

Extraction Oil & Gas

Weld County, CO (NAD83)

Sec 07-T01S-R68W Livingston Pad

Livingston S19-25-06N

Wellbore #1

Design: Wellbore #1

Standard Survey Report

02 October, 2019

Survey Report

| | | | |
|------------------|---------------------------------|-------------------------------------|----------------------------------|
| Company: | Extraction Oil & Gas | Local Co-ordinate Reference: | Well Livingston S19-25-06N |
| Project: | Weld County, CO (NAD83) | TVD Reference: | KB @ 5348.90usft (Patterson 901) |
| Site: | Sec 07-T01S-R68W Livingston Pad | MD Reference: | KB @ 5348.90usft (Patterson 901) |
| Well: | Livingston S19-25-06N | North Reference: | True |
| Wellbore: | Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Wellbore #1 | Database: | EDM 5000.15 Single User Db |

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|--------------------|---------------------------|----------------------|--------------|
| Project | Weld County, CO (NAD83), | | |
| Map System: | US State Plane 1983 | System Datum: | Ground Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Northern Zone | | |

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|-----------------------|----------|---------------------------------|--------------|---------|------------|-------------------|------|---|
| Site | | Sec 07-T01S-R68W Livingston Pad | | | | | | |
| Site Position: | | Northing: | 1,238,290.24 | usft | Latitude: | 39.986624 | | |
| From: | Lat/Long | Easting: | 3,125,301.58 | usft | Longitude: | -105.052826 | | |
| Position Uncertainty: | 0.00 | usft | Slot Radius: | 13-3/16 | " | Grid Convergence: | 0.29 | ° |

| Well | | Livingston S19-25-06N | | | | |
|----------------------|-------|-----------------------|---------------------|-------------------|---------------|---------------|
| Well Position | +N/-S | 0.00 usft | Northing: | 1,235,372.52 usft | Latitude: | 39.978563 |
| | +E/-W | 0.00 usft | Easting: | 3,128,966.35 usft | Longitude: | -105.039801 |
| Position Uncertainty | | 0.00 usft | Wellhead Elevation: | usft | Ground Level: | 5,319.90 usft |

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|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Wellbore #1 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2015 | 6/28/2019 | 8.10 | 66.42 | 51,868.58350942 |

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|--------------------------|--------------------------------|---------------------|---------------------|----------------------|------|
| Design | Wellbore #1 | | | | |
| 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 | 187.85 | |

| | | | | | |
|-----------------------|------------------|---------------------------------|------------------|--------------------|--|
| Survey Program | Date | 10/2/2019 | | | |
| From (usft) | To (usft) | Survey (Wellbore) | Tool Name | Description | |
| 143.00 | 1,581.00 | Surface Surveys (Wellbore #1) | MWD | MWD - Standard | |
| 1,581.00 | 21,011.00 | Atlas MWD Surveys (Wellbore #1) | MWD | MWD - Standard | |

| | | | | | | | | | | |
|------------------------------|------------------------|--------------------|------------------------------|---------------------|---------------------|--------------------------------|--------------------------------|-------------------------------|------------------------------|--|
| 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 | |
| 143.00 | 0.79 | 80.18 | 143.00 | 0.17 | 0.97 | -0.30 | 0.55 | 0.55 | 0.00 | |
| 230.00 | 0.31 | 98.11 | 229.99 | 0.24 | 1.80 | -0.48 | 0.58 | -0.55 | 20.61 | |
| 317.00 | 0.26 | 190.13 | 316.99 | 0.01 | 1.99 | -0.28 | 0.47 | -0.06 | 105.77 | |
| 405.00 | 0.62 | 168.95 | 404.99 | -0.65 | 2.05 | 0.37 | 0.44 | 0.41 | -24.07 | |
| 492.00 | 0.88 | 177.74 | 491.98 | -1.78 | 2.17 | 1.47 | 0.33 | 0.30 | 10.10 | |
| 579.00 | 0.83 | 270.90 | 578.97 | -2.44 | 1.56 | 2.21 | 1.43 | -0.06 | 107.08 | |
| 666.00 | 1.80 | 293.76 | 665.95 | -1.88 | -0.32 | 1.91 | 1.25 | 1.11 | 26.28 | |
| 754.00 | 2.72 | 295.42 | 753.88 | -0.43 | -3.47 | 0.90 | 1.05 | 1.05 | 1.89 | |
| 841.00 | 4.88 | 300.70 | 840.69 | 2.35 | -8.52 | -1.16 | 2.51 | 2.48 | 6.07 | |

Survey Report

| | | | |
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| Company: | Extraction Oil & Gas | Local Co-ordinate Reference: | Well Livingston S19-25-06N |
| Project: | Weld County, CO (NAD83) | TVD Reference: | KB @ 5348.90usft (Patterson 901) |
| Site: | Sec 07-T01S-R68W Livingston Pad | MD Reference: | KB @ 5348.90usft (Patterson 901) |
| Well: | Livingston S19-25-06N | North Reference: | True |
| Wellbore: | Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Wellbore #1 | Database: | EDM 5000.15 Single User Db |

| 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) |
| 928.00 | 6.46 | 292.44 | 927.26 | 6.11 | -16.22 | -3.83 | 2.04 | 1.82 | -9.49 |
| 1,016.00 | 8.57 | 291.38 | 1,014.50 | 10.39 | -26.90 | -6.61 | 2.40 | 2.40 | -1.20 |
| 1,103.00 | 9.54 | 291.38 | 1,100.41 | 15.38 | -39.65 | -9.82 | 1.11 | 1.11 | 0.00 |
| 1,190.00 | 10.94 | 292.79 | 1,186.02 | 21.20 | -53.98 | -13.63 | 1.63 | 1.61 | 1.62 |
| 1,277.00 | 12.92 | 290.06 | 1,271.14 | 27.74 | -70.73 | -17.82 | 2.37 | 2.28 | -3.14 |
| 1,365.00 | 14.94 | 291.12 | 1,356.55 | 35.20 | -90.55 | -22.50 | 2.31 | 2.30 | 1.20 |
| 1,452.00 | 16.83 | 292.26 | 1,440.22 | 44.01 | -112.67 | -28.21 | 2.20 | 2.17 | 1.31 |
| 1,539.00 | 17.49 | 293.40 | 1,523.35 | 53.98 | -136.33 | -34.85 | 0.85 | 0.76 | 1.31 |
| 1,581.00 | 17.31 | 292.96 | 1,563.43 | 58.92 | -147.87 | -38.17 | 0.53 | -0.43 | -1.05 |
| Tie into Surface Surveys | | | | | | | | | |
| 1,670.00 | 17.32 | 292.78 | 1,648.40 | 69.22 | -172.28 | -45.04 | 0.06 | 0.01 | -0.20 |
| First MWD Survey @ 1670' MD | | | | | | | | | |
| 1,765.00 | 17.32 | 293.13 | 1,739.09 | 80.25 | -198.32 | -52.41 | 0.11 | 0.00 | 0.37 |
| 1,860.00 | 17.15 | 291.45 | 1,829.82 | 90.92 | -224.36 | -59.43 | 0.55 | -0.18 | -1.77 |
| 1,956.00 | 16.84 | 291.41 | 1,921.63 | 101.17 | -250.48 | -66.02 | 0.32 | -0.32 | -0.04 |
| 2,051.00 | 16.22 | 290.84 | 2,012.70 | 110.92 | -275.69 | -72.23 | 0.67 | -0.65 | -0.60 |
| 2,146.00 | 15.38 | 288.81 | 2,104.11 | 119.70 | -300.02 | -77.60 | 1.06 | -0.88 | -2.14 |
| 2,241.00 | 16.26 | 292.51 | 2,195.52 | 128.85 | -324.23 | -83.37 | 1.41 | 0.93 | 3.89 |
| 2,335.00 | 16.04 | 292.91 | 2,285.81 | 138.95 | -348.35 | -90.07 | 0.26 | -0.23 | 0.43 |
| 2,429.00 | 18.29 | 294.63 | 2,375.62 | 150.15 | -373.72 | -97.70 | 2.45 | 2.39 | 1.83 |
| 2,524.00 | 17.45 | 293.35 | 2,466.03 | 162.01 | -400.35 | -105.81 | 0.98 | -0.88 | -1.35 |
| 2,619.00 | 15.78 | 292.47 | 2,557.06 | 172.59 | -425.37 | -112.88 | 1.78 | -1.76 | -0.93 |
| 2,715.00 | 18.03 | 293.92 | 2,648.91 | 183.61 | -451.02 | -120.29 | 2.38 | 2.34 | 1.51 |
| 2,809.00 | 17.19 | 292.42 | 2,738.50 | 194.80 | -477.15 | -127.81 | 1.02 | -0.89 | -1.60 |
| 2,903.00 | 15.25 | 288.77 | 2,828.76 | 204.08 | -501.70 | -133.65 | 2.33 | -2.06 | -3.88 |
| 2,999.00 | 17.99 | 289.38 | 2,920.74 | 213.07 | -527.65 | -139.01 | 2.86 | 2.85 | 0.64 |
| 3,094.00 | 17.15 | 289.47 | 3,011.31 | 222.60 | -554.69 | -144.76 | 0.88 | -0.88 | 0.09 |
| 3,189.00 | 15.47 | 288.19 | 3,102.48 | 231.23 | -579.94 | -149.86 | 1.81 | -1.77 | -1.35 |
| 3,284.00 | 17.01 | 290.18 | 3,193.69 | 239.98 | -605.02 | -155.10 | 1.72 | 1.62 | 2.09 |
| 3,380.00 | 16.17 | 290.22 | 3,285.69 | 249.44 | -630.74 | -160.96 | 0.88 | -0.88 | 0.04 |
| 3,475.00 | 17.99 | 296.83 | 3,376.51 | 260.64 | -656.25 | -168.57 | 2.80 | 1.92 | 6.96 |
| 3,570.00 | 16.39 | 296.87 | 3,467.26 | 273.32 | -681.30 | -177.71 | 1.68 | -1.68 | 0.04 |
| 3,666.00 | 19.31 | 294.32 | 3,558.63 | 285.98 | -707.85 | -186.62 | 3.15 | 3.04 | -2.66 |
| 3,761.00 | 18.12 | 294.67 | 3,648.61 | 298.61 | -735.59 | -195.35 | 1.26 | -1.25 | 0.37 |
| 3,857.00 | 16.04 | 293.52 | 3,740.37 | 310.14 | -761.32 | -203.25 | 2.19 | -2.17 | -1.20 |
| 3,952.00 | 18.34 | 292.38 | 3,831.12 | 321.07 | -787.18 | -210.55 | 2.45 | 2.42 | -1.20 |
| 4,046.00 | 16.57 | 292.55 | 3,920.79 | 331.84 | -813.23 | -217.66 | 1.88 | -1.88 | 0.18 |
| 4,142.00 | 14.49 | 292.69 | 4,013.28 | 341.72 | -836.96 | -224.21 | 2.17 | -2.17 | 0.15 |
| 4,237.00 | 17.68 | 293.22 | 4,104.54 | 352.00 | -861.19 | -231.08 | 3.36 | 3.36 | 0.56 |
| 4,332.00 | 16.70 | 291.37 | 4,195.30 | 362.66 | -887.16 | -238.10 | 1.18 | -1.03 | -1.95 |
| 4,428.00 | 14.80 | 291.54 | 4,287.69 | 372.19 | -911.41 | -244.23 | 1.98 | -1.98 | 0.18 |
| 4,523.00 | 18.25 | 291.89 | 4,378.75 | 382.19 | -936.51 | -250.71 | 3.63 | 3.63 | 0.37 |
| 4,618.00 | 17.37 | 292.86 | 4,469.20 | 393.25 | -963.38 | -257.99 | 0.98 | -0.93 | 1.02 |

Survey Report

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| Wellbore: | Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Wellbore #1 | Database: | EDM 5000.15 Single User Db |

| 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) |
| 4,714.00 | 15.02 | 291.67 | 4,561.39 | 403.41 | -988.14 | -264.67 | 2.47 | -2.45 | -1.24 |
| 4,809.00 | 18.12 | 291.45 | 4,652.43 | 413.36 | -1,013.34 | -271.09 | 3.26 | 3.26 | -0.23 |
| 4,905.00 | 17.28 | 290.22 | 4,743.88 | 423.75 | -1,040.61 | -277.65 | 0.96 | -0.88 | -1.28 |
| 5,000.00 | 16.17 | 288.94 | 4,834.86 | 432.92 | -1,066.37 | -283.22 | 1.23 | -1.17 | -1.35 |
| 5,096.00 | 17.99 | 296.21 | 4,926.64 | 443.80 | -1,092.32 | -290.46 | 2.92 | 1.90 | 7.57 |
| 5,191.00 | 17.32 | 296.74 | 5,017.16 | 456.65 | -1,118.11 | -299.66 | 0.73 | -0.71 | 0.56 |
| 5,286.00 | 15.86 | 296.92 | 5,108.21 | 468.89 | -1,142.31 | -308.48 | 1.54 | -1.54 | 0.19 |
| 5,381.00 | 17.63 | 294.89 | 5,199.17 | 480.82 | -1,166.94 | -316.94 | 1.96 | 1.86 | -2.14 |
| 5,477.00 | 16.84 | 294.32 | 5,290.86 | 492.67 | -1,192.80 | -325.14 | 0.84 | -0.82 | -0.59 |
| 5,572.00 | 14.89 | 294.63 | 5,382.24 | 503.42 | -1,216.44 | -332.57 | 2.05 | -2.05 | 0.33 |
| 5,690.00 | 16.88 | 288.10 | 5,495.74 | 515.06 | -1,246.51 | -340.00 | 2.26 | 1.69 | -5.53 |
| 5,786.00 | 14.72 | 287.75 | 5,588.10 | 523.11 | -1,271.37 | -344.57 | 2.25 | -2.25 | -0.36 |
| 5,881.00 | 17.41 | 294.27 | 5,679.39 | 532.64 | -1,295.83 | -350.67 | 3.41 | 2.83 | 6.86 |
| 5,977.00 | 20.81 | 292.51 | 5,770.09 | 545.07 | -1,324.69 | -359.05 | 3.59 | 3.54 | -1.83 |
| 6,073.00 | 19.05 | 288.77 | 5,860.34 | 556.64 | -1,355.28 | -366.33 | 2.26 | -1.83 | -3.90 |
| 6,168.00 | 16.26 | 283.83 | 5,950.86 | 564.81 | -1,382.88 | -370.66 | 3.33 | -2.94 | -5.20 |
| 6,263.00 | 17.32 | 284.40 | 6,041.81 | 571.51 | -1,409.49 | -373.66 | 1.13 | 1.12 | 0.60 |
| 6,359.00 | 21.56 | 287.09 | 6,132.32 | 580.25 | -1,440.21 | -378.12 | 4.51 | 4.42 | 2.80 |
| 6,453.00 | 19.80 | 286.03 | 6,220.26 | 589.72 | -1,472.02 | -383.16 | 1.91 | -1.87 | -1.13 |
| 6,549.00 | 19.97 | 291.89 | 6,310.55 | 600.33 | -1,502.86 | -389.45 | 2.08 | 0.18 | 6.10 |
| 6,644.00 | 19.05 | 295.15 | 6,400.09 | 612.97 | -1,531.95 | -398.00 | 1.50 | -0.97 | 3.43 |
| 6,739.00 | 16.84 | 293.30 | 6,490.47 | 625.00 | -1,558.63 | -406.27 | 2.40 | -2.33 | -1.95 |
| 6,834.00 | 18.21 | 304.10 | 6,581.08 | 638.77 | -1,583.56 | -416.51 | 3.71 | 1.44 | 11.37 |
| 6,929.00 | 16.35 | 304.85 | 6,671.79 | 654.73 | -1,606.83 | -429.15 | 1.97 | -1.96 | 0.79 |
| 7,025.00 | 13.83 | 304.41 | 6,764.47 | 668.94 | -1,627.39 | -440.41 | 2.63 | -2.63 | -0.46 |
| 7,120.00 | 11.71 | 302.95 | 6,857.11 | 680.60 | -1,644.85 | -449.58 | 2.26 | -2.23 | -1.54 |
| 7,215.00 | 7.07 | 307.32 | 6,950.82 | 689.39 | -1,657.59 | -456.55 | 4.94 | -4.88 | 4.60 |
| 7,310.00 | 2.08 | 338.21 | 7,045.49 | 694.54 | -1,662.89 | -460.93 | 5.68 | -5.25 | 32.52 |
| 7,406.00 | 0.93 | 239.28 | 7,141.47 | 695.76 | -1,664.20 | -461.96 | 2.51 | -1.20 | -103.05 |
| 7,501.00 | 0.84 | 243.24 | 7,236.46 | 695.06 | -1,665.49 | -461.08 | 0.11 | -0.09 | 4.17 |
| 7,597.00 | 0.40 | 221.39 | 7,332.45 | 694.49 | -1,666.34 | -460.40 | 0.51 | -0.46 | -22.76 |
| 7,692.00 | 10.30 | 171.50 | 7,426.93 | 685.82 | -1,665.30 | -451.95 | 10.58 | 10.42 | -52.52 |
| 7,788.00 | 21.96 | 173.57 | 7,518.99 | 659.40 | -1,662.01 | -426.23 | 12.16 | 12.15 | 2.16 |
| 7,883.00 | 28.86 | 170.93 | 7,604.75 | 619.06 | -1,656.40 | -387.04 | 7.36 | 7.26 | -2.78 |
| 7,902.00 | 29.91 | 173.57 | 7,621.31 | 609.82 | -1,655.15 | -378.06 | 8.77 | 5.53 | 13.88 |
| 30° Inclination @ 7902' MD | | | | | | | | | |
| 7,978.00 | 34.56 | 182.56 | 7,685.61 | 569.41 | -1,653.98 | -338.19 | 8.77 | 6.12 | 11.83 |
| 8,074.00 | 46.35 | 184.59 | 7,758.54 | 507.37 | -1,657.99 | -276.18 | 12.36 | 12.28 | 2.11 |
| 8,169.00 | 51.88 | 187.01 | 7,820.70 | 435.96 | -1,665.31 | -204.43 | 6.13 | 5.82 | 2.55 |
| 8,265.00 | 58.46 | 184.72 | 7,875.50 | 357.61 | -1,673.30 | -125.73 | 7.13 | 6.85 | -2.39 |
| 8,360.00 | 64.69 | 180.23 | 7,920.72 | 274.21 | -1,676.80 | -42.64 | 7.76 | 6.56 | -4.73 |
| 8,429.20 | 70.00 | 180.07 | 7,947.36 | 210.38 | -1,676.97 | 20.63 | 7.68 | 7.67 | -0.23 |
| 70° Inclination @ 8429.2' MD | | | | | | | | | |
| 8,455.00 | 71.98 | 180.01 | 7,955.77 | 185.98 | -1,676.98 | 44.79 | 7.68 | 7.67 | -0.22 |

Survey Report

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| Site: | Sec 07-T01S-R68W Livingston Pad | MD Reference: | KB @ 5348.90usft (Patterson 901) |
| Well: | Livingston S19-25-06N | North Reference: | True |
| Wellbore: | Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Wellbore #1 | Database: | EDM 5000.15 Single User Db |

| 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) | |
| 8,551.00 | 85.86 | 182.43 | 7,974.17 | 92.03 | -1,679.03 | 138.14 | 14.67 | 14.46 | 2.52 | |
| 8,646.00 | 89.48 | 181.02 | 7,978.04 | -2.83 | -1,681.89 | 232.50 | 4.09 | 3.81 | -1.48 | |
| 8,742.00 | 90.46 | 180.36 | 7,978.09 | -98.82 | -1,683.04 | 327.75 | 1.23 | 1.02 | -0.69 | |
| 8,846.00 | 91.60 | 179.83 | 7,976.22 | -202.80 | -1,683.22 | 430.78 | 1.21 | 1.10 | -0.51 | |
| 8,942.00 | 89.70 | 179.13 | 7,975.13 | -298.78 | -1,682.35 | 525.75 | 2.11 | -1.98 | -0.73 | |
| 9,036.00 | 89.17 | 179.08 | 7,976.06 | -392.77 | -1,680.88 | 618.65 | 0.57 | -0.56 | -0.05 | |
| 9,132.00 | 89.00 | 178.77 | 7,977.59 | -488.74 | -1,679.08 | 713.48 | 0.37 | -0.18 | -0.32 | |
| 9,227.00 | 88.64 | 179.74 | 7,979.54 | -583.71 | -1,677.84 | 807.39 | 1.09 | -0.38 | 1.02 | |
| 9,322.00 | 89.00 | 179.57 | 7,981.50 | -678.69 | -1,677.27 | 901.40 | 0.42 | 0.38 | -0.18 | |
| 9,417.00 | 89.40 | 178.24 | 7,982.83 | -773.66 | -1,675.45 | 995.23 | 1.46 | 0.42 | -1.40 | |
| 9,513.00 | 89.09 | 178.20 | 7,984.09 | -869.60 | -1,672.47 | 1,089.87 | 0.33 | -0.32 | -0.04 | |
| 9,608.00 | 88.91 | 178.29 | 7,985.75 | -964.54 | -1,669.56 | 1,183.53 | 0.21 | -0.19 | 0.09 | |
| 9,703.00 | 88.86 | 178.86 | 7,987.60 | -1,059.50 | -1,667.20 | 1,277.27 | 0.60 | -0.05 | 0.60 | |
| 9,797.00 | 88.91 | 178.91 | 7,989.43 | -1,153.46 | -1,665.37 | 1,370.10 | 0.08 | 0.05 | 0.05 | |
| 9,892.00 | 88.86 | 179.26 | 7,991.28 | -1,248.43 | -1,663.86 | 1,463.97 | 0.37 | -0.05 | 0.37 | |
| 9,988.00 | 89.17 | 178.77 | 7,992.93 | -1,344.40 | -1,662.21 | 1,558.82 | 0.60 | 0.32 | -0.51 | |
| 10,083.00 | 89.22 | 179.30 | 7,994.26 | -1,439.38 | -1,660.61 | 1,652.69 | 0.56 | 0.05 | 0.56 | |
| 10,178.00 | 89.70 | 178.86 | 7,995.16 | -1,534.36 | -1,659.08 | 1,746.57 | 0.69 | 0.51 | -0.46 | |
| 10,273.00 | 89.44 | 179.17 | 7,995.87 | -1,629.34 | -1,657.45 | 1,840.44 | 0.43 | -0.27 | 0.33 | |
| 10,369.00 | 90.15 | 179.04 | 7,996.21 | -1,725.33 | -1,655.95 | 1,935.32 | 0.75 | 0.74 | -0.14 | |
| 10,463.00 | 90.28 | 178.11 | 7,995.86 | -1,819.30 | -1,653.61 | 2,028.09 | 1.00 | 0.14 | -0.99 | |
| 10,559.00 | 90.01 | 178.82 | 7,995.62 | -1,915.27 | -1,651.04 | 2,122.81 | 0.79 | -0.28 | 0.74 | |
| 10,654.00 | 90.41 | 179.04 | 7,995.27 | -2,010.25 | -1,649.27 | 2,216.66 | 0.48 | 0.42 | 0.23 | |
| 10,749.00 | 90.59 | 178.64 | 7,994.44 | -2,105.22 | -1,647.34 | 2,310.48 | 0.46 | 0.19 | -0.42 | |
| 10,844.00 | 90.37 | 178.38 | 7,993.65 | -2,200.19 | -1,644.87 | 2,404.22 | 0.36 | -0.23 | -0.27 | |
| 10,939.00 | 90.19 | 178.99 | 7,993.18 | -2,295.16 | -1,642.69 | 2,498.01 | 0.67 | -0.19 | 0.64 | |
| 10,978.84 | 90.02 | 179.29 | 7,993.11 | -2,335.00 | -1,642.09 | 2,537.39 | 0.86 | -0.42 | 0.75 | |
| Cross @ 10978.84' MD | | | | | | | | | | |
| 11,034.00 | 89.79 | 179.70 | 7,993.20 | -2,390.16 | -1,641.61 | 2,591.96 | 0.86 | -0.42 | 0.75 | |
| 11,130.00 | 89.70 | 180.54 | 7,993.62 | -2,486.15 | -1,641.81 | 2,687.09 | 0.88 | -0.09 | 0.88 | |
| 11,225.00 | 89.84 | 180.89 | 7,994.01 | -2,581.14 | -1,642.99 | 2,781.35 | 0.40 | 0.15 | 0.37 | |
| 11,320.00 | 89.88 | 181.11 | 7,994.24 | -2,676.13 | -1,644.65 | 2,875.67 | 0.24 | 0.04 | 0.23 | |
| 11,416.00 | 90.10 | 181.24 | 7,994.25 | -2,772.11 | -1,646.62 | 2,971.02 | 0.27 | 0.23 | 0.14 | |
| 11,510.00 | 90.50 | 180.76 | 7,993.76 | -2,866.09 | -1,648.26 | 3,064.35 | 0.66 | 0.43 | -0.51 | |
| 11,606.00 | 90.54 | 179.61 | 7,992.89 | -2,962.09 | -1,648.57 | 3,159.48 | 1.20 | 0.04 | -1.20 | |
| 11,701.00 | 90.59 | 178.29 | 7,991.95 | -3,057.06 | -1,646.83 | 3,253.33 | 1.39 | 0.05 | -1.39 | |
| 11,796.00 | 90.32 | 178.64 | 7,991.20 | -3,152.03 | -1,644.28 | 3,347.06 | 0.47 | -0.28 | 0.37 | |
| 11,892.00 | 90.19 | 179.52 | 7,990.77 | -3,248.01 | -1,642.74 | 3,441.94 | 0.93 | -0.14 | 0.92 | |
| 11,987.00 | 90.19 | 179.57 | 7,990.46 | -3,343.01 | -1,641.99 | 3,535.94 | 0.05 | 0.00 | 0.05 | |
| 12,083.00 | 90.19 | 178.91 | 7,990.14 | -3,439.00 | -1,640.71 | 3,630.86 | 0.69 | 0.00 | -0.69 | |
| 12,178.00 | 90.15 | 178.24 | 7,989.86 | -3,533.97 | -1,638.35 | 3,724.61 | 0.71 | -0.04 | -0.71 | |
| 12,274.00 | 89.88 | 178.51 | 7,989.83 | -3,629.93 | -1,635.63 | 3,819.30 | 0.40 | -0.28 | 0.28 | |
| 12,369.00 | 90.15 | 178.24 | 7,989.81 | -3,724.89 | -1,632.94 | 3,913.01 | 0.40 | 0.28 | -0.28 | |

Survey Report

| | | | |
|------------------|---------------------------------|-------------------------------------|----------------------------------|
| Company: | Extraction Oil & Gas | Local Co-ordinate Reference: | Well Livingston S19-25-06N |
| Project: | Weld County, CO (NAD83) | TVD Reference: | KB @ 5348.90usft (Patterson 901) |
| Site: | Sec 07-T01S-R68W Livingston Pad | MD Reference: | KB @ 5348.90usft (Patterson 901) |
| Well: | Livingston S19-25-06N | North Reference: | True |
| Wellbore: | Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Wellbore #1 | Database: | EDM 5000.15 Single User Db |

| 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) |
| 12,465.00 | 90.28 | 178.24 | 7,989.45 | -3,820.85 | -1,629.99 | 4,007.66 | 0.14 | 0.14 | 0.00 |
| 12,560.00 | 90.23 | 177.63 | 7,989.02 | -3,915.78 | -1,626.56 | 4,101.24 | 0.64 | -0.05 | -0.64 |
| 12,656.00 | 90.28 | 177.80 | 7,988.60 | -4,011.71 | -1,622.74 | 4,195.74 | 0.18 | 0.05 | 0.18 |
| 12,752.00 | 89.97 | 178.20 | 7,988.39 | -4,107.65 | -1,619.39 | 4,290.32 | 0.53 | -0.32 | 0.42 |
| 12,847.00 | 90.15 | 177.98 | 7,988.29 | -4,202.59 | -1,616.22 | 4,383.95 | 0.30 | 0.19 | -0.23 |
| 12,942.00 | 90.19 | 177.98 | 7,988.01 | -4,297.54 | -1,612.87 | 4,477.54 | 0.04 | 0.04 | 0.00 |
| 13,037.00 | 90.28 | 177.80 | 7,987.62 | -4,392.47 | -1,609.37 | 4,571.11 | 0.21 | 0.09 | -0.19 |
| 13,133.00 | 90.15 | 178.73 | 7,987.26 | -4,488.42 | -1,606.47 | 4,665.77 | 0.98 | -0.14 | 0.97 |
| 13,228.00 | 89.79 | 180.54 | 7,987.31 | -4,583.42 | -1,605.86 | 4,759.79 | 1.94 | -0.38 | 1.91 |
| 13,324.00 | 90.50 | 180.23 | 7,987.06 | -4,679.41 | -1,606.51 | 4,854.98 | 0.81 | 0.74 | -0.32 |
| 13,420.00 | 90.15 | 180.45 | 7,986.52 | -4,775.41 | -1,607.08 | 4,950.15 | 0.43 | -0.36 | 0.23 |
| 13,515.00 | 90.19 | 180.40 | 7,986.24 | -4,870.41 | -1,607.78 | 5,044.35 | 0.07 | 0.04 | -0.05 |
| 13,610.00 | 90.28 | 180.36 | 7,985.85 | -4,965.41 | -1,608.41 | 5,138.55 | 0.10 | 0.09 | -0.04 |
| 13,706.00 | 90.28 | 180.45 | 7,985.38 | -5,061.40 | -1,609.09 | 5,233.74 | 0.09 | 0.00 | 0.09 |
| 13,801.00 | 90.19 | 180.40 | 7,984.99 | -5,156.40 | -1,609.79 | 5,327.94 | 0.11 | -0.09 | -0.05 |
| 13,897.00 | 90.15 | 180.54 | 7,984.70 | -5,252.39 | -1,610.58 | 5,423.14 | 0.15 | -0.04 | 0.15 |
| 13,992.00 | 90.10 | 180.54 | 7,984.50 | -5,347.39 | -1,611.48 | 5,517.37 | 0.05 | -0.05 | 0.00 |
| 14,086.00 | 90.37 | 180.01 | 7,984.11 | -5,441.39 | -1,611.93 | 5,610.55 | 0.63 | 0.29 | -0.56 |
| 14,181.00 | 90.37 | 179.61 | 7,983.50 | -5,536.39 | -1,611.61 | 5,704.61 | 0.42 | 0.00 | -0.42 |
| 14,277.00 | 90.01 | 180.18 | 7,983.18 | -5,632.38 | -1,611.44 | 5,799.69 | 0.70 | -0.38 | 0.59 |
| 14,372.00 | 90.10 | 179.70 | 7,983.09 | -5,727.38 | -1,611.34 | 5,893.78 | 0.51 | 0.09 | -0.51 |
| 14,466.00 | 90.23 | 180.18 | 7,982.82 | -5,821.38 | -1,611.24 | 5,986.89 | 0.53 | 0.14 | 0.51 |
| 14,562.00 | 90.28 | 180.32 | 7,982.39 | -5,917.38 | -1,611.66 | 6,082.05 | 0.15 | 0.05 | 0.15 |
| 14,657.00 | 89.62 | 180.27 | 7,982.47 | -6,012.38 | -1,612.15 | 6,176.22 | 0.70 | -0.69 | -0.05 |
| 14,752.00 | 89.88 | 180.10 | 7,982.89 | -6,107.38 | -1,612.45 | 6,270.37 | 0.33 | 0.27 | -0.18 |
| 14,847.00 | 89.66 | 180.49 | 7,983.27 | -6,202.38 | -1,612.94 | 6,364.54 | 0.47 | -0.23 | 0.41 |
| 14,942.00 | 89.53 | 180.67 | 7,983.94 | -6,297.37 | -1,613.91 | 6,458.78 | 0.23 | -0.14 | 0.19 |
| 15,037.00 | 89.97 | 180.32 | 7,984.35 | -6,392.36 | -1,614.73 | 6,553.00 | 0.59 | 0.46 | -0.37 |
| 15,132.00 | 89.84 | 179.43 | 7,984.51 | -6,487.36 | -1,614.52 | 6,647.08 | 0.95 | -0.14 | -0.94 |
| 15,227.00 | 89.26 | 179.92 | 7,985.26 | -6,582.36 | -1,613.98 | 6,741.11 | 0.80 | -0.61 | 0.52 |
| 15,322.00 | 89.26 | 179.79 | 7,986.49 | -6,677.35 | -1,613.74 | 6,835.18 | 0.14 | 0.00 | -0.14 |
| 15,417.00 | 89.13 | 180.32 | 7,987.82 | -6,772.34 | -1,613.83 | 6,929.29 | 0.57 | -0.14 | 0.56 |
| 15,512.00 | 89.17 | 179.74 | 7,989.23 | -6,867.33 | -1,613.88 | 7,023.39 | 0.61 | 0.04 | -0.61 |
| 15,607.00 | 89.13 | 179.79 | 7,990.64 | -6,962.32 | -1,613.49 | 7,117.44 | 0.07 | -0.04 | 0.05 |
| 15,703.00 | 89.17 | 179.43 | 7,992.06 | -7,058.30 | -1,612.84 | 7,212.44 | 0.38 | 0.04 | -0.38 |
| 15,798.00 | 89.04 | 180.14 | 7,993.55 | -7,153.29 | -1,612.48 | 7,306.49 | 0.76 | -0.14 | 0.75 |
| 15,893.00 | 88.73 | 180.05 | 7,995.40 | -7,248.27 | -1,612.64 | 7,400.60 | 0.34 | -0.33 | -0.09 |
| 15,988.00 | 88.60 | 180.49 | 7,997.61 | -7,343.25 | -1,613.09 | 7,494.74 | 0.48 | -0.14 | 0.46 |
| 16,083.00 | 88.86 | 181.24 | 7,999.71 | -7,438.21 | -1,614.52 | 7,589.02 | 0.84 | 0.27 | 0.79 |
| 16,178.00 | 89.13 | 181.86 | 8,001.38 | -7,533.16 | -1,617.09 | 7,683.43 | 0.71 | 0.28 | 0.65 |
| 16,246.87 | 89.26 | 181.05 | 8,002.35 | -7,602.00 | -1,618.84 | 7,751.86 | 1.19 | 0.19 | -1.17 |
| Cross @ 16246.87' MD | | | | | | | | | |
| 16,272.00 | 89.31 | 180.76 | 8,002.66 | -7,627.13 | -1,619.24 | 7,776.80 | 1.19 | 0.19 | -1.17 |
| 16,368.00 | 89.09 | 181.46 | 8,004.00 | -7,723.10 | -1,621.10 | 7,872.13 | 0.76 | -0.23 | 0.73 |

Survey Report

| | | | |
|------------------|---------------------------------|-------------------------------------|----------------------------------|
| Company: | Extraction Oil & Gas | Local Co-ordinate Reference: | Well Livingston S19-25-06N |
| Project: | Weld County, CO (NAD83) | TVD Reference: | KB @ 5348.90usft (Patterson 901) |
| Site: | Sec 07-T01S-R68W Livingston Pad | MD Reference: | KB @ 5348.90usft (Patterson 901) |
| Well: | Livingston S19-25-06N | North Reference: | True |
| Wellbore: | Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Wellbore #1 | Database: | EDM 5000.15 Single User Db |

| 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) |
| 16,464.00 | 88.86 | 181.28 | 8,005.72 | -7,819.06 | -1,623.39 | 7,967.50 | 0.30 | -0.24 | -0.19 |
| 16,558.00 | 88.86 | 181.11 | 8,007.59 | -7,913.02 | -1,625.35 | 8,060.85 | 0.18 | 0.00 | -0.18 |
| 16,654.00 | 88.60 | 180.80 | 8,009.72 | -8,008.98 | -1,626.95 | 8,156.13 | 0.42 | -0.27 | -0.32 |
| 16,749.00 | 88.73 | 180.93 | 8,011.93 | -8,103.94 | -1,628.39 | 8,250.40 | 0.19 | 0.14 | 0.14 |
| 16,845.00 | 88.60 | 181.73 | 8,014.17 | -8,199.89 | -1,630.61 | 8,345.76 | 0.84 | -0.14 | 0.83 |
| 16,940.00 | 88.78 | 181.11 | 8,016.34 | -8,294.84 | -1,632.97 | 8,440.13 | 0.68 | 0.19 | -0.65 |
| 17,035.00 | 88.56 | 180.93 | 8,018.54 | -8,389.79 | -1,634.66 | 8,534.43 | 0.30 | -0.23 | -0.19 |
| 17,131.00 | 88.86 | 180.84 | 8,020.70 | -8,485.76 | -1,636.14 | 8,629.70 | 0.33 | 0.31 | -0.09 |
| 17,226.00 | 88.78 | 180.58 | 8,022.66 | -8,580.73 | -1,637.32 | 8,723.94 | 0.29 | -0.08 | -0.27 |
| 17,320.00 | 88.91 | 180.45 | 8,024.56 | -8,674.71 | -1,638.16 | 8,817.16 | 0.20 | 0.14 | -0.14 |
| 17,414.00 | 89.00 | 180.18 | 8,026.27 | -8,768.69 | -1,638.68 | 8,910.33 | 0.30 | 0.10 | -0.29 |
| 17,510.00 | 88.56 | 181.02 | 8,028.31 | -8,864.66 | -1,639.68 | 9,005.54 | 0.99 | -0.46 | 0.88 |
| 17,605.00 | 88.78 | 180.05 | 8,030.52 | -8,959.63 | -1,640.57 | 9,099.74 | 1.05 | 0.23 | -1.02 |
| 17,700.00 | 88.86 | 180.05 | 8,032.47 | -9,054.61 | -1,640.65 | 9,193.84 | 0.08 | 0.08 | 0.00 |
| 17,796.00 | 88.82 | 180.40 | 8,034.42 | -9,150.59 | -1,641.03 | 9,288.97 | 0.37 | -0.04 | 0.36 |
| 17,891.00 | 89.17 | 179.39 | 8,036.08 | -9,245.57 | -1,640.86 | 9,383.04 | 1.13 | 0.37 | -1.06 |
| 17,987.00 | 88.69 | 179.96 | 8,037.88 | -9,341.56 | -1,640.31 | 9,478.05 | 0.78 | -0.50 | 0.59 |
| 18,082.00 | 88.56 | 180.84 | 8,040.16 | -9,436.53 | -1,640.97 | 9,572.22 | 0.94 | -0.14 | 0.93 |
| 18,178.00 | 88.33 | 181.77 | 8,042.76 | -9,532.46 | -1,643.16 | 9,667.56 | 1.00 | -0.24 | 0.97 |
| 18,273.00 | 89.00 | 181.68 | 8,044.98 | -9,627.39 | -1,646.02 | 9,761.99 | 0.71 | 0.71 | -0.09 |
| 18,368.00 | 89.40 | 181.37 | 8,046.30 | -9,722.35 | -1,648.55 | 9,856.40 | 0.53 | 0.42 | -0.33 |
| 18,464.00 | 89.13 | 181.73 | 8,047.53 | -9,818.31 | -1,651.14 | 9,951.81 | 0.47 | -0.28 | 0.38 |
| 18,560.00 | 88.95 | 181.68 | 8,049.14 | -9,914.25 | -1,654.00 | 10,047.25 | 0.19 | -0.19 | -0.05 |
| 18,655.00 | 89.17 | 182.21 | 8,050.70 | -10,009.18 | -1,657.22 | 10,141.73 | 0.60 | 0.23 | 0.56 |
| 18,751.00 | 89.31 | 180.98 | 8,051.97 | -10,105.14 | -1,659.90 | 10,237.15 | 1.29 | 0.15 | -1.28 |
| 18,846.00 | 89.09 | 181.68 | 8,053.30 | -10,200.10 | -1,662.10 | 10,331.52 | 0.77 | -0.23 | 0.74 |
| 18,941.00 | 89.31 | 180.98 | 8,054.63 | -10,295.07 | -1,664.30 | 10,425.90 | 0.77 | 0.23 | -0.74 |
| 19,037.00 | 88.86 | 181.46 | 8,056.16 | -10,391.03 | -1,666.35 | 10,521.25 | 0.69 | -0.47 | 0.50 |
| 19,133.00 | 89.09 | 181.55 | 8,057.88 | -10,486.98 | -1,668.87 | 10,616.64 | 0.26 | 0.24 | 0.09 |
| 19,228.00 | 89.00 | 182.03 | 8,059.46 | -10,581.92 | -1,671.84 | 10,711.10 | 0.51 | -0.09 | 0.51 |
| 19,324.00 | 89.22 | 181.37 | 8,060.95 | -10,677.87 | -1,674.68 | 10,806.53 | 0.72 | 0.23 | -0.69 |
| 19,419.00 | 89.13 | 180.89 | 8,062.32 | -10,772.84 | -1,676.56 | 10,900.87 | 0.51 | -0.09 | -0.51 |
| 19,514.00 | 89.22 | 180.76 | 8,063.69 | -10,867.82 | -1,677.92 | 10,995.15 | 0.17 | 0.09 | -0.14 |
| 19,609.00 | 89.26 | 181.68 | 8,064.95 | -10,962.79 | -1,679.95 | 11,089.50 | 0.97 | 0.04 | 0.97 |
| 19,703.00 | 90.46 | 180.14 | 8,065.18 | -11,056.77 | -1,681.44 | 11,182.81 | 2.08 | 1.28 | -1.64 |
| 19,798.00 | 89.84 | 181.02 | 8,064.93 | -11,151.77 | -1,682.40 | 11,277.04 | 1.13 | -0.65 | 0.93 |
| 19,893.00 | 89.97 | 180.76 | 8,065.09 | -11,246.75 | -1,683.88 | 11,371.34 | 0.31 | 0.14 | -0.27 |
| 19,987.00 | 90.23 | 181.42 | 8,064.92 | -11,340.74 | -1,685.67 | 11,464.69 | 0.75 | 0.28 | 0.70 |
| 20,082.00 | 90.59 | 181.73 | 8,064.24 | -11,435.70 | -1,688.28 | 11,559.12 | 0.50 | 0.38 | 0.33 |
| 20,176.00 | 90.68 | 180.98 | 8,063.20 | -11,529.67 | -1,690.50 | 11,652.51 | 0.80 | 0.10 | -0.80 |
| 20,272.00 | 90.46 | 181.06 | 8,062.25 | -11,625.64 | -1,692.21 | 11,747.82 | 0.24 | -0.23 | 0.08 |
| 20,367.00 | 90.28 | 181.90 | 8,061.63 | -11,720.61 | -1,694.66 | 11,842.23 | 0.90 | -0.19 | 0.88 |
| 20,461.00 | 90.54 | 181.59 | 8,060.96 | -11,814.56 | -1,697.52 | 11,935.70 | 0.43 | 0.28 | -0.33 |

Survey Report

| | | | |
|------------------|---------------------------------|-------------------------------------|----------------------------------|
| Company: | Extraction Oil & Gas | Local Co-ordinate Reference: | Well Livingston S19-25-06N |
| Project: | Weld County, CO (NAD83) | TVD Reference: | KB @ 5348.90usft (Patterson 901) |
| Site: | Sec 07-T01S-R68W Livingston Pad | MD Reference: | KB @ 5348.90usft (Patterson 901) |
| Well: | Livingston S19-25-06N | North Reference: | True |
| Wellbore: | Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Wellbore #1 | Database: | EDM 5000.15 Single User Db |

| 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) |
| 20,556.00 | 90.63 | 180.93 | 8,059.99 | -11,909.54 | -1,699.61 | 12,030.06 | 0.70 | 0.09 | -0.69 |
| 20,650.00 | 90.37 | 179.96 | 8,059.17 | -12,003.53 | -1,700.34 | 12,123.28 | 1.07 | -0.28 | -1.03 |
| 20,746.00 | 90.06 | 180.84 | 8,058.81 | -12,099.52 | -1,701.01 | 12,218.46 | 0.97 | -0.32 | 0.92 |
| 20,840.00 | 90.19 | 180.62 | 8,058.60 | -12,193.52 | -1,702.21 | 12,311.74 | 0.27 | 0.14 | -0.23 |
| 20,934.00 | 90.10 | 180.89 | 8,058.37 | -12,287.51 | -1,703.45 | 12,405.02 | 0.30 | -0.10 | 0.29 |
| Last MWD Survey @ 20934' MD | | | | | | | | | |
| 21,011.00 | 90.10 | 180.89 | 8,058.23 | -12,364.50 | -1,704.65 | 12,481.45 | 0.00 | 0.00 | 0.00 |
| Projection to TD @ 21011' MD 512' FSL/ 1968' FWL | | | | | | | | | |

| Design Targets | | | | | | | | | |
|--|---------------|--------------|------------|--------------|--------------|-----------------|----------------|-----------|-------------|
| Target Name | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
| 30° Inclination @ 7902.0 MD - hit/miss target - Shape - Point | 0.00 | 0.00 | 7,621.30 | 609.81 | -1,655.12 | 1,235,973.73 | 3,127,308.09 | 39.980237 | -105.045707 |
| - actual wellpath misses target center by 0.03usft at 7902.00usft MD (7621.31 TVD, 609.82 N, -1655.15 E) | | | | | | | | | |
| 70° Inclination @ 8429.2 MD - actual wellpath hits target center - Point | 0.00 | 0.00 | 7,947.36 | 210.38 | -1,676.97 | 1,235,574.19 | 3,127,288.31 | 39.979140 | -105.045785 |
| Cross @ 10978.84' MD - actual wellpath hits target center - Point | 0.00 | 0.00 | 7,993.11 | -2,335.00 | -1,642.09 | 1,233,029.03 | 3,127,336.40 | 39.972153 | -105.045660 |
| Cross @ 16246.87' MD - actual wellpath hits target center - Point | 0.00 | 0.00 | 8,002.35 | -7,602.00 | -1,618.84 | 1,227,762.22 | 3,127,386.98 | 39.957694 | -105.045576 |

| Design Annotations | | | | | |
|-----------------------|-----------------------|-------------------|--------------|--|--|
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | | |
| | | +N/-S (usft) | +E/-W (usft) | Comment | |
| 1,581.00 | 1,563.43 | 58.92 | -147.87 | Tie into Surface Surveys | |
| 1,670.00 | 1,648.40 | 69.22 | -172.28 | First MWD Survey @ 1670' MD | |
| 7,902.00 | 7,621.31 | 609.82 | -1,655.15 | 30° Inclination @ 7902' MD | |
| 8,429.20 | 7,947.36 | 210.38 | -1,676.97 | 70° Inclination @ 8429.2' MD | |
| 10,978.84 | 7,993.11 | -2,335.00 | -1,642.09 | Cross @ 10978.84' MD | |
| 16,246.87 | 8,002.35 | -7,602.00 | -1,618.84 | Cross @ 16246.87' MD | |
| 20,934.00 | 8,058.37 | -12,287.51 | -1,703.45 | Last MWD Survey @ 20934' MD | |
| 21,011.00 | 8,058.23 | -12,364.50 | -1,704.65 | Projection to TD @ 21011' MD 512' FSL/ 1968' FWL | |

Checked By: _____ Approved By: _____ Date: _____