



EQT PRODUCTION

Taylor County, WV

RSM118

Well #515747 - Marcellus - Slot 515747

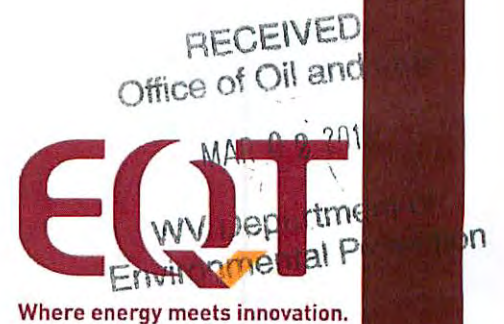
API # 47-910-01320

Main Wellbore

Design: 515747 AS Drilled Surveys

Standard Survey Report

14 September, 2015





Phoenix Technology Services
Survey Report



| | | | |
|-----------|---------------------------|------------------------------|---|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well Well #515747 - Marcellus - Slot 515747 |
| Company: | EQT PRODUCTION | TVD Reference: | KB 23' @ 1488.0usft |
| Project: | Taylor County, WV | MD Reference: | KB 23' @ 1488.0usft |
| Site: | RSM118 | North Reference: | Grid |
| Well: | Well #515747 - Marcellus | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Main Wellbore | | |
| Design: | 515747 AS Drilled Surveys | | |

| | | | |
|----------------------------|--------------------------------------|---------------|----------------|
| Project: Taylor 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: RSM118 | | | |
| Site Position: | | Northing: | 289,938.90 usft |
| From: | Map | Easting: | 1,803,864.30 usft |
| Position Uncertainty: | 0.0 usft | Slot Radius: | 13-3/16 " |
| | | Latitude: | 39.29 |
| | | Longitude: | -80.19 |
| | | Grid Convergence: | -0.44 ° |

| | | | |
|--|----------|---------------------|----------------------------|
| Well: Well #515747 - Marcellus - Slot 515747 | | | |
| Well Position | +N/-S | 0.0 usft | Northing: 289,960.30 usft |
| | +E/-W | 0.0 usft | Easting: 1,803,885.20 usft |
| Position Uncertainty | 0.0 usft | Wellhead Elevation: | usft |
| | | Latitude: | 39° 17' 38.530 N |
| | | Longitude: | 80° 11' 34.577 W |
| | | Ground Level: | 1,465.0 usft |

| Wellbore: Main Wellbore | | | | | |
|-------------------------|------------|-------------|-----------------|---------------|---------------------|
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | HDGM | 8/26/2015 | -9.52 | 66.47 | 52,267 |

| Design: 515747 AS Drilled Surveys | | | | | |
|-----------------------------------|-------------------------|--------------|--------------|---------------|-----|
| Audit Notes: | | | | | |
| Version: | 1.0 | Phase: | ACTUAL | Tie On Depth: | 0.0 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) | |
| | 0.0 | 0.0 | 0.0 | 8.33 | |

| Survey Program | | Date | 9/14/2015 | | |
|----------------|-----------|---------------------------------------|--------------|-----------------------------------|--|
| From (') | To (usft) | Survey (Wellbore) | Tool Name | Description | |
| 0.00 | 4,623.0 | 515747 Gyrodata Gyros (Main Wellbore) | GYD_DP_MS | Gyrodata gyro-compassing and drop | |
| 0.00 | 12,481.0 | 515747 PHX MWD (Main Wellbore) | PHX+MWD+HDGM | PHX+OWSG MWD + HDGM | |

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | Subsea Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|---------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Radio Tower | | | | | | | | | | |
| 0.0 | 0.00 | 0.00 | 0.0 | -1,488.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 110.0 | 0.14 | 297.15 | 110.0 | -1,378.0 | 0.1 | -0.1 | 0.0 | 0.13 | 0.13 | 0.00 |
| 210.0 | 0.18 | 319.44 | 210.0 | -1,278.0 | 0.2 | -0.3 | 0.2 | 0.07 | 0.04 | 22.29 |
| 310.0 | 0.20 | 306.39 | 310.0 | -1,178.0 | 0.5 | -0.6 | 0.4 | 0.05 | 0.02 | 0.60 |
| 410.0 | 0.17 | 303.58 | 410.0 | -1,078.0 | 0.6 | -0.8 | 0.5 | 0.03 | -0.03 | -2.81 |
| 510.0 | 0.16 | 304.18 | 510.0 | -978.0 | 0.8 | -1.1 | 0.6 | 0.01 | -0.01 | 0.60 |
| 610.0 | 0.14 | 306.66 | 610.0 | -878.0 | 1.0 | -1.3 | 0.8 | 0.02 | -0.02 | -2.48 |

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Survey Report



| | | | |
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| Company: | EQT PRODUCTION | TVD Reference: | KB 23 @ 1488.0usft |
| Project: | Taylor County, WV | MD Reference: | KB 23 @ 1488.0usft |
| Site: | RSM116 | North Reference: | Grid |
| Well: | Well #515747 - Marcellus | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Main Wellbore | | |
| Design: | 515747 AS Drilled Surveys | | |

| Survey | | | | | | | | | | | |
|---------------------------------|-----------------|-------------|-----------------------|---------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|--|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | Subsea Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | |
| 710.0 | 0.13 | 43.55 | 710.0 | -778.0 | 1.1 | -1.3 | 0.9 | 0.20 | -0.01 | 96.89 | |
| 810.0 | 0.14 | 61.17 | 810.0 | -678.0 | 1.3 | -1.1 | 1.1 | 0.04 | 0.01 | 17.62 | |
| 910.0 | 0.08 | 70.30 | 910.0 | -578.0 | 1.3 | -1.0 | 1.2 | 0.06 | -0.06 | 9.13 | |
| 1,010.0 | 0.08 | 311.57 | 1,010.0 | -478.0 | 1.4 | -0.9 | 1.3 | 0.14 | 0.00 | -118.73 | |
| 1,110.0 | 0.23 | 305.16 | 1,110.0 | -378.0 | 1.6 | -1.2 | 1.4 | 0.15 | 0.15 | -6.41 | |
| 1,210.0 | 0.66 | 325.80 | 1,210.0 | -278.0 | 2.2 | -1.6 | 1.9 | 0.45 | 0.43 | 20.64 | |
| 1,310.0 | 0.89 | 346.21 | 1,310.0 | -178.0 | 3.4 | -2.2 | 3.0 | 0.36 | 0.23 | 20.41 | |
| 1,410.0 | 0.94 | 348.80 | 1,410.0 | -78.0 | 4.9 | -2.5 | 4.5 | 0.06 | 0.05 | 2.59 | |
| 1,510.0 | 0.89 | 351.19 | 1,510.0 | 22.0 | 6.5 | -2.8 | 6.1 | 0.06 | -0.05 | 2.39 | |
| 1,610.0 | 0.89 | 353.21 | 1,609.9 | 121.9 | 8.1 | -3.0 | 7.5 | 0.03 | 0.00 | 2.02 | |
| 1,710.0 | 0.93 | 351.20 | 1,709.9 | 221.9 | 9.6 | -3.2 | 9.1 | 0.05 | 0.04 | -2.01 | |
| 1,810.0 | 0.98 | 349.11 | 1,809.9 | 321.9 | 11.3 | -3.5 | 10.7 | 0.06 | 0.05 | -2.09 | |
| 1,910.0 | 1.04 | 348.03 | 1,909.9 | 421.9 | 13.0 | -3.8 | 12.3 | 0.06 | 0.06 | -1.08 | |
| 2,010.0 | 0.94 | 348.23 | 2,009.9 | 521.9 | 14.7 | -4.2 | 13.9 | 0.10 | -0.10 | 0.20 | |
| 2,110.0 | 0.83 | 351.10 | 2,109.9 | 621.9 | 16.2 | -4.5 | 15.4 | 0.12 | -0.11 | 2.87 | |
| 2,210.0 | 0.86 | 356.16 | 2,209.9 | 721.9 | 17.7 | -4.6 | 16.8 | 0.08 | 0.03 | 5.06 | |
| 2,310.0 | 0.84 | 3.13 | 2,309.9 | 821.9 | 19.2 | -4.6 | 18.3 | 0.11 | -0.02 | 6.97 | |
| 2,410.0 | 0.80 | 5.65 | 2,409.8 | 921.8 | 20.6 | -4.5 | 19.7 | 0.05 | -0.04 | 2.52 | |
| 2,510.0 | 0.65 | 0.27 | 2,509.8 | 1,021.8 | 21.8 | -4.5 | 21.0 | 0.16 | -0.15 | -5.38 | |
| 2,610.0 | 0.51 | 344.01 | 2,609.8 | 1,121.8 | 22.8 | -4.6 | 21.9 | 0.21 | -0.14 | -16.26 | |
| 2,710.0 | 0.42 | 343.67 | 2,709.8 | 1,221.8 | 23.6 | -4.8 | 22.7 | 0.09 | -0.09 | -0.34 | |
| 2,810.0 | 0.44 | 341.57 | 2,809.8 | 1,321.8 | 24.3 | -5.0 | 23.3 | 0.03 | 0.02 | -2.10 | |
| 2,910.0 | 0.37 | 338.67 | 2,909.8 | 1,421.8 | 25.0 | -5.3 | 24.0 | 0.07 | -0.07 | -2.90 | |
| 3,010.0 | 0.38 | 339.13 | 3,009.8 | 1,521.8 | 25.6 | -5.5 | 24.5 | 0.01 | 0.01 | 0.46 | |
| 3,110.0 | 0.45 | 330.30 | 3,109.8 | 1,621.8 | 26.3 | -5.8 | 25.1 | 0.09 | 0.07 | -8.83 | |
| 3,210.0 | 0.48 | 326.48 | 3,209.8 | 1,721.8 | 27.0 | -6.2 | 25.8 | 0.04 | 0.03 | -3.82 | |
| 3,310.0 | 0.47 | 325.10 | 3,309.8 | 1,821.8 | 27.6 | -6.7 | 26.4 | 0.02 | -0.01 | -1.38 | |
| 3,410.0 | 0.47 | 316.04 | 3,409.8 | 1,921.8 | 28.3 | -7.2 | 26.9 | 0.07 | 0.00 | -9.06 | |
| 3,510.0 | 0.49 | 316.40 | 3,509.8 | 2,021.8 | 28.9 | -7.8 | 27.4 | 0.02 | 0.02 | 0.36 | |
| 3,610.0 | 0.39 | 312.51 | 3,609.8 | 2,121.8 | 29.4 | -8.4 | 27.9 | 0.10 | -0.10 | -3.89 | |
| 3,710.0 | 0.40 | 308.69 | 3,709.8 | 2,221.8 | 29.9 | -8.9 | 28.3 | 0.03 | 0.01 | -3.82 | |
| 3,810.0 | 0.52 | 307.87 | 3,809.8 | 2,321.8 | 30.4 | -9.5 | 28.7 | 0.12 | 0.12 | -0.82 | |
| 3,910.0 | 0.50 | 307.50 | 3,909.8 | 2,421.8 | 30.9 | -10.2 | 29.1 | 0.02 | -0.02 | -0.37 | |
| 4,010.0 | 0.55 | 310.29 | 4,009.8 | 2,521.8 | 31.5 | -10.9 | 29.6 | 0.06 | 0.05 | -2.79 | |
| 4,110.0 | 0.60 | 315.02 | 4,109.8 | 2,621.8 | 32.2 | -11.7 | 30.1 | 0.07 | -0.05 | -4.78 | |
| 4,210.0 | 0.51 | 325.83 | 4,209.8 | 2,721.8 | 32.9 | -12.3 | 30.8 | 0.14 | -0.09 | 10.81 | |
| 4,310.0 | 0.37 | 341.04 | 4,309.8 | 2,821.8 | 33.6 | -12.6 | 31.4 | 0.18 | -0.14 | 15.21 | |
| 4,410.0 | 0.42 | 340.40 | 4,409.8 | 2,921.8 | 34.2 | -12.9 | 32.0 | 0.05 | 0.05 | 15.21 | |
| 4,510.0 | 0.22 | 320.87 | 4,509.8 | 3,021.8 | 34.7 | -13.1 | 32.5 | 0.23 | -0.20 | -19.53 | |
| 4,610.0 | 0.10 | 271.87 | 4,609.8 | 3,121.8 | 34.9 | -13.3 | 32.6 | 0.17 | -0.12 | 14.00 | |
| Gyro Tie Cnt=4623' MD/4623' TVD | | | | | | | | | | | |
| 4,623.0 | 0.07 | 291.03 | 4,622.8 | 3,134.8 | 34.9 | -13.3 | 32.6 | 0.11 | -0.08 | 147.38 | |
| 4,647.0 | 0.10 | 290.00 | 4,646.8 | 3,158.8 | 34.9 | -13.4 | 32.6 | 0.13 | 0.13 | -4.29 | |

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| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | Subsea Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|---------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 4,679.0 | 1.50 | 74.50 | 4,678.8 | 3,190.8 | 35.0 | -13.0 | 32.8 | 4.95 | 4.38 | 451.56 |
| 4,710.0 | 5.60 | 87.20 | 4,709.7 | 3,221.7 | 35.2 | -11.1 | 33.2 | 13.39 | 13.23 | 40.97 |
| 4,741.0 | 9.20 | 84.50 | 4,740.4 | 3,252.4 | 35.5 | -7.1 | 34.1 | 11.66 | 11.61 | -8.71 |
| 4,773.0 | 11.60 | 86.20 | 4,771.9 | 3,283.9 | 36.0 | -1.4 | 35.4 | 7.56 | 7.50 | 5.31 |
| 4,804.0 | 13.50 | 89.90 | 4,802.2 | 3,314.2 | 36.2 | 5.4 | 36.6 | 6.65 | 6.13 | 11.94 |
| 4,836.0 | 15.70 | 90.80 | 4,833.1 | 3,345.1 | 36.1 | 13.4 | 37.7 | 6.91 | 6.88 | 2.81 |
| 4,867.0 | 16.70 | 89.60 | 4,862.9 | 3,374.9 | 36.1 | 22.1 | 38.9 | 3.40 | 3.23 | -3.87 |
| 4,898.0 | 18.70 | 86.80 | 4,892.4 | 3,404.4 | 36.4 | 31.5 | 40.6 | 7.01 | 6.45 | -9.03 |
| 4,930.0 | 21.30 | 86.00 | 4,922.5 | 3,434.5 | 37.1 | 42.4 | 42.8 | 8.17 | 8.13 | -2.50 |
| 4,961.0 | 23.10 | 85.80 | 4,951.2 | 3,463.2 | 37.9 | 54.1 | 45.4 | 5.81 | 5.81 | -0.65 |
| 4,992.0 | 24.50 | 86.40 | 4,979.6 | 3,491.6 | 38.8 | 66.6 | 48.0 | 4.58 | 4.52 | 1.94 |
| 5,024.0 | 27.10 | 86.20 | 5,008.4 | 3,520.4 | 39.7 | 80.5 | 50.9 | 8.13 | 8.13 | -0.63 |
| 5,055.0 | 29.60 | 86.50 | 5,035.7 | 3,547.7 | 40.6 | 95.2 | 54.0 | 8.08 | 8.06 | 0.97 |
| 5,087.0 | 32.70 | 87.00 | 5,063.0 | 3,575.0 | 41.5 | 111.7 | 57.3 | 9.72 | 9.69 | 1.56 |
| 5,118.0 | 34.80 | 88.50 | 5,088.8 | 3,600.8 | 42.2 | 128.9 | 60.5 | 7.29 | 6.77 | 4.84 |
| 5,150.0 | 37.20 | 89.30 | 5,114.7 | 3,626.7 | 42.6 | 147.7 | 63.5 | 7.64 | 7.50 | 2.50 |
| 5,181.0 | 39.30 | 89.50 | 5,139.0 | 3,651.0 | 42.8 | 166.9 | 66.5 | 6.79 | 6.77 | 0.65 |
| 5,213.0 | 40.60 | 88.88 | 5,163.6 | 3,675.6 | 43.1 | 187.4 | 69.8 | 4.25 | 4.06 | -1.94 |
| 5,275.0 | 40.70 | 87.40 | 5,210.6 | 3,722.6 | 44.4 | 227.8 | 76.9 | 1.56 | 0.16 | -2.39 |
| 5,370.0 | 39.20 | 85.50 | 5,283.4 | 3,795.4 | 48.1 | 288.7 | 89.5 | 2.04 | -1.58 | -2.00 |
| 5,464.0 | 41.00 | 88.70 | 5,355.3 | 3,867.3 | 51.2 | 349.1 | 101.2 | 2.91 | 1.91 | 3.40 |
| 5,558.0 | 39.70 | 87.10 | 5,427.0 | 3,939.0 | 53.4 | 410.0 | 112.2 | 1.77 | -1.38 | -1.70 |
| 5,652.0 | 40.20 | 85.70 | 5,499.0 | 4,011.0 | 57.2 | 470.2 | 124.7 | 1.09 | 0.53 | -1.49 |
| 5,746.0 | 39.10 | 86.10 | 5,571.4 | 4,083.4 | 61.5 | 530.0 | 137.6 | 1.20 | -1.17 | 0.43 |
| 5,841.0 | 39.80 | 88.60 | 5,644.8 | 4,156.8 | 64.3 | 590.3 | 149.1 | 1.83 | 0.74 | 2.63 |
| 5,935.0 | 39.40 | 87.90 | 5,717.2 | 4,229.2 | 66.1 | 650.2 | 159.6 | 0.64 | -0.43 | -0.74 |
| 6,029.0 | 41.30 | 89.60 | 5,788.9 | 4,300.9 | 67.4 | 711.0 | 169.7 | 2.34 | 2.02 | 1.81 |
| 6,124.0 | 42.20 | 89.40 | 5,859.7 | 4,371.7 | 67.9 | 774.3 | 179.4 | 0.96 | 0.95 | -0.21 |
| 6,218.0 | 40.60 | 89.20 | 5,930.2 | 4,442.2 | 68.7 | 836.4 | 189.2 | 1.71 | -1.70 | -0.21 |
| 6,313.0 | 42.00 | 84.60 | 6,001.6 | 4,513.6 | 72.1 | 899.0 | 201.6 | 3.52 | 1.47 | -4.84 |
| 6,407.0 | 41.60 | 84.10 | 6,071.7 | 4,583.7 | 78.3 | 961.4 | 216.8 | 0.55 | -0.43 | -0.53 |
| 6,501.0 | 41.00 | 89.80 | 6,142.3 | 4,654.3 | 81.6 | 1,023.3 | 229.0 | 4.05 | -0.64 | 6.06 |
| 6,596.0 | 39.30 | 88.80 | 6,214.9 | 4,726.9 | 82.3 | 1,084.5 | 238.6 | 1.91 | -1.79 | 1.05 |
| 6,690.0 | 41.10 | 89.00 | 6,286.7 | 4,798.7 | 83.5 | 1,145.2 | 248.6 | 1.92 | 0.21 | 0.21 |
| 6,782.0 | 40.80 | 89.10 | 6,356.2 | 4,868.2 | 84.5 | 1,205.5 | 258.3 | 0.33 | -0.33 | 0.01 |
| 6,876.0 | 41.50 | 85.90 | 6,427.0 | 4,939.0 | 87.2 | 1,267.2 | 269.9 | 0.36 | 0.74 | -3.40 |
| 6,971.0 | 40.90 | 85.00 | 6,498.5 | 5,010.5 | 92.2 | 1,329.6 | 283.9 | 0.89 | -0.63 | 0.95 |
| 7,065.0 | 40.60 | 84.30 | 6,569.7 | 5,081.7 | 97.9 | 1,390.7 | 298.4 | 0.58 | -0.32 | -0.74 |
| 7,159.0 | 40.10 | 84.90 | 6,641.3 | 5,153.3 | 103.6 | 1,451.3 | 312.8 | 0.67 | -0.53 | 0.95 |
| 7,253.0 | 39.60 | 84.60 | 6,713.5 | 5,225.5 | 109.1 | 1,511.3 | 327.0 | 0.97 | -0.36 | -0.32 |
| 7,348.0 | 39.50 | 86.70 | 6,786.8 | 5,298.8 | 113.7 | 1,571.6 | 340.3 | 1.41 | -0.11 | 2.21 |
| 7,442.0 | 38.40 | 85.80 | 6,859.9 | 5,371.9 | 117.6 | 1,630.5 | 352.6 | 1.32 | -1.17 | -0.96 |

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| Site: | RSM18 | North Reference: | Grid |
| Well: | Well #515747 - Marcellus | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Main Wellbore | | |
| Design: | 515747 AS Drilled Surveys | | |

| Survey | | | | | | | | | | | |
|--------------------------|-----------------|-------------|-----------------------|---------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|--|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | Subsea Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | |
| 7,505.0 | 37.50 | 84.60 | 6,909.5 | 5,421.5 | 120.8 | 1,669.2 | 361.4 | 1.85 | -1.43 | -1.90 | |
| 7,536.0 | 37.70 | 80.10 | 6,934.1 | 5,446.1 | 123.3 | 1,687.9 | 366.6 | 8.88 | 0.65 | -14.52 | |
| 7,568.0 | 38.50 | 75.70 | 6,959.3 | 5,471.3 | 127.5 | 1,707.2 | 373.5 | 8.84 | 2.50 | -13.75 | |
| 7,599.0 | 39.10 | 72.30 | 6,983.5 | 5,495.5 | 132.8 | 1,725.8 | 381.5 | 7.14 | 1.94 | -10.97 | |
| 7,631.0 | 39.40 | 68.00 | 7,008.2 | 5,520.2 | 139.7 | 1,744.9 | 391.1 | 8.55 | 0.94 | -13.44 | |
| 7,662.0 | 40.30 | 64.10 | 7,032.1 | 5,544.1 | 147.8 | 1,763.0 | 401.7 | 8.57 | 2.90 | -12.58 | |
| 7,694.0 | 40.50 | 60.40 | 7,056.4 | 5,568.4 | 157.4 | 1,781.4 | 413.9 | 7.52 | 0.63 | -11.56 | |
| 7,725.0 | 41.00 | 56.80 | 7,079.9 | 5,591.9 | 168.0 | 1,798.6 | 426.8 | 7.75 | 1.61 | -11.61 | |
| 7,756.0 | 40.90 | 52.60 | 7,103.3 | 5,615.3 | 179.7 | 1,815.2 | 440.9 | 8.88 | -0.32 | -13.55 | |
| 7,788.0 | 40.30 | 49.10 | 7,127.6 | 5,639.6 | 192.9 | 1,831.4 | 456.2 | 7.36 | -1.88 | -10.94 | |
| 7,820.0 | 39.60 | 45.40 | 7,152.2 | 5,664.2 | 206.8 | 1,846.4 | 472.2 | 7.74 | -2.19 | -11.56 | |
| 7,851.0 | 39.80 | 42.50 | 7,176.0 | 5,688.0 | 221.0 | 1,860.2 | 488.3 | 6.01 | 0.65 | -9.35 | |
| 7,882.0 | 40.50 | 39.40 | 7,199.7 | 5,711.7 | 236.1 | 1,873.3 | 505.1 | 6.83 | 2.26 | -10.00 | |
| 7,914.0 | 41.80 | 36.40 | 7,223.8 | 5,735.8 | 252.8 | 1,886.2 | 523.4 | 7.39 | 4.06 | -9.38 | |
| 7,945.0 | 43.30 | 33.70 | 7,246.7 | 5,758.7 | 269.9 | 1,898.2 | 542.1 | 7.62 | 4.84 | -8.71 | |
| 7,977.0 | 44.30 | 31.30 | 7,269.7 | 5,781.7 | 288.6 | 1,910.1 | 562.3 | 6.06 | 3.13 | -7.50 | |
| 8,008.0 | 45.60 | 28.10 | 7,291.7 | 5,803.7 | 307.6 | 1,921.0 | 582.7 | 8.41 | 4.19 | -10.32 | |
| 8,040.0 | 47.80 | 25.10 | 7,313.6 | 5,825.6 | 328.4 | 1,931.4 | 604.9 | 9.68 | 6.88 | -9.38 | |
| 8,071.0 | 49.00 | 22.60 | 7,334.2 | 5,846.2 | 349.6 | 1,940.8 | 627.2 | 7.17 | 3.87 | -8.06 | |
| 8,102.0 | 50.30 | 19.70 | 7,354.3 | 5,866.3 | 371.7 | 1,949.3 | 650.2 | 8.27 | 4.19 | -9.35 | |
| 8,134.0 | 52.20 | 17.70 | 7,374.3 | 5,886.3 | 395.3 | 1,957.3 | 674.8 | 7.68 | 5.94 | -6.25 | |
| 8,165.0 | 53.90 | 15.80 | 7,393.0 | 5,905.0 | 419.0 | 1,964.4 | 699.3 | 7.35 | 5.48 | -6.13 | |
| 8,196.0 | 56.00 | 13.00 | 7,410.8 | 5,922.8 | 443.6 | 1,970.7 | 724.5 | 10.03 | 6.77 | -9.03 | |
| 8,228.0 | 58.10 | 10.10 | 7,428.2 | 5,940.2 | 469.9 | 1,976.1 | 751.3 | 10.04 | 6.56 | -9.06 | |
| 8,259.0 | 59.90 | 7.60 | 7,444.1 | 5,956.1 | 496.2 | 1,980.1 | 777.9 | 9.03 | 5.81 | -8.06 | |
| 8,291.0 | 61.20 | 5.50 | 7,459.9 | 5,971.9 | 523.9 | 1,983.3 | 805.7 | 7.01 | 4.06 | -6.56 | |
| 515749 LP 1041 VS | | | | | | | | | | | |
| 8,306.5 | 61.89 | 4.19 | 7,467.2 | 5,979.2 | 537.4 | 1,984.5 | 819.3 | 8.67 | 4.48 | -8.44 | |
| 8,322.0 | 62.60 | 2.90 | 7,474.5 | 5,986.5 | 551.1 | 1,985.3 | 833.0 | 8.67 | 4.56 | -8.33 | |
| 8,353.0 | 64.20 | 1.50 | 7,488.4 | 6,000.4 | 578.8 | 1,986.4 | 860.6 | 6.55 | 5.16 | -4.52 | |
| 8,385.0 | 66.20 | 359.70 | 7,501.8 | 6,013.8 | 607.9 | 1,986.7 | 889.3 | 8.07 | 6.25 | -5.63 | |
| 8,416.0 | 68.10 | 358.10 | 7,513.8 | 6,025.8 | 636.4 | 1,986.1 | 917.5 | 7.76 | 6.13 | -5.16 | |
| 8,448.0 | 69.70 | 356.60 | 7,525.3 | 6,037.3 | 666.2 | 1,984.8 | 946.8 | 6.64 | 5.00 | -4.69 | |
| 8,479.0 | 71.60 | 355.10 | 7,535.6 | 6,047.6 | 695.4 | 1,982.6 | 975.4 | 7.64 | 6.15 | -4.84 | |
| 8,510.0 | 73.20 | 353.10 | 7,545.0 | 6,057.0 | 724.8 | 1,979.6 | 1,004.0 | 8.03 | 5.16 | -4.45 | |
| 8,542.0 | 74.20 | 352.70 | 7,554.0 | 6,066.0 | 755.3 | 1,975.8 | 1,033.6 | 3.35 | 3.13 | -1.25 | |
| 8,573.0 | 76.30 | 351.50 | 7,561.9 | 6,073.9 | 785.0 | 1,971.7 | 1,062.4 | 7.74 | 6.88 | -3.87 | |
| 8,605.0 | 78.50 | 349.70 | 7,568.8 | 6,080.8 | 815.8 | 1,966.6 | 1,092.1 | 8.80 | 6.88 | -5.63 | |
| 8,636.0 | 80.70 | 348.50 | 7,574.4 | 6,086.4 | 845.7 | 1,960.8 | 1,120.9 | 8.05 | 7.10 | -4.77 | |
| 8,668.0 | 82.10 | 347.00 | 7,579.2 | 6,091.2 | 876.6 | 1,954.1 | 1,150.5 | 6.37 | 4.88 | -4.69 | |
| 8,699.0 | 83.60 | 345.70 | 7,583.1 | 6,095.1 | 906.5 | 1,946.8 | 1,179.1 | 8.88 | 4.84 | -4.19 | |
| 8,730.0 | 84.90 | 342.70 | 7,586.2 | 6,098.2 | 936.2 | 1,938.4 | 1,207.2 | 10.50 | 4.19 | -9.68 | |
| 515747 Plat LP | | | | | | | | | | | |

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Phoenix Technology Services

Survey Report



| | | | |
|------------------|---------------------------|-------------------------------------|---|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well Well #515747 - Marcellus - Slot 515747 |
| Company: | EQT PRODUCTION | TVD Reference: | KB 23' @ 1488.0usft |
| Project: | Taylor County, WV | MD Reference: | KB 23' @ 1488.0usft |
| Site: | RSM118 | North Reference: | Grid |
| Well: | Well #515747 - Marcellus | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Main Wellbore | | |
| Design: | 515747 AG Drilled Surveys | | |

| Survey | | | | | | | | | | | |
|--|-----------------|-------------|-----------------------|---------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|--|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | Subsea Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | |
| 8,750.7 | 86.06 | 341.21 | 7,587.8 | 6,099.8 | 955.8 | 1,932.0 | 1,225.7 | 9.11 | 5.62 | -7.19 | |
| 515747 Plat LP p3 | | | | | | | | | | | |
| 8,757.7 | 86.46 | 340.71 | 7,588.3 | 6,100.3 | 962.4 | 1,929.8 | 1,231.9 | 9.11 | 5.63 | -7.18 | |
| 8,762.0 | 86.70 | 340.40 | 7,588.5 | 6,100.5 | 966.5 | 1,928.3 | 1,235.7 | 9.11 | 5.63 | -7.17 | |
| LP/Deepest Point=8793' MD/7850' TVD | | | | | | | | | | | |
| 8,793.0 | 88.70 | 340.50 | 7,589.8 | 6,101.8 | 995.7 | 1,918.0 | 1,263.1 | 6.46 | 6.45 | 0.32 | |
| 8,856.0 | 92.40 | 340.40 | 7,589.2 | 6,101.2 | 1,055.0 | 1,896.9 | 1,318.7 | 5.88 | 5.87 | -0.16 | |
| 8,950.0 | 92.70 | 340.50 | 7,585.0 | 6,097.0 | 1,143.5 | 1,865.5 | 1,401.8 | 0.34 | 0.32 | 0.11 | |
| 9,045.0 | 92.40 | 339.50 | 7,580.8 | 6,092.8 | 1,232.7 | 1,833.0 | 1,485.3 | 1.10 | -0.32 | -1.05 | |
| 9,139.0 | 93.00 | 339.60 | 7,576.3 | 6,088.3 | 1,320.7 | 1,800.2 | 1,567.6 | 0.65 | 0.64 | 0.11 | |
| 9,233.0 | 91.30 | 339.70 | 7,572.8 | 6,084.8 | 1,408.7 | 1,767.5 | 1,650.0 | 1.81 | -1.81 | 0.11 | |
| 9,327.0 | 90.20 | 339.90 | 7,571.6 | 6,083.6 | 1,496.9 | 1,735.1 | 1,732.6 | 1.19 | -1.17 | 0.21 | |
| 9,422.0 | 89.10 | 339.80 | 7,572.2 | 6,084.2 | 1,586.1 | 1,702.4 | 1,816.1 | 1.16 | -1.16 | -0.11 | |
| 9,516.0 | 90.10 | 340.20 | 7,572.8 | 6,084.8 | 1,674.4 | 1,670.2 | 1,898.8 | 1.15 | 1.06 | 0.43 | |
| 9,611.0 | 91.20 | 339.80 | 7,571.7 | 6,083.7 | 1,763.7 | 1,637.7 | 1,982.4 | 1.23 | 1.16 | -0.42 | |
| 9,705.0 | 89.50 | 340.10 | 7,571.2 | 6,083.2 | 1,852.0 | 1,605.5 | 2,065.1 | 1.84 | -1.81 | 0.32 | |
| 9,799.0 | 90.40 | 340.10 | 7,571.2 | 6,083.2 | 1,940.4 | 1,573.5 | 2,147.9 | 0.96 | 0.96 | 0.00 | |
| 9,893.0 | 90.10 | 339.60 | 7,570.8 | 6,082.8 | 2,028.6 | 1,541.1 | 2,230.5 | 0.62 | -0.32 | -0.53 | |
| 9,988.0 | 93.00 | 339.10 | 7,568.3 | 6,080.3 | 2,117.5 | 1,507.6 | 2,313.6 | 3.10 | 3.05 | -0.53 | |
| 10,082.0 | 92.40 | 338.40 | 7,563.8 | 6,075.8 | 2,205.0 | 1,473.6 | 2,395.3 | 0.98 | -0.64 | -0.74 | |
| 10,176.0 | 93.10 | 339.00 | 7,559.3 | 6,071.3 | 2,292.5 | 1,439.5 | 2,476.9 | 0.98 | 0.74 | 0.64 | |
| 10,270.0 | 94.40 | 339.10 | 7,553.2 | 6,065.2 | 2,380.1 | 1,406.0 | 2,558.7 | 1.39 | 1.38 | 0.11 | |
| 10,365.0 | 93.60 | 340.50 | 7,546.5 | 6,058.5 | 2,469.0 | 1,373.2 | 2,641.9 | 1.69 | -0.84 | 1.47 | |
| 10,459.0 | 93.30 | 339.80 | 7,540.9 | 6,052.9 | 2,557.3 | 1,341.4 | 2,724.7 | 0.81 | -0.32 | -0.74 | |
| 10,554.0 | 92.50 | 339.20 | 7,536.1 | 6,048.1 | 2,646.1 | 1,308.2 | 2,807.8 | 1.05 | -0.84 | -0.63 | |
| 10,648.0 | 91.70 | 340.50 | 7,532.6 | 6,044.6 | 2,734.3 | 1,275.8 | 2,890.3 | 1.62 | -0.85 | 1.38 | |
| 10,742.0 | 91.00 | 340.50 | 7,530.4 | 6,042.4 | 2,822.9 | 1,244.4 | 2,973.4 | 0.74 | -0.74 | 0.00 | |
| 10,836.0 | 89.70 | 341.00 | 7,529.9 | 6,041.9 | 2,911.6 | 1,213.4 | 3,056.7 | 1.48 | -1.38 | 0.53 | |
| 10,931.0 | 90.00 | 340.50 | 7,530.1 | 6,042.1 | 3,001.3 | 1,182.1 | 3,141.0 | 0.61 | 0.32 | -0.53 | |
| 11,025.0 | 92.30 | 340.50 | 7,528.2 | 6,040.2 | 3,089.9 | 1,150.7 | 3,224.1 | 2.45 | 2.45 | 0.00 | |
| 11,119.0 | 92.20 | 340.00 | 7,524.5 | 6,036.5 | 3,178.3 | 1,119.0 | 3,306.9 | 0.54 | -0.11 | -0.53 | |
| 11,213.0 | 92.50 | 341.20 | 7,520.7 | 6,032.7 | 3,266.9 | 1,087.8 | 3,390.1 | 1.31 | 0.32 | 1.28 | |
| 11,308.0 | 92.00 | 339.70 | 7,516.9 | 6,028.9 | 3,356.4 | 1,056.0 | 3,474.0 | 1.66 | -0.53 | -1.58 | |
| 11,402.0 | 92.50 | 339.50 | 7,513.2 | 6,025.2 | 3,444.4 | 1,023.3 | 3,556.3 | 0.57 | 0.53 | -0.21 | |
| 11,496.0 | 91.90 | 340.10 | 7,509.6 | 6,021.6 | 3,532.5 | 990.9 | 3,638.8 | 0.90 | -0.64 | 0.64 | |
| 11,590.0 | 90.90 | 337.90 | 7,507.3 | 6,019.3 | 3,620.3 | 957.2 | 3,720.8 | 2.57 | -1.06 | -2.34 | |
| 11,685.0 | 92.90 | 339.40 | 7,504.2 | 6,016.2 | 3,708.7 | 922.6 | 3,803.2 | 2.63 | 2.11 | 1.58 | |
| 11,779.0 | 92.40 | 338.10 | 7,499.8 | 6,011.8 | 3,796.2 | 888.6 | 3,884.9 | 1.48 | -0.53 | -1.38 | |
| 11,874.0 | 92.30 | 338.40 | 7,496.0 | 6,008.0 | 3,884.4 | 853.4 | 3,967.0 | 0.33 | -0.11 | 0.32 | |
| 11,968.0 | 91.80 | 339.60 | 7,492.6 | 6,004.6 | 3,972.1 | 819.8 | 4,048.9 | 1.38 | -0.53 | 1.28 | |
| 12,063.0 | 92.40 | 339.80 | 7,489.1 | 6,001.1 | 4,061.1 | 786.8 | 4,132.3 | 0.67 | 0.63 | 0.21 | |
| 12,157.0 | 93.40 | 339.20 | 7,484.4 | 5,996.4 | 4,149.0 | 753.9 | 4,214.5 | 1.24 | 1.06 | -0.64 | |
| 12,251.0 | 92.00 | 338.10 | 7,479.9 | 5,991.9 | 4,236.5 | 719.8 | 4,296.1 | 1.89 | -1.49 | -1.17 | |



Phoenix Technology Services
Survey Report



| | | | |
|------------------|---------------------------|-------------------------------------|---|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well Well #515747 - Marcellus - Slot 515747 |
| Company: | EQT PRODUCTION | TVD Reference: | KB 23' @ 1488.0usft |
| Project: | Taylor County, WV | MD Reference: | KB 23' @ 1488.0usft |
| Site: | RSM118 | North Reference: | Grid |
| Well: | Well #515747 - Marcellus | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Main Wellbore | | |
| Design: | 515747 AS Drilled Surveys | | |

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | Subsea Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|----------------------------------|-----------------|-------------|-----------------------|---------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 12,346.0 | 93.00 | 339.00 | 7,475.8 | 5,987.8 | 4,324.8 | 685.1 | 4,378.4 | 1.42 | 1.05 | 0.95 |
| Final Survey=12422' MD/7472' TVD | | | | | | | | | | |
| 12,422.0 | 92.20 | 337.70 | 7,472.3 | 5,984.3 | 4,395.4 | 657.0 | 4,444.2 | 2.01 | -1.05 | -1.71 |
| 515747 Plat TD p3 | | | | | | | | | | |
| 12,475.0 | 92.20 | 337.70 | 7,470.3 | 5,982.3 | 4,444.4 | 636.9 | 4,489.8 | 0.00 | 0.00 | 0.00 |
| 515747 Plat TD | | | | | | | | | | |
| 12,478.7 | 92.20 | 337.70 | 7,470.2 | 5,982.2 | 4,447.8 | 635.5 | 4,493.0 | 0.00 | 0.00 | 0.00 |
| PROJ to Bit=12481' MD/7470' TVD | | | | | | | | | | |
| 12,481.0 | 92.20 | 337.70 | 7,470.1 | 5,982.1 | 4,449.9 | 634.7 | 4,494.9 | 0.00 | 0.00 | 0.00 |

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | Comment |
|-----------------------|-----------------------|-------------------|--------------|-------------------------------------|
| | | +N/-S (usft) | +E/-W (usft) | |
| 4,623.0 | 4,622.8 | 34.9 | -13.3 | Gyro Tie On=4623' MD/4623' TVD |
| 8,793.0 | 7,589.8 | 995.7 | 1,918.0 | LP/Deepest Point=8793' MD/7590' TVD |
| 12,422.0 | 7,472.3 | 4,395.4 | 657.0 | Final Survey=12422' MD/7472' TVD |
| 12,481.0 | 7,470.1 | 4,449.9 | 634.7 | PROJ to Bit=12481' MD/7470' TVD |

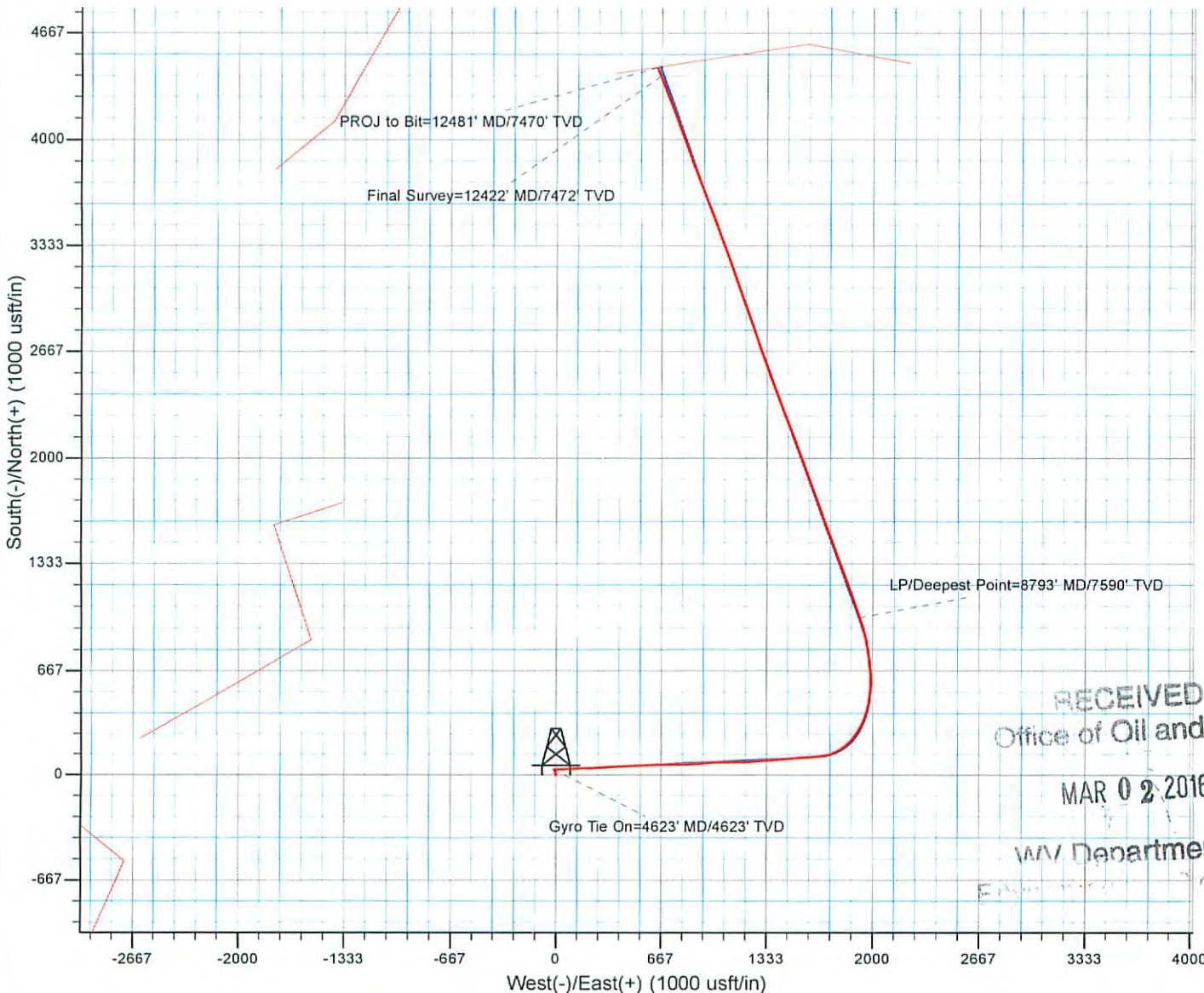
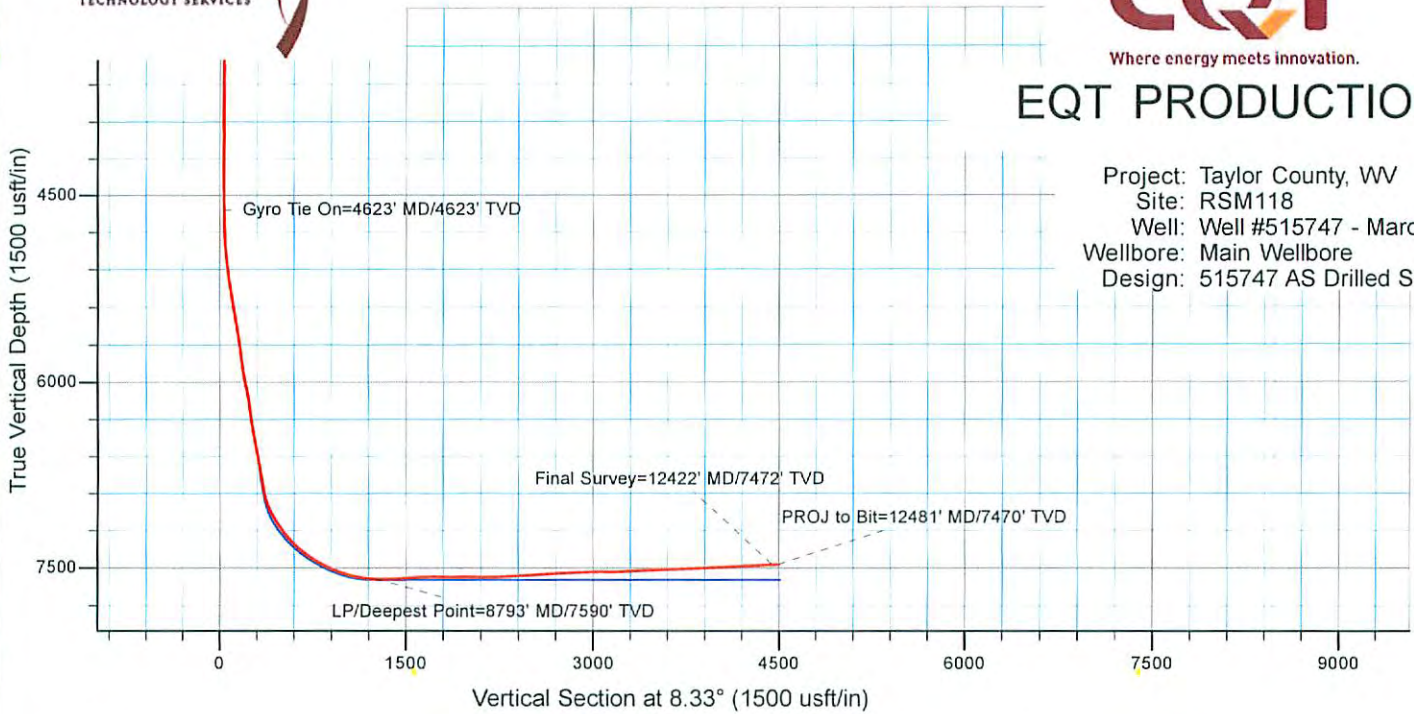
Checked By: _____ Approved By: _____ Date: _____

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Project: Taylor County, WV
 Site: RSM118
 Well: Well #515747 - Marcellus
 Wellbore: Main Wellbore
 Design: 515747 AS Drilled Surveys



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