



Where energy meets innovation.

EQT PRODUCTION

Marion County, WV

GLO76 Pad

Well #514747- Marcellus

Main Wellbore

Design: 514747 As Drilled Surveys

Standard Survey Report

24 November, 2015

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Environmental Protection**



PRODIRECTIONAL

10/28/2016



Where energy meets innovation.

Professional Directional Survey Report



| | | | |
|------------------|---------------------------|-------------------------------------|---------------------------------|
| Company: | EQT PRODUCTION | Local Co-ordinate Reference: | Well Well #514747- Marcellus |
| Project: | Marion County, WV | TVD Reference: | GL 1424' + 23' KB @ 1447.00usft |
| Site: | GL076 Pad | MD Reference: | GL 1424' + 23' KB @ 1447 00usft |
| Well: | Well #514747- Marcellus | North Reference: | Grid |
| Wellbore: | Main Wellbore | Survey Calculation Method: | Minimum Curvature |
| Design: | 514747 As Drilled Surveys | Database: | Well_Planner1 |

| | | | |
|--------------------|--------------------------------------|----------------------|----------------|
| Project | Marion County, WV | | |
| Map System: | US State Plane 1927 (Exact solution) | System Datum: | Mean Sea Level |
| Geo Datum: | NAD 1927 (NADCON CONUS) | | |
| Map Zone: | West Virginia North 4701 | | |

| | | | | | |
|------------------------------|-----------|---------------------|-------------------|--------------------------|-----------------|
| Site | GLO76 Pad | | | | |
| Site Position: | | Northing: | 389,060.60 usft | Latitude: | 39° 33' 50.33 N |
| From: | Map | Easting: | 1,721,015.30 usft | Longitude: | 80° 29' 22.49 W |
| Position Uncertainty: | 0.00 usft | Slot Radius: | 13-3/16 " | Grid Convergence: | -0.63 ° |

| | | | | | | |
|-----------------------------|-------------------------|-----------|----------------------------|-------------------|----------------------|-----------------|
| Well | Well #514747- Marcellus | | | | | |
| Well Position | +N/-S | 0.00 usft | Northing: | 389,054.66 usft | Latitude: | 39° 33' 50.27 N |
| | +E/-W | 0.00 usft | Easting: | 1,721,044.74 usft | Longitude: | 80° 29' 22.12 W |
| Position Uncertainty | | 0.00 usft | Wellhead Elevation: | 1,447.00 usft | Ground Level: | 1,424.00 usft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Main Wellbore | | | | |
| Magnetics | Model Name | Sample Date | Declination (") | Dip Angle (") | Field Strength (nT) |
| | HDGM | 8/10/2015 | -8.63 | 67.05 | 52,554 |

| | | | | | |
|--------------------------|--------------------------------|---------------------|---------------------|----------------------|--------|
| Design | 514747 As Drilled Surveys | | | | |
| Audit Notes: | | | | | |
| Version: | 1.0 | Phase: | ACTUAL | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (") | |
| | 0.00 | 0.00 | 0.00 | | 145.37 |

| | | | | | |
|-----------------------|------------------|---------------------------------------|------------------|-----------------------------------|--|
| Survey Program | Date 11/12/2015 | | | | |
| From (usft) | To (usft) | Survey (Wellbore) | Tool Name | Description | |
| 110.00 | 6,643.00 | 514747 Gyrodata Gyros (Main Wellbore) | GYD_DP_MS | Gyrodata gyro-compassing and drop | |
| 6,722.00 | 12,295.00 | #2 Pro MWD (Main Wellbore) | MWD+IGRF | MWD+IGRF v3:standard declination | |

| 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 |
| 110.00 | 0.05 | 315.09 | 110.00 | 0.03 | -0.03 | -0.05 | 0.05 | 0.00 | 0.00 |
| 210.00 | 0.06 | 271.16 | 210.00 | 0.07 | -0.12 | -0.12 | 0.04 | 0.01 | -43.95 |
| 310.00 | 0.05 | 305.66 | 310.00 | 0.09 | -0.20 | -0.19 | 0.03 | 0.01 | 34.50 |
| 410.00 | 0.05 | 130.92 | 410.00 | 0.09 | -0.21 | -0.19 | 0.03 | 0.00 | 0.00 |
| 510.00 | 0.08 | 154.02 | 510.00 | 0.00 | -0.14 | -0.08 | 0.04 | 0.03 | 23.00 |
| 610.00 | 0.39 | 223.15 | 610.00 | -0.31 | -0.35 | 0.06 | 0.37 | 0.31 | 69.13 |
| 710.00 | 0.45 | 285.09 | 710.00 | -0.59 | -0.97 | -0.06 | 0.31 | 0.06 | 41.94 |
| 810.00 | 0.27 | 274.87 | 809.99 | -0.61 | -1.60 | -0.41 | 0.19 | -0.18 | 9.78 |
| 910.00 | 0.35 | 294.70 | 909.99 | -0.46 | -2.11 | -0.82 | 0.13 | 0.08 | 19.83 |

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Site: GLO76 Pad
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Wellbore: Main Wellbore
Design: 514747 As Drilled Surveys

Local Co-ordinate Reference: Well Well #514747- Marcellus
TVD Reference: GL 1424' + 23' KB @ 1447 00usft
MD Reference: GL 1424' + 23' KB @ 1447 00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Well_Planner1

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) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 1,010.00 | 0.37 | 295.39 | 1,009.99 | -0.19 | -2.68 | -1.36 | 0.02 | 0.02 | 0.69 |
| 1,110.00 | 0.40 | 304.21 | 1,109.99 | 0.14 | -3.26 | -1.97 | 0.07 | 0.03 | 8.82 |
| 1,210.00 | 0.52 | 298.00 | 1,209.99 | 0.55 | -3.95 | -2.69 | 0.13 | 0.12 | -8.21 |
| 1,310.00 | 0.71 | 302.02 | 1,309.98 | 1.09 | -4.87 | -3.67 | 0.19 | 0.19 | 4.02 |
| 1,410.00 | 0.77 | 303.51 | 1,409.97 | 1.79 | -5.96 | -4.86 | 0.06 | 0.06 | 1.49 |
| 1,510.00 | 0.85 | 305.70 | 1,509.96 | 2.59 | -7.12 | -6.18 | 0.09 | 0.08 | 2.19 |
| 1,610.00 | 0.92 | 312.05 | 1,609.95 | 3.56 | -8.32 | -7.66 | 0.12 | 0.07 | 6.35 |
| 1,710.00 | 0.93 | 311.72 | 1,709.94 | 4.64 | -9.52 | -9.23 | 0.01 | 0.01 | -0.33 |
| 1,810.00 | 0.83 | 317.46 | 1,809.92 | 5.72 | -10.62 | -10.74 | 0.13 | -0.10 | 5.74 |
| 1,910.00 | 0.86 | 313.22 | 1,909.91 | 6.76 | -11.65 | -12.19 | 0.07 | 0.03 | -4.24 |
| 2,010.00 | 1.07 | 295.40 | 2,009.90 | 7.68 | -13.04 | -13.73 | 0.36 | 0.21 | -17.82 |
| 2,110.00 | 1.34 | 280.64 | 2,109.88 | 8.29 | -15.04 | -15.37 | 0.41 | 0.27 | -14.76 |
| 2,210.00 | 1.38 | 277.16 | 2,209.85 | 8.66 | -17.38 | -17.00 | 0.09 | 0.04 | -3.48 |
| 2,310.00 | 1.37 | 278.65 | 2,309.82 | 8.99 | -19.76 | -18.62 | 0.04 | -0.01 | 1.49 |
| 2,410.00 | 1.37 | 278.94 | 2,409.79 | 9.36 | -22.12 | -20.27 | 0.01 | 0.00 | 0.29 |
| 2,510.00 | 1.02 | 279.94 | 2,509.77 | 9.70 | -24.18 | -21.72 | 0.35 | -0.35 | 1.00 |
| 2,610.00 | 0.98 | 281.66 | 2,609.76 | 10.02 | -25.89 | -22.96 | 0.05 | -0.04 | 1.72 |
| 2,710.00 | 1.01 | 281.56 | 2,709.74 | 10.37 | -27.59 | -24.21 | 0.03 | 0.03 | -0.10 |
| 2,810.00 | 1.03 | 280.94 | 2,809.72 | 10.72 | -29.34 | -25.49 | 0.02 | 0.02 | -0.62 |
| 2,910.00 | 0.65 | 282.52 | 2,909.71 | 11.01 | -30.77 | -26.55 | 0.38 | -0.38 | 1.58 |
| 3,010.00 | 0.64 | 284.10 | 3,009.71 | 11.27 | -31.87 | -27.39 | 0.02 | -0.01 | 1.58 |
| 3,110.00 | 0.61 | 298.31 | 3,109.70 | 11.66 | -32.88 | -28.28 | 0.16 | -0.03 | 14.21 |
| 3,210.00 | 0.52 | 312.74 | 3,209.70 | 12.22 | -33.68 | -29.20 | 0.17 | -0.09 | 14.43 |
| 3,310.00 | 0.52 | 314.20 | 3,309.69 | 12.84 | -34.34 | -30.08 | 0.01 | 0.00 | 1.46 |
| 3,410.00 | 0.72 | 303.55 | 3,409.69 | 13.51 | -35.19 | -31.11 | 0.23 | 0.20 | -10.65 |
| 3,510.00 | 0.94 | 298.42 | 3,509.68 | 14.25 | -36.44 | -32.43 | 0.23 | 0.22 | -5.13 |
| 3,610.00 | 1.00 | 298.35 | 3,609.66 | 15.05 | -37.92 | -33.94 | 0.06 | 0.06 | -0.07 |
| 3,710.00 | 1.03 | 298.33 | 3,709.65 | 15.89 | -39.48 | -35.51 | 0.03 | 0.03 | -0.02 |
| 3,810.00 | 1.04 | 297.39 | 3,809.63 | 16.74 | -41.08 | -37.12 | 0.02 | 0.01 | -0.94 |
| 3,910.00 | 0.79 | 300.33 | 3,909.62 | 17.50 | -42.48 | -38.54 | 0.25 | -0.25 | 2.94 |
| 4,010.00 | 0.85 | 298.11 | 4,009.61 | 18.20 | -43.73 | -39.83 | 0.07 | 0.06 | -2.22 |
| 4,110.00 | 0.81 | 296.99 | 4,109.60 | 18.87 | -45.01 | -41.11 | 0.04 | -0.04 | -1.12 |
| 4,210.00 | 1.00 | 292.41 | 4,209.58 | 19.52 | -46.45 | -42.46 | 0.20 | 0.12 | -4.58 |
| 4,310.00 | 1.03 | 295.08 | 4,309.57 | 20.24 | -48.07 | -43.97 | 0.05 | 0.03 | 2.67 |
| 4,410.00 | 0.99 | 296.28 | 4,409.55 | 21.00 | -49.66 | -45.50 | 0.05 | 0.05 | 1.20 |
| 4,510.00 | 0.97 | 303.95 | 4,509.54 | 21.85 | -51.14 | -47.04 | 0.13 | 0.02 | 7.67 |
| 4,610.00 | 0.92 | 310.38 | 4,609.52 | 22.85 | -52.45 | -48.61 | 0.12 | 0.12 | 6.43 |
| 4,710.00 | 0.78 | 332.84 | 4,709.51 | 23.97 | -53.37 | -50.06 | 0.36 | -0.14 | 22.46 |
| 4,810.00 | 0.84 | 358.25 | 4,809.50 | 25.31 | -53.71 | -51.35 | 0.39 | 0.06 | 25.41 |
| 4,910.00 | 0.75 | 29.83 | 4,909.49 | 26.61 | -53.40 | -52.24 | 0.44 | 0.00 | 31.56 |
| 5,010.00 | 0.72 | 40.66 | 5,009.49 | 27.66 | -52.67 | -52.69 | 0.14 | -0.03 | 11.61 |
| 5,110.00 | 0.71 | 54.45 | 5,109.48 | 28.49 | -51.75 | -52.86 | 0.17 | -0.01 | 13.79 |
| 5,210.00 | 0.73 | 67.75 | 5,209.47 | 29.09 | -50.66 | -52.73 | 0.17 | 0.02 | 13.30 |

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Database: Well_Planner1

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) |
|---------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 5,310.00 | 0.73 | 72.36 | 5,309.46 | 29.53 | -49.46 | -52.41 | 0.06 | 0.00 | 4.61 |
| 5,410.00 | 0.70 | 93.72 | 5,409.46 | 29.68 | -48.25 | -51.84 | 0.27 | -0.03 | 21.36 |
| 5,510.00 | 0.51 | 119.87 | 5,509.45 | 29.42 | -47.25 | -51.06 | 0.33 | -0.19 | 26.15 |
| 5,610.00 | 0.15 | 125.46 | 5,609.45 | 29.12 | -46.76 | -50.54 | 0.36 | -0.36 | 5.59 |
| 5,710.00 | 0.19 | 125.82 | 5,709.45 | 28.95 | -46.52 | -50.26 | 0.04 | 0.04 | 0.36 |
| 5,810.00 | 0.20 | 121.51 | 5,809.45 | 28.76 | -46.24 | -49.94 | 0.02 | 0.01 | -4.31 |
| 5,910.00 | 0.47 | 96.77 | 5,909.45 | 28.62 | -45.68 | -49.51 | 0.30 | 0.27 | -24.74 |
| 6,010.00 | 0.57 | 98.58 | 6,009.44 | 28.50 | -44.78 | -48.90 | 0.10 | 0.10 | 1.81 |
| 6,110.00 | 0.41 | 99.81 | 6,109.44 | 28.36 | -43.94 | -48.31 | 0.16 | -0.16 | 1.23 |
| 6,210.00 | 0.20 | 106.65 | 6,209.44 | 28.25 | -43.42 | -47.92 | 0.21 | -0.21 | 6.84 |
| 6,310.00 | 0.26 | 193.43 | 6,309.44 | 27.98 | -43.30 | -47.63 | 0.32 | 0.06 | 86.78 |
| 6,410.00 | 0.42 | 207.99 | 6,409.43 | 27.44 | -43.53 | -47.31 | 0.18 | 0.16 | 14.56 |
| 6,510.00 | 0.46 | 239.47 | 6,509.43 | 26.91 | -44.04 | -47.17 | 0.24 | 0.04 | 31.48 |
| 6,610.00 | 0.72 | 245.24 | 6,609.43 | 26.44 | -44.96 | -47.31 | 0.27 | 0.26 | 5.77 |
| 6,643.00 | 0.71 | 245.82 | 6,642.42 | 26.27 | -45.34 | -47.36 | 0.04 | -0.03 | 1.76 |
| Tie into Gyro at 6643'MD | | | | | | | | | |
| 6,722.00 | 1.10 | 255.20 | 6,721.41 | 25.88 | -46.51 | -47.73 | 0.53 | 0.49 | 11.87 |
| First ProMWD at 6722'MD | | | | | | | | | |
| 6,817.00 | 0.90 | 259.00 | 6,816.40 | 25.50 | -48.13 | -48.34 | 0.22 | -0.21 | 4.00 |
| 6,848.00 | 1.00 | 264.50 | 6,847.39 | 25.43 | -48.64 | -48.57 | 0.44 | 0.32 | 17.74 |
| 6,880.00 | 0.50 | 268.00 | 6,879.39 | 25.40 | -49.05 | -48.78 | 1.57 | -1.56 | 10.94 |
| 6,911.00 | 0.50 | 47.40 | 6,910.39 | 25.49 | -49.09 | -48.87 | 3.03 | 0.00 | 449.68 |
| 6,943.00 | 2.10 | 73.70 | 6,942.38 | 25.75 | -48.42 | -48.70 | 5.21 | 5.00 | 82.19 |
| 6,974.00 | 3.30 | 74.20 | 6,973.35 | 26.15 | -47.02 | -48.24 | 3.87 | 3.87 | 1.81 |
| 7,006.00 | 5.20 | 62.80 | 7,005.26 | 27.06 | -44.84 | -47.75 | 6.47 | 5.94 | -35.63 |
| 7,038.00 | 7.80 | 57.30 | 7,037.05 | 28.90 | -41.73 | -47.49 | 8.35 | 8.13 | -17.19 |
| 7,069.00 | 10.60 | 57.70 | 7,067.65 | 31.56 | -37.55 | -47.30 | 9.03 | 9.03 | 1.29 |
| 7,101.00 | 13.30 | 59.50 | 7,098.95 | 35.00 | -31.89 | -46.92 | 8.52 | 8.44 | 5.63 |
| 7,132.00 | 15.70 | 61.00 | 7,128.96 | 38.84 | -25.14 | -46.25 | 7.84 | 7.74 | 4.84 |
| 7,164.00 | 17.90 | 64.50 | 7,159.60 | 43.06 | -16.92 | -45.05 | 7.56 | 6.88 | 10.94 |
| 7,195.00 | 20.10 | 68.60 | 7,188.91 | 47.06 | -7.66 | -43.07 | 8.30 | 7.10 | 13.23 |
| 7,227.00 | 23.40 | 71.60 | 7,218.62 | 51.07 | 3.50 | -40.03 | 10.88 | 10.31 | 9.38 |
| 7,258.00 | 25.70 | 76.60 | 7,246.82 | 54.57 | 15.88 | -35.88 | 9.99 | 7.42 | 16.13 |
| 7,290.00 | 28.90 | 79.00 | 7,275.26 | 57.66 | 30.22 | -30.27 | 10.57 | 19.00 | 15.00 |
| 7,322.00 | 31.70 | 80.00 | 7,302.88 | 60.59 | 46.10 | -23.66 | 8.89 | 8.75 | 9.13 |
| 7,353.00 | 35.20 | 80.00 | 7,328.74 | 63.56 | 62.92 | -16.54 | 11.29 | 11.29 | 0.00 |
| 7,385.00 | 38.50 | 80.20 | 7,354.35 | 66.86 | 81.82 | -8.51 | 10.32 | 10.31 | 2.62 |
| 7,416.00 | 42.10 | 80.70 | 7,377.99 | 70.18 | 101.59 | -0.01 | 11.66 | 11.61 | 1.61 |
| 7,448.00 | 45.60 | 81.00 | 7,401.06 | 73.70 | 123.48 | 9.53 | 10.96 | 10.44 | 0.94 |
| 7,479.00 | 49.30 | 81.40 | 7,422.02 | 77.19 | 146.04 | 19.48 | 11.97 | 11.29 | 1.29 |
| 7,510.00 | 53.30 | 81.90 | 7,441.40 | 80.70 | 169.98 | 30.19 | 12.96 | 12.90 | 1.61 |
| 7,542.00 | 57.40 | 82.30 | 7,459.59 | 84.32 | 196.04 | 42.03 | 12.85 | 12.81 | 1.25 |
| 7,573.00 | 58.50 | 83.90 | 7,476.04 | 87.47 | 222.13 | 54.26 | 5.63 | 3.55 | 5.16 |
| 7,605.00 | 58.70 | 85.60 | 7,492.71 | 89.97 | 249.33 | 67.66 | 4.58 | 0.63 | 5.31 |

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| 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) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 7,636.00 | 59.40 | 88.60 | 7,508.66 | 91.31 | 275.87 | 81.64 | 8.60 | 2.26 | 9.68 |
| 7,668.00 | 60.40 | 91.50 | 7,524.71 | 91.28 | 303.55 | 97.39 | 8.44 | 3.13 | 9.06 |
| 7,699.00 | 60.30 | 91.60 | 7,540.04 | 90.56 | 330.48 | 113.29 | 0.43 | -0.32 | 0.32 |
| 7,731.00 | 61.00 | 93.70 | 7,555.73 | 89.26 | 358.34 | 130.19 | 6.12 | 2.19 | 6.56 |
| 7,763.00 | 61.70 | 96.50 | 7,571.07 | 86.77 | 386.31 | 148.14 | 7.98 | 2.19 | 8.75 |
| 7,794.00 | 62.30 | 99.40 | 7,585.63 | 82.98 | 413.41 | 166.66 | 8.48 | 1.94 | 9.35 |
| 7,826.00 | 63.30 | 102.40 | 7,600.26 | 77.60 | 441.36 | 186.96 | 8.90 | 3.13 | 9.38 |
| 7,857.00 | 64.70 | 105.60 | 7,613.85 | 70.85 | 468.39 | 207.87 | 10.32 | 4.52 | 10.32 |
| 7,889.00 | 66.30 | 108.60 | 7,627.12 | 62.29 | 496.21 | 230.73 | 9.89 | 5.00 | 9.38 |
| 7,920.00 | 67.90 | 111.80 | 7,639.19 | 52.42 | 523.00 | 254.07 | 10.82 | 5.16 | 10.32 |
| 7,952.00 | 69.10 | 115.60 | 7,650.92 | 40.46 | 550.26 | 279.41 | 11.67 | 3.75 | 11.88 |
| 7,983.00 | 70.30 | 119.40 | 7,661.68 | 27.03 | 576.04 | 305.11 | 12.13 | 3.87 | 12.26 |
| 8,015.00 | 71.80 | 123.00 | 7,672.07 | 11.35 | 601.92 | 332.72 | 11.63 | 4.69 | 11.25 |
| 8,046.00 | 72.90 | 125.90 | 7,681.47 | -5.36 | 626.27 | 360.31 | 9.59 | 3.55 | 9.35 |
| 8,078.00 | 74.00 | 127.70 | 7,690.59 | -23.73 | 650.83 | 389.38 | 6.39 | 3.44 | 5.63 |
| 8,110.00 | 74.90 | 130.60 | 7,699.17 | -43.20 | 674.74 | 418.98 | 9.17 | 2.81 | 9.06 |
| 8,141.00 | 76.10 | 133.40 | 7,706.93 | -63.28 | 697.04 | 448.18 | 9.56 | 3.87 | 9.03 |
| 8,173.00 | 77.30 | 135.90 | 7,714.30 | -85.16 | 719.19 | 478.77 | 8.48 | 3.75 | 7.81 |
| 8,204.00 | 78.10 | 137.50 | 7,720.90 | -107.20 | 739.96 | 508.71 | 5.66 | 2.58 | 5.16 |
| 8,236.00 | 79.90 | 140.20 | 7,727.01 | -130.86 | 760.62 | 539.92 | 10.01 | 5.63 | 8.44 |
| 8,268.00 | 81.60 | 142.50 | 7,732.15 | -155.52 | 780.35 | 571.42 | 8.86 | 5.31 | 7.19 |
| 8,299.00 | 83.20 | 145.10 | 7,736.25 | -180.31 | 798.49 | 602.13 | 9.79 | 5.16 | 8.39 |
| 8,331.00 | 84.70 | 148.00 | 7,739.63 | -206.86 | 816.03 | 633.94 | 10.16 | 4.69 | 9.06 |
| 8,363.00 | 86.40 | 150.80 | 7,742.11 | -234.32 | 832.27 | 665.76 | 10.21 | 5.31 | 8.75 |
| 8,426.00 | 88.40 | 154.20 | 7,744.97 | -290.13 | 861.32 | 728.20 | 6.26 | 3.17 | 5.40 |
| 8,521.00 | 87.20 | 154.90 | 7,748.61 | -375.85 | 902.11 | 821.91 | 1.46 | -1.26 | 0.74 |
| 8,616.00 | 87.70 | 154.30 | 7,752.84 | -461.58 | 942.82 | 915.59 | 0.82 | 0.53 | -0.63 |
| 8,710.00 | 85.70 | 154.30 | 7,758.25 | -546.14 | 983.51 | 1,008.29 | 2.13 | -2.13 | 0.00 |
| 8,805.00 | 86.40 | 154.20 | 7,764.80 | -631.50 | 1,024.69 | 1,101.93 | 0.74 | 0.74 | -0.11 |
| 8,900.00 | 88.30 | 153.00 | 7,769.19 | -716.49 | 1,066.88 | 1,195.84 | 2.36 | 2.00 | -1.26 |
| 8,995.00 | 90.60 | 153.00 | 7,770.10 | -801.13 | 1,110.01 | 1,289.99 | 2.42 | 2.42 | 0.00 |
| 9,090.00 | 90.40 | 150.60 | 7,769.27 | -884.85 | 1,154.89 | 1,384.38 | 2.53 | -0.21 | -2.53 |
| 9,185.00 | 89.50 | 151.50 | 7,769.35 | -967.97 | 1,200.88 | 1,478.91 | 1.34 | -0.95 | -1.60 |
| 9,279.00 | 89.40 | 150.00 | 7,770.26 | -1,049.98 | 1,246.80 | 1,572.49 | 1.60 | 0.00 | 0.00 |
| 9,374.00 | 89.40 | 151.90 | 7,771.25 | -1,133.02 | 1,292.93 | 1,667.03 | 2.00 | 0.00 | 0.00 |
| 9,469.00 | 90.30 | 154.10 | 7,771.50 | -1,217.86 | 1,336.05 | 1,761.18 | 2.50 | 0.00 | 0.00 |
| 9,564.00 | 91.10 | 153.20 | 7,770.34 | -1,302.78 | 1,378.22 | 1,855.19 | 1.27 | 0.64 | 0.00 |
| 9,658.00 | 90.90 | 155.30 | 7,768.70 | -1,387.43 | 1,419.04 | 1,948.04 | 2.24 | 0.21 | 2.23 |
| 9,753.00 | 89.80 | 155.20 | 7,768.12 | -1,473.70 | 1,458.82 | 2,041.63 | 1.18 | -1.18 | 0.11 |
| 9,848.00 | 90.20 | 156.50 | 7,768.12 | -1,560.38 | 1,497.68 | 2,135.04 | 1.43 | 0.00 | 0.00 |
| 9,942.00 | 89.20 | 154.10 | 7,768.61 | -1,645.78 | 1,536.96 | 2,227.62 | 2.77 | -1.06 | -2.55 |
| 10,037.00 | 89.60 | 154.40 | 7,769.60 | -1,731.34 | 1,578.23 | 2,321.48 | 0.53 | 0.42 | 0.32 |
| 10,132.00 | 89.50 | 155.50 | 7,770.35 | -1,817.40 | 1,618.45 | 2,415.15 | 1.18 | -0.11 | 1.18 |

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Professional Directional Survey Report



Company: EQT PRODUCTION
Project: Marion County, WV
Site: GLO76 Pad
Well: Well #514747- Marcellus
Wellbore: Main Wellbore
Design: 514747 As Drilled Surveys

Local Co-ordinate Reference: Well Well #514747- Marcellus
TVD Reference: GL 1424' + 23' KB @ 1447 00usft
MD Reference: GL. 1424' + 23' KB @ 1447 00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Well_Planner1

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) | |
|--|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|--|
| 10,226.00 | 89.00 | 153.60 | 7,771.58 | -1,902.26 | 1,658.84 | 2,507.93 | 2.09 | -0.53 | -2.02 | |
| 10,321.00 | 89.80 | 154.30 | 7,772.58 | -1,987.61 | 1,700.56 | 2,601.86 | 1.12 | 0.84 | 0.74 | |
| 10,416.00 | 90.30 | 154.40 | 7,772.49 | -2,073.24 | 1,741.68 | 2,695.70 | 0.54 | 0.53 | 0.11 | |
| 10,511.00 | 88.90 | 151.90 | 7,773.16 | -2,157.99 | 1,784.58 | 2,789.81 | 3.02 | -1.47 | -2.63 | |
| 10,605.00 | 88.80 | 151.30 | 7,775.04 | -2,240.66 | 1,829.28 | 2,883.24 | 0.65 | -0.11 | -0.64 | |
| 10,700.00 | 89.00 | 149.80 | 7,776.87 | -2,323.37 | 1,875.98 | 2,977.83 | 1.59 | 0.21 | -1.58 | |
| 10,795.00 | 89.90 | 151.70 | 7,777.78 | -2,406.25 | 1,922.39 | 3,072.40 | 2.21 | 0.95 | 2.00 | |
| 10,889.00 | 90.00 | 150.80 | 7,777.86 | -2,488.66 | 1,967.60 | 3,165.91 | 0.96 | 0.11 | -0.96 | |
| 10,984.00 | 88.70 | 153.00 | 7,778.94 | -2,572.45 | 2,012.34 | 3,260.28 | 2.69 | -1.37 | 2.32 | |
| 11,078.00 | 88.30 | 154.50 | 7,781.40 | -2,656.72 | 2,053.90 | 3,353.24 | 1.65 | -0.43 | 1.60 | |
| 11,173.00 | 88.80 | 154.90 | 7,783.80 | -2,742.58 | 2,094.49 | 3,446.95 | 0.67 | 0.53 | 0.42 | |
| 11,268.00 | 89.60 | 155.60 | 7,785.13 | -2,828.85 | 2,134.26 | 3,540.53 | 1.12 | 0.84 | 0.74 | |
| 11,362.00 | 90.30 | 155.30 | 7,785.21 | -2,914.35 | 2,173.31 | 3,633.08 | 0.81 | 0.74 | -0.32 | |
| 11,457.00 | 88.80 | 154.40 | 7,785.96 | -3,000.34 | 2,213.68 | 3,726.77 | 1.84 | -1.58 | -0.95 | |
| 11,551.00 | 89.10 | 154.30 | 7,787.68 | -3,085.06 | 2,254.37 | 3,819.61 | 0.34 | 0.32 | -0.11 | |
| 11,646.00 | 89.30 | 154.60 | 7,789.01 | -3,170.76 | 2,295.34 | 3,913.41 | 0.38 | 0.21 | 0.32 | |
| 11,741.00 | 89.90 | 155.60 | 7,789.67 | -3,256.93 | 2,335.33 | 4,007.04 | 1.23 | 0.63 | 1.05 | |
| 11,835.00 | 90.00 | 154.80 | 7,789.75 | -3,342.26 | 2,374.76 | 4,099.66 | 0.86 | 0.11 | -0.85 | |
| 11,930.00 | 89.00 | 153.50 | 7,790.58 | -3,427.74 | 2,416.18 | 4,193.54 | 1.73 | -1.05 | -1.37 | |
| 12,025.00 | 88.90 | 153.20 | 7,792.32 | -3,512.64 | 2,458.78 | 4,287.60 | 0.33 | -0.11 | -0.32 | |
| 12,119.00 | 88.80 | 153.20 | 7,794.21 | -3,598.52 | 2,501.16 | 4,380.70 | 0.11 | -0.11 | 0.00 | |
| 12,214.00 | 88.10 | 152.10 | 7,796.78 | -3,680.87 | 2,544.79 | 4,474.90 | 1.37 | -0.74 | -1.16 | |
| 12,242.00 | 88.30 | 152.40 | 7,797.66 | -3,705.64 | 2,557.82 | 4,502.69 | 1.29 | 0.71 | 1.07 | |
| Last Survey: 12242'MD / 7797.66'TVD | | | | | | | | | | |
| 12,295.00 | 88.30 | 152.40 | 7,799.23 | -3,752.59 | 2,582.36 | 4,555.27 | 0.00 | 0.00 | 0.00 | |
| PTB: 12295'MD | | | | | | | | | | |

Design Targets

| Target Name | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
|---|---------------|--------------|------------|--------------|--------------|-----------------|----------------|-----------------|-----------------|
| 514747 Plat LP - hit/miss target - Shape | 0.00 | 360.00 | 7,670.00 | -249.35 | 840.44 | 388,805.31 | 1,721,885.18 | 39° 33' 47.90 N | 80° 28' 48.54 W |
| - actual wellpath misses target center by 73.00usft at 8376.82usft MD (7742.92 TVD, -246.41 N, 838.92 E) | | | | | | | | | |
| - Point | | | | | | | | | |
| 514747 LP Plan | 0.00 | 0.00 | 7,735.00 | -249.35 | 840.44 | 388,805.31 | 1,721,885.18 | 39° 33' 47.90 N | 80° 29' 11.35 W |
| - actual wellpath misses target center by 8.09usft at 8379.77usft MD (7743.08 TVD, -249.00 N, 840.32 E) | | | | | | | | | |
| - Point | | | | | | | | | |
| 514747 TD Plat | 0.00 | 360.00 | 7,735.00 | -3,747.88 | 2,588.40 | 385,306.78 | 1,723,833.14 | 39° 33' 13.61 N | 80° 28' 48.54 W |
| - actual wellpath misses target center by 64.60usft at 12291.72usft MD (7799.13 TVD, -3749.68 N, 2580.84 E) | | | | | | | | | |
| - Point | | | | | | | | | |

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Professional Directional
Survey Report



| | | | |
|------------------|---------------------------|-------------------------------------|---------------------------------|
| Company: | EQT PRODUCTION | Local Co-ordinate Reference: | Well Well #514747- Marcellus |
| Project: | Marion County, WV | TVD Reference: | GL 1424' + 23' KB @ 1447 00usft |
| Site: | GLO76 Pad | MD Reference: | GL 1424' + 23' KB @ 1447 00usft |
| Well: | Well #514747- Marcellus | North Reference: | Grid |
| Wellbore: | Main Wellbore | Survey Calculation Method: | Minimum Curvature |
| Design: | 514747 As Drilled Surveys | Database: | Well_Planner1 |

Design Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | Comment |
|-----------------------|-----------------------|-------------------|--------------|-------------------------------------|
| | | +N/-S (usft) | +E/-W (usft) | |
| 6,643.00 | 6,642.42 | 26.27 | -45.34 | Tie into Gyro at 6643'MD |
| 6,722.00 | 6,721.41 | 25.88 | -46.51 | First ProMWD at 6722'MD |
| 12,242.00 | 7,797.66 | -3,705.64 | 2,557.82 | Last Survey: 12242'MD / 7797.66'TVD |
| 12,295.00 | 7,799.23 | -3,752.59 | 2,582.36 | PTB: 12295'MD |

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