# DRILTECH MWD SURVEY REPORT

Company: EOG Resources, Inc.
Well: Ross Draw 8 Fed #7H
Location: Eddy County, NM
Rig: H&P 415

Job Number: 2015-073-EODT-NM
Vertical Section Plane: 179.00
WELL API #: 30-015-42264
Tie Into: Surface

Calculation Method: Minimum Curvature

| Survey # | Survey Tool Type | Survey Depth (ft) | Inclination (deg) | Azimuth (deg) | Course Length (ft) | True Vertical Depth (ft) | Vertical Section (ft) | Coordinates N/S (ft) | | Coordinates E/W (ft) | | Closure Distance (ft) | Closure Angle (deg) | Dogleg Severity (d/100') | Build Rate (d/100') |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tie In | Surface | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 |
| 1 | MWD | 190.00 | 0.50 | 263.80 | 190 | 190.00 | 0.08 | 0.09 | S | 0.82 | W | 0.83 | 263.80 | 0.26 | 0.26 |
| 2 | MWD | 376.00 | 0.90 | 275.80 | 186 | 375.98 | -0.02 | 0.03 | S | 3.08 | W | 3.08 | 269.45 | 0.23 | 0.22 |
| 3 | MWD | 405.00 | 0.90 | 280.30 | 29 | 404.98 | -0.10 | 0.03 | N | 3.53 | W | 3.54 | 270.55 | 0.24 | 0.00 |
| 4 | MWD | 497.00 | 0.40 | 269.60 | 92 | 496.97 | -0.24 | 0.16 | N | 4.57 | W | 4.57 | 272.02 | 0.56 | -0.54 |
| 5 | MWD | 590.00 | 0.40 | 314.30 | 93 | 589.97 | -0.47 | 0.39 | N | 5.12 | W | 5.14 | 274.30 | 0.33 | 0.00 |
| 6 | MWD | 776.00 | 0.50 | 0.70 | 186 | 775.97 | -1.75 | 1.65 | N | 5.58 | W | 5.82 | 286.48 | 0.20 | 0.05 |
| 7 | MWD | 965.00 | 1.40 | 63.60 | 189 | 964.94 | -3.56 | 3.50 | N | 3.50 | W | 4.95 | 315.01 | 0.66 | 0.48 |
| 8 | MWD | 1059.00 | 1.60 | 96.50 | 94 | 1058.91 | -3.88 | 3.86 | N | 1.17 | W | 4.04 | 343.18 | 0.93 | 0.21 |
| 9 | MWD | 1154.00 | 1.80 | 121.20 | 95 | 1153.87 | -2.92 | 2.94 | N | 1.43 | E | 3.27 | 25.87 | 0.79 | 0.21 |
| 10 | MWD | 1248.00 | 0.90 | 121.40 | 94 | 1247.84 | -1.73 | 1.79 | N | 3.32 | E | 3.77 | 61.64 | 0.96 | -0.96 |
| 11 | MWD | 1342.00 | 1.20 | 112.50 | 94 | 1341.83 | -0.95 | 1.03 | N | 4.86 | E | 4.97 | 78.03 | 0.36 | 0.32 |
| 12 | MWD | 1425.00 | 1.60 | 113.50 | 83 | 1424.80 | -0.12 | 0.24 | N | 6.72 | E | 6.73 | 87.99 | 0.48 | 0.48 |
| 13 | MWD | 1540.00 | 1.60 | 129.70 | 115 | 1539.76 | 1.59 | 1.43 | S | 9.43 | E | 9.54 | 98.62 | 0.39 | 0.00 |
| 14 | MWD | 1634.00 | 1.40 | 156.40 | 94 | 1633.73 | 3.51 | 3.32 | S | 10.90 | E | 11.40 | 106.94 | 0.77 | -0.21 |
| 15 | MWD | 1728.00 | 1.60 | 182.20 | 94 | 1727.70 | 5.88 | 5.68 | S | 11.31 | E | 12.66 | 116.68 | 0.74 | 0.21 |
| 16 | MWD | 1823.00 | 0.40 | 30.40 | 95 | 1822.69 | 6.92 | 6.72 | S | 11.43 | E | 13.26 | 120.47 | 2.06 | -1.26 |
| 17 | MWD | 2012.00 | 1.10 | 21.20 | 189 | 2011.67 | 4.68 | 4.46 | S | 12.42 | E | 13.20 | 109.77 | 0.37 | 0.37 |
| 18 | MWD | 2107.00 | 2.60 | 6.50 | 95 | 2106.62 | 1.70 | 1.47 | S | 12.99 | E | 13.07 | 96.47 | 1.64 | 1.58 |
| 19 | MWD | 2201.00 | 3.30 | 4.90 | 94 | 2200.49 | -3.11 | 3.34 | N | 13.46 | E | 13.87 | 76.06 | 0.75 | 0.74 |
| 20 | MWD | 2296.00 | 3.30 | 359.60 | 95 | 2295.33 | -8.56 | 8.80 | N | 13.68 | E | 16.26 | 57.24 | 0.32 | 0.00 |
| 21 | MWD | 2390.00 | 3.30 | 1.00 | 94 | 2389.18 | -13.97 | 14.21 | N | 13.71 | E | 19.74 | 43.96 | 0.09 | 0.00 |
| 22 | MWD | 2485.00 | 3.30 | 1.90 | 95 | 2484.02 | -19.43 | 19.68 | N | 13.84 | E | 24.06 | 35.13 | 0.05 | 0.00 |
| 23 | MWD | 2579.00 | 3.20 | 4.00 | 94 | 2577.87 | -24.75 | 25.00 | N | 14.12 | E | 28.71 | 29.45 | 0.17 | -0.11 |
| 24 | MWD | 2673.00 | 3.20 | 357.70 | 94 | 2671.72 | -29.99 | 30.24 | N | 14.20 | E | 33.40 | 25.15 | 0.37 | 0.00 |
| 25 | MWD | 2768.00 | 3.00 | 359.40 | 95 | 2766.58 | -35.12 | 35.37 | N | 14.06 | E | 38.07 | 21.68 | 0.23 | -0.21 |
| 26 | MWD | 2863.00 | 3.20 | 356.80 | 95 | 2861.45 | -40.26 | 40.51 | N | 13.89 | E | 42.82 | 18.93 | 0.26 | 0.21 |
| 27 | MWD | 2957.00 | 3.20 | 355.60 | 94 | 2955.30 | -45.50 | 45.74 | N | 13.54 | E | 47.70 | 16.49 | 0.07 | 0.00 |
| 28 | MWD | 3051.00 | 3.00 | 356.40 | 94 | 3049.16 | -50.57 | 50.81 | N | 13.19 | E | 52.49 | 14.55 | 0.22 | -0.21 |
| 29 | MWD | 3146.00 | 3.30 | 350.80 | 95 | 3144.02 | -55.76 | 55.99 | N | 12.59 | E | 57.39 | 12.67 | 0.45 | 0.32 |
| 30 | MWD | 3240.00 | 3.30 | 346.20 | 94 | 3237.86 | -61.08 | 61.29 | N | 11.51 | E | 62.36 | 10.64 | 0.28 | 0.00 |
| 31 | MWD | 3335.00 | 3.20 | 348.90 | 95 | 3332.71 | -66.36 | 66.55 | N | 10.35 | E | 67.35 | 8.84 | 0.19 | -0.11 |
| 32 | MWD | 3429.00 | 2.30 | 359.40 | 94 | 3426.60 | -70.83 | 71.01 | N | 9.83 | E | 71.69 | 7.88 | 1.09 | -0.96 |
| 33 | MWD | 3524.00 | 2.30 | 355.00 | 95 | 3521.52 | -74.63 | 74.81 | N | 9.64 | E | 75.43 | 7.34 | 0.19 | 0.00 |
| 34 | MWD | 3618.00 | 1.80 | 3.80 | 94 | 3615.46 | -77.99 | 78.17 | N | 9.57 | E | 78.75 | 6.98 | 0.63 | -0.53 |
| 35 | MWD | 3712.00 | 1.60 | 21.10 | 94 | 3709.42 | -80.67 | 80.86 | N | 10.14 | E | 81.50 | 7.15 | 0.58 | -0.21 |
| 36 | MWD | 3817.00 | 1.10 | 51.80 | 105 | 3814.39 | -82.64 | 82.85 | N | 11.46 | E | 83.64 | 7.88 | 0.82 | -0.48 |
| 37 | MWD | 3983.00 | 1.20 | 19.30 | 166 | 3980.36 | -85.24 | 85.48 | N | 13.29 | E | 86.51 | 8.84 | 0.39 | 0.06 |

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Company: EOG Resources Inc | Job Number: 2015-079-EODT-NM
Well: Ross Draw 8 Fed #7H | Vertical Section Plane: 179.00
Location: Eddy County, NM | WELL API #: 30-015-42264
Rig: H&P 415 | Tie Into: Surface
Calculation Method: Minimum Curvature

| Survey # | Survey Tool Type | Survey Depth (ft) | Inclination (deg) | Azimuth (deg) | Course Length (ft) | True Vertical Depth (ft) | Vertical Section (ft) | Coordinates N/S (ft) | | Coordinates E/W (ft) | | Closure Distance (ft) | Closure Angle (deg) | Dogleg Severity (d/100') | Build Rate (d/100') |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 38 | MWD | 4077.00 | 1.90 | 355.20 | 94 | 4074.33 | -87.71 | 87.96 | N | 13.49 | E | 88.99 | 8.72 | 1.00 | 0.74 |
| 39 | MWD | 4172.00 | 2.80 | 354.70 | 95 | 4169.25 | -91.60 | 91.84 | N | 13.14 | E | 92.78 | 8.14 | 0.95 | 0.95 |
| 40 | MWD | 4266.00 | 2.50 | 358.60 | 94 | 4263.15 | -95.94 | 96.18 | N | 12.88 | E | 97.04 | 7.63 | 0.37 | -0.32 |
| 41 | MWD | 4361.00 | 3.70 | 3.30 | 95 | 4358.01 | -101.07 | 101.31 | N | 13.00 | E | 102.14 | 7.31 | 1.29 | 1.26 |
| 42 | MWD | 4455.00 | 4.40 | 8.20 | 94 | 4451.77 | -107.65 | 107.91 | N | 13.69 | E | 108.77 | 7.23 | 0.83 | 0.74 |
| 43 | MWD | 4550.00 | 4.20 | 7.50 | 95 | 4546.50 | -114.69 | 114.96 | N | 14.67 | E | 115.89 | 7.27 | 0.22 | -0.21 |
| 44 | MWD | 4739.00 | 4.60 | 11.40 | 189 | 4734.95 | -128.94 | 129.25 | N | 17.07 | E | 130.38 | 7.52 | 0.26 | 0.21 |
| 45 | MWD | 4833.00 | 4.60 | 9.80 | 94 | 4828.64 | -136.32 | 136.66 | N | 18.45 | E | 137.90 | 7.69 | 0.14 | 0.00 |
| 46 | MWD | 4927.00 | 4.80 | 11.90 | 94 | 4922.33 | -143.86 | 144.23 | N | 19.91 | E | 145.59 | 7.86 | 0.28 | 0.21 |
| 47 | MWD | 5021.00 | 4.80 | 8.00 | 94 | 5016.00 | -151.57 | 151.97 | N | 21.26 | E | 153.45 | 7.97 | 0.35 | 0.00 |
| 48 | MWD | 5116.00 | 4.60 | 9.30 | 95 | 5110.68 | -159.25 | 159.66 | N | 22.43 | E | 161.23 | 8.00 | 0.24 | -0.21 |
| 49 | MWD | 5210.00 | 4.90 | 8.20 | 94 | 5204.36 | -166.92 | 167.36 | N | 23.62 | E | 169.01 | 8.03 | 0.33 | 0.32 |
| 50 | MWD | 5304.00 | 5.10 | 5.80 | 94 | 5298.00 | -175.03 | 175.49 | N | 24.61 | E | 177.20 | 7.98 | 0.31 | 0.21 |
| 51 | MWD | 5399.00 | 5.10 | 8.00 | 95 | 5392.62 | -183.39 | 183.87 | N | 25.62 | E | 185.65 | 7.93 | 0.21 | 0.00 |
| 52 | MWD | 5493.00 | 5.30 | 10.20 | 94 | 5486.24 | -191.78 | 192.28 | N | 26.97 | E | 194.16 | 7.99 | 0.30 | 0.21 |
| 53 | MWD | 5588.00 | 5.30 | 10.50 | 95 | 5580.83 | -200.38 | 200.91 | N | 28.55 | E | 202.93 | 8.09 | 0.03 | 0.00 |
| 54 | MWD | 5682.00 | 4.90 | 8.60 | 94 | 5674.46 | -208.60 | 209.15 | N | 29.94 | E | 211.28 | 8.15 | 0.46 | -0.43 |
| 55 | MWD | 5777.00 | 4.80 | 5.80 | 95 | 5769.12 | -216.54 | 217.12 | N | 30.95 | E | 219.31 | 8.11 | 0.27 | -0.11 |
| 56 | MWD | 5871.00 | 4.80 | 9.50 | 94 | 5862.79 | -224.32 | 224.91 | N | 32.00 | E | 227.17 | 8.10 | 0.33 | 0.00 |
| 57 | MWD | 5965.00 | 4.60 | 11.20 | 94 | 5956.47 | -231.87 | 232.48 | N | 33.38 | E | 234.87 | 8.17 | 0.26 | -0.21 |
| 58 | MWD | 6060.00 | 3.50 | 14.50 | 95 | 6051.23 | -238.38 | 239.03 | N | 34.84 | E | 241.56 | 8.29 | 1.18 | -1.16 |
| 59 | MWD | 6154.00 | 3.30 | 17.90 | 94 | 6145.07 | -243.71 | 244.38 | N | 36.39 | E | 247.08 | 8.47 | 0.30 | -0.21 |
| 60 | MWD | 6248.00 | 2.50 | 9.60 | 94 | 6238.95 | -248.28 | 248.98 | N | 37.57 | E | 251.80 | 8.58 | 0.96 | -0.85 |
| 61 | MWD | 6342.00 | 2.30 | 3.10 | 94 | 6332.87 | -252.18 | 252.88 | N | 38.01 | E | 255.72 | 8.55 | 0.36 | -0.21 |
| 62 | MWD | 6437.00 | 2.30 | 354.30 | 95 | 6427.79 | -255.98 | 256.68 | N | 37.93 | E | 259.47 | 8.40 | 0.37 | 0.00 |
| 63 | MWD | 6531.00 | 2.10 | 359.60 | 94 | 6521.72 | -259.58 | 260.28 | N | 37.73 | E | 263.00 | 8.25 | 0.30 | -0.21 |
| 64 | MWD | 6625.00 | 1.90 | 6.60 | 94 | 6615.66 | -262.85 | 263.55 | N | 37.89 | E | 266.26 | 8.18 | 0.34 | -0.21 |
| 65 | MWD | 6720.00 | 1.80 | 6.80 | 95 | 6710.61 | -265.89 | 266.60 | N | 38.25 | E | 269.33 | 8.17 | 0.11 | -0.11 |
| 66 | MWD | 6814.00 | 1.20 | 14.20 | 94 | 6804.58 | -268.30 | 269.02 | N | 38.67 | E | 271.78 | 8.18 | 0.67 | -0.64 |
| 67 | MWD | 6909.00 | 0.90 | 28.10 | 95 | 6899.56 | -269.91 | 270.64 | N | 39.26 | E | 273.47 | 8.25 | 0.41 | -0.32 |
| 68 | MWD | 7003.00 | 0.50 | 5.90 | 94 | 6993.56 | -270.97 | 271.70 | N | 39.65 | E | 274.58 | 8.30 | 0.51 | -0.43 |
| 69 | MWD | 7098.00 | 0.70 | 24.60 | 95 | 7088.55 | -271.90 | 272.64 | N | 39.94 | E | 275.55 | 8.33 | 0.29 | 0.21 |
| 70 | MWD | 7192.00 | 0.40 | 56.40 | 94 | 7182.55 | -272.60 | 273.34 | N | 40.45 | E | 276.32 | 8.42 | 0.44 | -0.32 |
| 71 | MWD | 7287.00 | 0.40 | 21.90 | 95 | 7277.55 | -273.08 | 273.83 | N | 40.85 | E | 276.86 | 8.48 | 0.25 | 0.00 |
| 72 | MWD | 7381.00 | 0.20 | 72.70 | 94 | 7371.54 | -273.43 | 274.19 | N | 41.13 | E | 277.26 | 8.53 | 0.33 | -0.21 |
| 73 | MWD | 7476.00 | 0.20 | 125.60 | 95 | 7466.54 | -273.38 | 274.14 | N | 41.42 | E | 277.25 | 8.59 | 0.19 | 0.00 |
| 74 | MWD | 7571.00 | 0.70 | 143.40 | 95 | 7561.54 | -272.81 | 273.58 | N | 41.90 | E | 276.77 | 8.71 | 0.54 | 0.53 |
| 75 | MWD | 7665.00 | 0.70 | 156.20 | 94 | 7655.53 | -271.81 | 272.59 | N | 42.48 | E | 275.88 | 8.86 | 0.17 | 0.00 |
| 76 | MWD | 7765.00 | 5.80 | 176.60 | 100 | 7755.34 | -266.19 | 266.99 | N | 43.02 | E | 270.43 | 9.15 | 5.15 | 5.10 |
| 77 | MWD | 7812.00 | 11.80 | 181.00 | 47 | 7801.77 | -259.01 | 259.80 | N | 43.08 | E | 263.35 | 9.41 | 12.84 | 12.77 |
| 78 | MWD | 7860.00 | 16.40 | 181.00 | 48 | 7848.31 | -247.33 | 248.11 | N | 42.88 | E | 251.79 | 9.80 | 9.58 | 9.58 |

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Location: Eddy County, NM
Rig: H&P 415

Job Number: 2015-079-EODT-NM
Vertical Section Plane: 179.00
WELL API #: 30-015-42264
Tie Into: Surface

Calculation Method: Minimum Curvature

| Survey # | Survey Tool Type | Survey Depth (ft) | Inclination (deg) | Azimuth (deg) | Course Length (ft) | True Vertical Depth (ft) | Vertical Section (ft) | Coordinates N/S (ft) | | Coordinates E/W (ft) | | Closure Distance (ft) | Closure Angle (deg) | Dogleg Severity (d/100') | Build Rate (d/100') |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 79 | MWD | 7907.00 | 20.10 | 180.80 | 47 | 7892.94 | -232.62 | 233.40 | N | 42.65 | E | 237.26 | 10.35 | 7.87 | 7.87 |
| 80 | MWD | 7955.00 | 23.90 | 178.60 | 48 | 7937.43 | -214.65 | 215.43 | N | 42.77 | E | 219.63 | 11.23 | 8.10 | 7.92 |
| 81 | MWD | 8002.00 | 29.00 | 177.80 | 47 | 7979.50 | -193.72 | 194.51 | N | 43.44 | E | 199.30 | 12.59 | 10.88 | 10.85 |
| 82 | MWD | 8049.00 | 34.70 | 178.20 | 47 | 8019.41 | -168.93 | 169.73 | N | 44.30 | E | 175.42 | 14.63 | 12.14 | 12.13 |
| 83 | MWD | 8096.00 | 39.20 | 178.90 | 47 | 8056.96 | -140.69 | 141.50 | N | 45.00 | E | 148.48 | 17.64 | 9.62 | 9.57 |
| 84 | MWD | 8144.00 | 42.10 | 179.10 | 48 | 8093.37 | -109.42 | 110.24 | N | 45.55 | E | 119.28 | 22.45 | 6.05 | 6.04 |
| 85 | MWD | 8191.00 | 46.30 | 177.10 | 47 | 8127.06 | -76.67 | 77.50 | N | 46.66 | E | 90.46 | 31.05 | 9.41 | 8.94 |
| 86 | MWD | 8238.00 | 48.60 | 182.60 | 47 | 8158.86 | -42.08 | 42.90 | N | 46.72 | E | 63.43 | 47.44 | 9.91 | 4.89 |
| 87 | MWD | 8285.00 | 50.00 | 181.90 | 47 | 8189.50 | -6.51 | 7.30 | N | 45.32 | E | 45.90 | 80.85 | 3.19 | 2.98 |
| 88 | MWD | 8333.00 | 53.10 | 181.70 | 48 | 8219.35 | 31.04 | 30.27 | S | 44.14 | E | 53.52 | 124.44 | 6.47 | 6.46 |
| 89 | MWD | 8380.00 | 58.40 | 181.00 | 47 | 8245.79 | 69.84 | 69.09 | S | 43.23 | E | 81.51 | 147.97 | 11.34 | 11.28 |
| 90 | MWD | 8427.00 | 62.50 | 179.10 | 47 | 8268.97 | 110.71 | 109.97 | S | 43.21 | E | 118.15 | 158.55 | 9.41 | 8.72 |
| 91 | MWD | 8475.00 | 66.30 | 178.00 | 48 | 8289.70 | 153.98 | 153.23 | S | 44.31 | E | 159.51 | 163.87 | 8.18 | 7.92 |
| 92 | MWD | 8521.00 | 70.60 | 176.80 | 46 | 8306.60 | 196.74 | 195.96 | S | 46.26 | E | 201.35 | 166.72 | 9.66 | 9.35 |
| 93 | MWD | 8568.00 | 73.00 | 176.30 | 47 | 8321.28 | 241.35 | 240.53 | S | 48.95 | E | 245.46 | 168.50 | 5.21 | 5.11 |
| 94 | MWD | 8616.00 | 77.20 | 175.90 | 48 | 8333.61 | 287.66 | 286.80 | S | 52.10 | E | 291.49 | 169.70 | 8.79 | 8.75 |
| 95 | MWD | 8663.00 | 79.00 | 175.70 | 47 | 8343.31 | 333.58 | 332.66 | S | 55.47 | E | 337.25 | 170.53 | 3.85 | 3.83 |
| 96 | MWD | 8710.00 | 84.60 | 177.50 | 47 | 8350.01 | 380.04 | 379.08 | S | 58.22 | E | 383.52 | 171.27 | 12.50 | 11.91 |
| 97 | MWD | 8746.00 | 90.10 | 180.00 | 36 | 8351.67 | 415.98 | 415.01 | S | 59.01 | E | 419.19 | 171.91 | 16.78 | 15.28 |
| 98 | MWD | 8840.00 | 93.40 | 178.40 | 94 | 8348.80 | 509.92 | 508.95 | S | 60.32 | E | 512.51 | 173.24 | 3.90 | 3.51 |
| 99 | MWD | 8935.00 | 92.20 | 176.80 | 95 | 8344.16 | 604.77 | 603.74 | S | 64.29 | E | 607.16 | 173.92 | 2.10 | -1.26 |
| 100 | MWD | 9029.00 | 86.20 | 179.10 | 94 | 8345.47 | 698.70 | 697.63 | S | 67.65 | E | 700.90 | 174.46 | 6.84 | -6.38 |
| 101 | MWD | 9123.00 | 87.80 | 178.60 | 94 | 8350.39 | 792.57 | 791.47 | S | 69.54 | E | 794.52 | 174.98 | 1.78 | 1.70 |
| 102 | MWD | 9218.00 | 89.20 | 177.30 | 95 | 8352.88 | 887.51 | 886.38 | S | 72.93 | E | 889.37 | 175.30 | 2.01 | 1.47 |
| 103 | MWD | 9312.00 | 89.90 | 178.20 | 94 | 8353.62 | 981.49 | 980.30 | S | 76.62 | E | 983.29 | 175.53 | 1.21 | 0.74 |
| 104 | MWD | 9407.00 | 89.90 | 178.70 | 95 | 8353.78 | 1076.48 | 1075.26 | S | 79.19 | E | 1078.18 | 175.79 | 0.53 | 0.00 |
| 105 | MWD | 9501.00 | 91.30 | 177.50 | 94 | 8352.80 | 1170.46 | 1169.20 | S | 82.31 | E | 1172.10 | 175.97 | 1.96 | 1.49 |
| 106 | MWD | 9595.00 | 91.70 | 177.30 | 94 | 8350.34 | 1264.39 | 1263.07 | S | 86.57 | E | 1266.04 | 176.08 | 0.48 | 0.43 |
| 107 | MWD | 9689.00 | 89.90 | 178.70 | 94 | 8349.03 | 1358.36 | 1357.00 | S | 89.85 | E | 1359.97 | 176.21 | 2.43 | -1.91 |
| 108 | MWD | 9784.00 | 89.90 | 179.30 | 95 | 8349.19 | 1453.36 | 1451.99 | S | 91.51 | E | 1454.87 | 176.39 | 0.63 | 0.00 |
| 109 | MWD | 9878.00 | 90.30 | 180.80 | 94 | 8349.03 | 1547.34 | 1545.98 | S | 91.43 | E | 1548.68 | 176.62 | 1.65 | 0.43 |
| 110 | MWD | 9973.00 | 90.80 | 181.40 | 95 | 8348.11 | 1642.27 | 1640.96 | S | 89.60 | E | 1643.41 | 176.87 | 0.82 | 0.53 |
| 111 | MWD | 10067.00 | 91.70 | 181.00 | 94 | 8346.06 | 1736.18 | 1734.92 | S | 87.64 | E | 1737.13 | 177.11 | 1.05 | 0.96 |
| 112 | MWD | 10161.00 | 90.10 | 180.80 | 94 | 8344.59 | 1830.12 | 1828.89 | S | 86.16 | E | 1830.92 | 177.30 | 1.72 | -1.70 |
| 113 | MWD | 10256.00 | 89.20 | 180.10 | 95 | 8345.17 | 1925.08 | 1923.88 | S | 85.41 | E | 1925.78 | 177.46 | 1.20 | -0.95 |
| 114 | MWD | 10350.00 | 90.80 | 179.80 | 94 | 8345.17 | 2019.07 | 2017.88 | S | 85.50 | E | 2019.69 | 177.57 | 1.73 | 1.70 |
| 115 | MWD | 10445.00 | 85.50 | 175.90 | 95 | 8348.24 | 2113.95 | 2112.71 | S | 89.05 | E | 2114.59 | 177.59 | 6.92 | -5.58 |
| 116 | MWD | 10539.00 | 85.30 | 176.40 | 94 | 8355.77 | 2207.53 | 2206.20 | S | 95.34 | E | 2208.26 | 177.53 | 0.57 | -0.21 |
| 117 | MWD | 10570.00 | 87.30 | 177.50 | 31 | 8357.77 | 2238.44 | 2237.09 | S | 96.99 | E | 2239.19 | 177.52 | 7.36 | 6.45 |
| 118 | MWD | 10601.00 | 88.70 | 179.60 | 31 | 8358.66 | 2269.42 | 2268.06 | S | 97.77 | E | 2270.16 | 177.53 | 8.14 | 4.52 |
| 119 | MWD | 10633.00 | 89.70 | 179.80 | 32 | 8359.30 | 2301.41 | 2300.05 | S | 97.94 | E | 2302.14 | 177.56 | 3.19 | 3.13 |

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Well: Ross Draw 8 Fed #7H Vertical Section Plane: 179.00
Location: Eddy County, NM WELL API #: 30-015-42264
Rig: H&P 415 Tie Into: Surface
Calculation Method Minimum Curvature

| Survey # | Survey Tool Type | Survey Depth (ft) | Inclination (deg) | Azimuth (deg) | Course Length (ft) | True Vertical Depth (ft) | Vertical Section (ft) | Coordinates N/S (ft) | Coordinates E/W (ft) | Closure Distance (ft) | Closure Angle (deg) | Dogleg Severity (d/100') | Build Rate (d/100') |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 120 | MWD | 10664.00 | 90.60 | 180.30 | 31 | 8359.22 | 2332.41 | 2331.05 S | 97.91 E | 2333.11 | 177.59 | 3.32 | 2.90 |
| 121 | MWD | 10696.00 | 91.50 | 179.80 | 32 | 8358.64 | 2364.39 | 2363.05 S | 97.88 E | 2365.07 | 177.63 | 3.22 | 2.81 |
| 122 | MWD | 10727.00 | 92.90 | 180.80 | 31 | 8357.45 | 2395.36 | 2394.02 S | 97.72 E | 2396.02 | 177.66 | 5.55 | 4.52 |
| 123 | MWD | 10821.00 | 92.90 | 181.40 | 94 | 8352.69 | 2489.18 | 2487.88 S | 95.92 E | 2489.73 | 177.79 | 0.64 | 0.00 |
| 124 | MWD | 10916.00 | 92.60 | 181.20 | 95 | 8348.13 | 2583.99 | 2582.75 S | 93.77 E | 2584.45 | 177.92 | 0.38 | -0.32 |
| 125 | MWD | 11010.00 | 90.40 | 180.80 | 94 | 8345.67 | 2677.90 | 2676.70 S | 92.13 E | 2678.28 | 178.03 | 2.38 | -2.34 |
| 126 | MWD | 11105.00 | 89.20 | 182.90 | 95 | 8346.00 | 2772.77 | 2771.64 S | 89.06 E | 2773.07 | 178.16 | 2.55 | -1.26 |
| 127 | MWD | 11199.00 | 89.20 | 181.70 | 94 | 8347.32 | 2866.61 | 2865.55 S | 85.29 E | 2866.82 | 178.30 | 1.28 | 0.00 |
| 128 | MWD | 11294.00 | 90.60 | 181.20 | 95 | 8347.48 | 2961.52 | 2960.52 S | 82.89 E | 2961.68 | 178.40 | 1.56 | 1.47 |
| 129 | MWD | 11388.00 | 91.80 | 180.90 | 94 | 8345.51 | 3055.43 | 3054.48 S | 81.16 E | 3055.56 | 178.48 | 1.32 | 1.28 |
| 130 | MWD | 11482.00 | 91.50 | 180.70 | 94 | 8342.81 | 3149.35 | 3148.43 S | 79.85 E | 3149.45 | 178.55 | 0.38 | -0.32 |
| 131 | MWD | 11577.00 | 92.40 | 180.00 | 95 | 8339.57 | 3244.26 | 3243.38 S | 79.27 E | 3244.34 | 178.60 | 1.20 | 0.95 |
| 132 | MWD | 11671.00 | 91.50 | 180.00 | 94 | 8336.38 | 3338.20 | 3337.32 S | 79.27 E | 3338.26 | 178.64 | 0.96 | -0.96 |
| 133 | MWD | 11766.00 | 90.10 | 179.10 | 95 | 8335.05 | 3433.18 | 3432.30 S | 80.02 E | 3433.24 | 178.66 | 1.75 | -1.47 |
| 134 | MWD | 11860.00 | 88.20 | 177.30 | 94 | 8336.44 | 3527.15 | 3526.24 S | 82.97 E | 3527.22 | 178.65 | 2.78 | -2.02 |
| 135 | MWD | 11955.00 | 89.90 | 180.70 | 95 | 8338.02 | 3622.12 | 3621.19 S | 84.63 E | 3622.18 | 178.66 | 4.00 | 1.79 |
| 136 | MWD | 12049.00 | 90.10 | 180.00 | 94 | 8338.02 | 3716.09 | 3715.19 S | 84.05 E | 3716.14 | 178.70 | 0.77 | 0.21 |
| 137 | MWD | 12144.00 | 90.40 | 180.50 | 95 | 8337.60 | 3811.07 | 3810.19 S | 83.64 E | 3811.11 | 178.74 | 0.61 | 0.32 |
| 138 | MWD | 12238.00 | 91.80 | 180.70 | 94 | 8335.80 | 3905.01 | 3904.17 S | 82.65 E | 3905.04 | 178.79 | 1.50 | 1.49 |
| 139 | MWD | 12332.00 | 90.30 | 179.60 | 94 | 8334.08 | 3998.97 | 3998.14 S | 82.41 E | 3998.99 | 178.82 | 1.98 | -1.60 |
| 140 | MWD | 12427.00 | 90.60 | 178.20 | 95 | 8333.33 | 4093.97 | 4093.12 S | 84.23 E | 4093.99 | 178.82 | 1.51 | 0.32 |
| 141 | MWD | 12521.00 | 91.50 | 177.80 | 94 | 8331.61 | 4187.94 | 4187.05 S | 87.51 E | 4187.96 | 178.80 | 1.05 | 0.96 |
| 142 | MWD | 12616.00 | 90.10 | 177.50 | 95 | 8330.28 | 4282.90 | 4281.96 S | 91.41 E | 4282.93 | 178.78 | 1.51 | -1.47 |
| 143 | MWD | 12711.00 | 89.00 | 177.50 | 95 | 8331.03 | 4377.86 | 4376.86 S | 95.55 E | 4377.90 | 178.75 | 1.16 | -1.16 |
| 144 | MWD | 12805.00 | 89.20 | 178.90 | 94 | 8332.50 | 4471.84 | 4470.80 S | 98.50 E | 4471.89 | 178.74 | 1.50 | 0.21 |
| 145 | MWD | 12900.00 | 91.10 | 178.90 | 95 | 8332.26 | 4566.83 | 4565.78 S | 100.33 E | 4566.88 | 178.74 | 2.00 | 2.00 |
| 146 | PROJ | 13100.00 | 91.10 | 178.90 | 200 | 8328.42 | 4766.80 | 4765.71 S | 104.16 E | 4766.84 | 178.75 | 0.00 | 0.00 |