 | 0.00 | 0.00 | 0.00 |
| 16,900.00 | 90.00 | 0.91 | 8,157.00 | 9,759.85 | -2,661.85 | 10,079.17 | 0.00 | 0.00 | 0.00 |
| 17,000.00 | 90.00 | 0.91 | 8,157.00 | 9,859.83 | -2,660.27 | 10,177.24 | 0.00 | 0.00 | 0.00 |
| 17,100.00 | 90.00 | 0.91 | 8,157.00 | 9,959.82 | -2,658.68 | 10,275.32 | 0.00 | 0.00 | 0.00 |
| 17,200.00 | 90.00 | 0.91 | 8,157.00 | 10,059.81 | -2,657.10 | 10,373.40 | 0.00 | 0.00 | 0.00 |
| 17,300.00 | 90.00 | 0.91 | 8,157.00 | 10,159.79 | -2,655.51 | 10,471.48 | 0.00 | 0.00 | 0.00 |
| 17,400.00 | 90.00 | 0.91 | 8,157.00 | 10,259.78 | -2,653.93 | 10,569.56 | 0.00 | 0.00 | 0.00 |
| 17,500.00 | 90.00 | 0.91 | 8,157.00 | 10,359.77 | -2,652.34 | 10,667.63 | 0.00 | 0.00 | 0.00 |
| 17,600.00 | 90.00 | 0.91 | 8,157.00 | 10,459.76 | -2,650.75 | 10,765.71 | 0.00 | 0.00 | 0.00 |
| 17,700.00 | 90.00 | 0.91 | 8,157.00 | 10,559.74 | -2,649.17 | 10,863.79 | 0.00 | 0.00 | 0.00 |
| 17,800.00 | 90.00 | 0.91 | 8,157.00 | 10,659.73 | -2,647.58 | 10,961.87 | 0.00 | 0.00 | 0.00 |
| 17,900.00 | 90.00 | 0.91 | 8,157.00 | 10,759.72 | -2,646.00 | 11,059.95 | 0.00 | 0.00 | 0.00 |
| 18,000.00 | 90.00 | 0.91 | 8,157.00 | 10,859.71 | -2,644.41 | 11,158.02 | 0.00 | 0.00 | 0.00 |
| 18,100.00 | 90.00 | 0.91 | 8,157.00 | 10,959.69 | -2,642.83 | 11,256.10 | 0.00 | 0.00 | 0.00 |
| 18,200.00 | 90.00 | 0.91 | 8,157.00 | 11,059.68 | -2,641.24 | 11,354.18 | 0.00 | 0.00 | 0.00 |
| 18,300.00 | 90.00 | 0.91 | 8,157.00 | 11,159.67 | -2,639.66 | 11,452.26 | 0.00 | 0.00 | 0.00 |
| 18,400.00 | 90.00 | 0.91 | 8,157.00 | 11,259.66 | -2,638.07 | 11,550.34 | 0.00 | 0.00 | 0.00 |
| 18,500.00 | 90.00 | 0.91 | 8,157.00 | 11,359.64 | -2,636.48 | 11,648.41 | 0.00 | 0.00 | 0.00 |
| 18,600.00 | 90.00 | 0.91 | 8,157.00 | 11,459.63 | -2,634.90 | 11,746.49 | 0.00 | 0.00 | 0.00 |
| 18,700.00 | 90.00 | 0.91 | 8,157.00 | 11,559.62 | -2,633.31 | 11,844.57 | 0.00 | 0.00 | 0.00 |
| 18,800.00 | 90.00 | 0.91 | 8,157.00 | 11,659.61 | -2,631.73 | 11,942.65 | 0.00 | 0.00 | 0.00 |
| 18,900.00 | 90.00 | 0.91 | 8,157.00 | 11,759.59 | -2,630.14 | 12,040.73 | 0.00 | 0.00 | 0.00 |
| 19,000.00 | 90.00 | 0.91 | 8,157.00 | 11,859.58 | -2,628.56 | 12,138.80 | 0.00 | 0.00 | 0.00 |
| 19,100.00 | 90.00 | 0.91 | 8,157.00 | 11,959.57 | -2,626.97 | 12,236.88 | 0.00 | 0.00 | 0.00 |
| 19,200.00 | 90.00 | 0.91 | 8,157.00 | 12,059.56 | -2,625.38 | 12,334.96 | 0.00 | 0.00 | 0.00 |



| | | | |
|------------------|------------------------------|-------------------------------------|---------------------------|
| Database: | Local | Local Co-ordinate Reference: | Well IRWIN 6-65 23-11 4HN |
| Company: | GMT Exploration Company, LLC | TVD Reference: | KB @ 6242.00usft |
| Project: | Elbert County, CO (NAD 83) | MD Reference: | KB @ 6242.00usft |
| Site: | Irwin-Taylor Pad | North Reference: | True |
| Well: | IRWIN 6-65 23-11 4HN | 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) | |
| 19,300.00 | 90.00 | 0.91 | 8,157.00 | 12,159.54 | -2,623.80 | 12,433.04 | 0.00 | 0.00 | 0.00 | |
| 19,400.00 | 90.00 | 0.91 | 8,157.00 | 12,259.53 | -2,622.21 | 12,531.11 | 0.00 | 0.00 | 0.00 | |
| 19,500.00 | 90.00 | 0.91 | 8,157.00 | 12,359.52 | -2,620.63 | 12,629.19 | 0.00 | 0.00 | 0.00 | |
| 19,600.00 | 90.00 | 0.91 | 8,157.00 | 12,459.51 | -2,619.04 | 12,727.27 | 0.00 | 0.00 | 0.00 | |
| 19,700.00 | 90.00 | 0.91 | 8,157.00 | 12,559.49 | -2,617.46 | 12,825.35 | 0.00 | 0.00 | 0.00 | |
| 19,800.00 | 90.00 | 0.91 | 8,157.00 | 12,659.48 | -2,615.87 | 12,923.43 | 0.00 | 0.00 | 0.00 | |
| 19,900.00 | 90.00 | 0.91 | 8,157.00 | 12,759.47 | -2,614.29 | 13,021.50 | 0.00 | 0.00 | 0.00 | |
| 20,000.00 | 90.00 | 0.91 | 8,157.00 | 12,859.46 | -2,612.70 | 13,119.58 | 0.00 | 0.00 | 0.00 | |
| 20,100.00 | 90.00 | 0.91 | 8,157.00 | 12,959.44 | -2,611.11 | 13,217.66 | 0.00 | 0.00 | 0.00 | |
| 20,200.00 | 90.00 | 0.91 | 8,157.00 | 13,059.43 | -2,609.53 | 13,315.74 | 0.00 | 0.00 | 0.00 | |
| 20,300.00 | 90.00 | 0.91 | 8,157.00 | 13,159.42 | -2,607.94 | 13,413.82 | 0.00 | 0.00 | 0.00 | |
| 20,400.00 | 90.00 | 0.91 | 8,157.00 | 13,259.41 | -2,606.36 | 13,511.89 | 0.00 | 0.00 | 0.00 | |
| 20,500.00 | 90.00 | 0.91 | 8,157.00 | 13,359.39 | -2,604.77 | 13,609.97 | 0.00 | 0.00 | 0.00 | |
| 20,600.00 | 90.00 | 0.91 | 8,157.00 | 13,459.38 | -2,603.19 | 13,708.05 | 0.00 | 0.00 | 0.00 | |
| 20,700.00 | 90.00 | 0.91 | 8,157.00 | 13,559.37 | -2,601.60 | 13,806.13 | 0.00 | 0.00 | 0.00 | |
| 20,800.00 | 90.00 | 0.91 | 8,157.00 | 13,659.35 | -2,600.01 | 13,904.21 | 0.00 | 0.00 | 0.00 | |
| 20,900.00 | 90.00 | 0.91 | 8,157.00 | 13,759.34 | -2,598.43 | 14,002.28 | 0.00 | 0.00 | 0.00 | |
| 21,000.00 | 90.00 | 0.91 | 8,157.00 | 13,859.33 | -2,596.84 | 14,100.36 | 0.00 | 0.00 | 0.00 | |
| 21,100.00 | 90.00 | 0.91 | 8,157.00 | 13,959.32 | -2,595.26 | 14,198.44 | 0.00 | 0.00 | 0.00 | |
| 21,200.00 | 90.00 | 0.91 | 8,157.00 | 14,059.30 | -2,593.67 | 14,296.52 | 0.00 | 0.00 | 0.00 | |
| 21,289.82 | 90.00 | 0.91 | 8,157.00 | 14,149.11 | -2,592.25 | 14,384.61 | 0.00 | 0.00 | 0.00 | |
| Hold: 90.00° Inc, 0.91° Azm - LTP-IRWIN 6-65 23-11 4HN | | | | | | | | | | |
| 21,300.00 | 90.00 | 0.91 | 8,157.00 | 14,159.29 | -2,592.09 | 14,394.60 | 0.00 | 0.00 | 0.00 | |
| 21,339.82 | 90.00 | 0.91 | 8,157.00 | 14,199.11 | -2,591.46 | 14,433.65 | 0.00 | 0.00 | 0.00 | |
| TD @ 21339.82' MD/8157.00' TVD - BHL-IRWIN 6-65 23-11 4HN | | | | | | | | | | |

| 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 | 3,246,586.90 | 39.509840 | -104.626014 | |
| KOP-IRWIN 6-65 23-1 - plan hits target center - Point | 0.00 | 0.00 | 7,584.04 | 1,574.22 | -2,791.66 | 1,613,321.36 | 3,243,780.22 | 39.514162 | -104.635910 | |
| LTP-IRWIN 6-65 23-1 - plan hits target center - Point | 0.00 | 0.00 | 8,157.00 | 14,149.11 | -2,592.25 | 1,625,897.59 | 3,243,858.66 | 39.548685 | -104.635207 | |
| FTP-IRWIN 6-65 23-1 - plan hits target center - Point | 0.00 | 0.00 | 8,157.00 | 2,147.11 | -2,782.58 | 1,613,894.31 | 3,243,783.80 | 39.515734 | -104.635878 | |
| BHL-IRWIN 6-65 23-1 - plan hits target center - Point | 0.00 | 0.00 | 8,157.00 | 14,199.11 | -2,591.46 | 1,625,947.59 | 3,243,858.97 | 39.548822 | -104.635204 | |

| | | | |
|------------------|------------------------------|-------------------------------------|--------------------------|
| Database: | Local | Local Co-ordinate Reference: | Well IRWIN6-65 23-11 4HN |
| Company: | GMT Exploration Company, LLC | TVD Reference: | KB @ 6242.00usft |
| Project: | Elbert County, CO (NAD 83) | MD Reference: | KB @ 6242.00usft |
| Site: | Irwin-Taylor Pad | North Reference: | True |
| Well: | IRWIN 6-65 23-11 4HN | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #1 | | |

| Formations | | | | | |
|-----------------------|-----------------------|----------------------------------|-----------|---------|-------------------|
| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) |
| 482.12 | 482.00 | Denver | | | |
| 2,415.30 | 2,262.00 | Upper Arapahoe | | | |
| 2,508.25 | 2,342.00 | Laramie - Fox Hills | | | |
| 2,612.83 | 2,432.00 | Pierre Shale (Base of Fox Hills) | | | |
| 6,342.80 | 5,642.00 | Sussex Sandstone | | | |
| 8,766.57 | 7,937.00 | Sharon Springs Shale | | | |
| 8,812.49 | 7,972.00 | Niobrara | | | |
| 8,826.24 | 7,982.00 | Niobrara A | | | |
| 9,021.75 | 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 |
| 1,830.81 | 1,759.00 | 196.16 | -347.86 | Hold: 30.62° Inc, 299.42° Azm |
| 6,555.50 | 5,825.05 | 1,378.06 | -2,443.80 | Drop: 2°/100' @ 6555.50' MD |
| 8,086.31 | 7,284.04 | 1,574.22 | -2,791.66 | Hold: 0.00° Inc, 0.00° Azm |
| 8,386.31 | 7,584.04 | 1,574.22 | -2,791.66 | KOP: 10°/100' @ 8386.31' MD |
| 9,286.31 | 8,157.00 | 2,147.11 | -2,782.58 | LP: 9286.31' MD, 90.00° Inc, 0.91° Azm |
| 21,289.82 | 8,157.00 | 14,149.11 | -2,592.25 | Hold: 90.00° Inc, 0.91° Azm |
| 21,339.82 | 8,157.00 | 14,199.11 | -2,591.46 | TD @ 21339.82' MD/8157.00' TVD |