



K.P. KAUFFMAN

SURVEY REPORT

MUSICK MCCLINTOCK #2

4/23/2018



The **Ultimate Partner** In Wellbore Placement

CUSTOMER K.P. Kauffman
PROJECT Musick McClintock #2
FIELD Wattenberg

SDI JOB NO. OP.009660
SDI DISTRICT Casper
SDI KIT/UNIT

SITE INFORMATION

Site Name Musick McClintock #2
Lat/Long 40.270829° N, 104.688941° W
Northing
Easting

Section 32
Township 4N
Range 65W

MAP INFORMATION

North Reference True North
Grid Correction
System US State Plane 1983
Datum North American Datum 1983 (GRS 1980)
Map Zone Colorado North: 0501



WELL INFORMATION

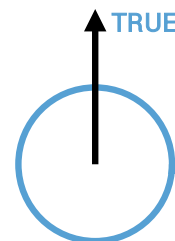
Lat/Long 40.270829° N, 104.688941° W
Northing
Easting
UWI 05-123-09555 UWBI 05-123-09555

DEPTH AND ELEVATION REFERENCE

Ground Level 4911 ft above Mean Sea Level
Reference Datum Ground
Reference Height 0 ft above G.L.
Reference Elevation 4911 ft

VERTICAL SECTION REFERENCE

+N/-S 0 ft
+E/-W 0 ft
Proposal Direction 1.24°
Calculation Method Minimum Curvature



LOCAL GRAVITY REFERENCE INFORMATION

Local Gravity 999.062 mG [computed]

WELL NOTES

Keeper gyro wireline survey in 4.5" casing. All depths reference Ground

OPERATORS

P Holbrook

SDI Operator Name (Printed)

SIGNATURE

DATE

| MD | INC | AZIM | TVD | VS | +N/-S | +E/-W | DLS | CLOSURE DIST | CLOSURE DIR |
|--------|------|--------|--------|------|-------|-------|---------|-----------------|----------------|
| ft | deg | deg | ft | ft | ft | ft | °/100ft | ft | deg |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Invalid | 0.00 | 0.00 |
| 25.00 | 0.09 | 323.94 | 25.00 | 0.02 | 0.02 | -0.01 | 0.35 | 0.02 | 323.94 |
| 50.00 | 0.17 | 323.94 | 50.00 | 0.06 | 0.06 | -0.04 | 0.35 | 0.08 | 323.94 |
| 75.00 | 0.26 | 323.94 | 75.00 | 0.14 | 0.14 | -0.10 | 0.35 | 0.17 | 323.94 |
| 100.00 | 0.33 | 322.58 | 100.00 | 0.24 | 0.24 | -0.18 | 0.27 | 0.30 | 323.61 |
| 125.00 | 0.36 | 317.67 | 125.00 | 0.35 | 0.36 | -0.27 | 0.18 | 0.45 | 322.41 |
| 150.00 | 0.53 | 321.27 | 150.00 | 0.49 | 0.50 | -0.40 | 0.69 | 0.64 | 321.63 |
| 175.00 | 0.65 | 329.04 | 175.00 | 0.70 | 0.72 | -0.54 | 0.58 | 0.90 | 322.75 |
| 200.00 | 0.41 | 328.38 | 200.00 | 0.90 | 0.91 | -0.66 | 0.98 | 1.13 | 323.98 |
| 225.00 | 0.44 | 314.93 | 225.00 | 1.04 | 1.06 | -0.78 | 0.42 | 1.31 | 323.62 |
| 250.00 | 0.46 | 299.98 | 249.99 | 1.15 | 1.17 | -0.93 | 0.47 | 1.50 | 321.54 |
| 275.00 | 0.53 | 302.52 | 274.99 | 1.26 | 1.28 | -1.11 | 0.30 | 1.70 | 319.04 |
| 300.00 | 0.58 | 307.63 | 299.99 | 1.39 | 1.42 | -1.31 | 0.30 | 1.94 | 317.33 |
| 325.00 | 0.56 | 334.85 | 324.99 | 1.58 | 1.61 | -1.46 | 1.08 | 2.18 | 317.72 |
| 350.00 | 0.53 | 351.58 | 349.99 | 1.80 | 1.84 | -1.53 | 0.64 | 2.39 | 320.13 |
| 375.00 | 0.57 | 359.24 | 374.99 | 2.04 | 2.07 | -1.55 | 0.33 | 2.59 | 323.20 |
| 400.00 | 0.58 | 4.63 | 399.99 | 2.29 | 2.33 | -1.54 | 0.22 | 2.79 | 326.43 |
| 425.00 | 0.64 | 358.25 | 424.99 | 2.56 | 2.59 | -1.54 | 0.36 | 3.01 | 329.32 |
| 450.00 | 0.66 | 354.18 | 449.98 | 2.84 | 2.87 | -1.56 | 0.20 | 3.27 | 331.57 |
| 475.00 | 0.64 | 355.81 | 474.98 | 3.12 | 3.16 | -1.58 | 0.09 | 3.53 | 333.40 |
| 500.00 | 0.62 | 352.65 | 499.98 | 3.40 | 3.43 | -1.61 | 0.16 | 3.79 | 334.89 |
| 525.00 | 0.51 | 344.76 | 524.98 | 3.64 | 3.68 | -1.66 | 0.54 | 4.03 | 335.75 |
| 550.00 | 0.50 | 334.72 | 549.98 | 3.85 | 3.88 | -1.73 | 0.36 | 4.25 | 335.96 |
| 575.00 | 0.53 | 328.32 | 574.98 | 4.04 | 4.08 | -1.84 | 0.26 | 4.48 | 335.74 |
| 600.00 | 0.56 | 328.77 | 599.98 | 4.24 | 4.28 | -1.96 | 0.12 | 4.71 | 335.38 |
| 625.00 | 0.59 | 333.43 | 624.98 | 4.46 | 4.50 | -2.08 | 0.21 | 4.96 | 335.16 |
| 650.00 | 0.52 | 334.79 | 649.97 | 4.67 | 4.72 | -2.19 | 0.25 | 5.20 | 335.11 |
| 675.00 | 0.48 | 333.34 | 674.97 | 4.87 | 4.92 | -2.29 | 0.19 | 5.42 | 335.07 |
| 700.00 | 0.50 | 330.67 | 699.97 | 5.05 | 5.11 | -2.39 | 0.13 | 5.64 | 334.95 |
| 725.00 | 0.52 | 327.14 | 724.97 | 5.24 | 5.30 | -2.50 | 0.16 | 5.86 | 334.72 |
| 750.00 | 0.51 | 326.68 | 749.97 | 5.43 | 5.49 | -2.62 | 0.06 | 6.08 | 334.43 |
| 775.00 | 0.58 | 332.26 | 774.97 | 5.63 | 5.69 | -2.74 | 0.36 | 6.32 | 334.25 |

| MD ft | INC deg | AZIM deg | TVD ft | VS ft | +N/-S ft | +E/-W ft | DLS %/100ft | CLOSURE DIST ft | CLOSURE DIR deg |
|----------|------------|-------------|-----------|----------|-------------|-------------|----------------|-----------------------|-----------------------|
| 800.00 | 0.63 | 336.02 | 799.97 | 5.87 | 5.93 | -2.86 | 0.26 | 6.58 | 334.25 |
| 825.00 | 0.59 | 339.83 | 824.97 | 6.11 | 6.18 | -2.96 | 0.24 | 6.85 | 334.39 |
| 850.00 | 0.52 | 339.90 | 849.97 | 6.34 | 6.41 | -3.04 | 0.29 | 7.09 | 334.58 |
| 875.00 | 0.52 | 336.97 | 874.96 | 6.55 | 6.62 | -3.13 | 0.11 | 7.32 | 334.70 |
| 900.00 | 0.48 | 335.35 | 899.96 | 6.74 | 6.81 | -3.22 | 0.15 | 7.54 | 334.74 |
| 925.00 | 0.48 | 331.32 | 924.96 | 6.93 | 7.00 | -3.31 | 0.14 | 7.75 | 334.70 |
| 950.00 | 0.59 | 333.55 | 949.96 | 7.13 | 7.21 | -3.42 | 0.41 | 7.98 | 334.64 |
| 975.00 | 0.61 | 334.12 | 974.96 | 7.37 | 7.44 | -3.53 | 0.11 | 8.24 | 334.61 |
| 1000.00 | 0.59 | 340.92 | 999.96 | 7.60 | 7.68 | -3.63 | 0.30 | 8.50 | 334.70 |
| 1025.00 | 0.64 | 347.03 | 1024.96 | 7.86 | 7.94 | -3.71 | 0.33 | 8.76 | 334.99 |
| 1050.00 | 0.59 | 345.91 | 1049.96 | 8.12 | 8.20 | -3.77 | 0.19 | 9.03 | 335.33 |
| 1075.00 | 0.56 | 341.97 | 1074.95 | 8.36 | 8.44 | -3.84 | 0.20 | 9.27 | 335.56 |
| 1100.00 | 0.41 | 343.03 | 1099.95 | 8.56 | 8.65 | -3.90 | 0.59 | 9.49 | 335.71 |
| 1125.00 | 0.28 | 350.13 | 1124.95 | 8.71 | 8.79 | -3.94 | 0.55 | 9.64 | 335.87 |
| 1150.00 | 0.27 | 340.76 | 1149.95 | 8.82 | 8.91 | -3.97 | 0.19 | 9.75 | 335.99 |
| 1175.00 | 0.43 | 343.16 | 1174.95 | 8.97 | 9.06 | -4.02 | 0.62 | 9.91 | 336.09 |
| 1200.00 | 0.64 | 344.02 | 1199.95 | 9.19 | 9.28 | -4.08 | 0.85 | 10.14 | 336.26 |
| 1225.00 | 0.68 | 347.01 | 1224.95 | 9.47 | 9.56 | -4.15 | 0.23 | 10.42 | 336.52 |
| 1250.00 | 0.60 | 349.65 | 1249.95 | 9.74 | 9.83 | -4.21 | 0.37 | 10.69 | 336.82 |
| 1275.00 | 0.45 | 354.50 | 1274.95 | 9.96 | 10.06 | -4.24 | 0.62 | 10.91 | 337.13 |
| 1300.00 | 0.31 | 359.27 | 1299.95 | 10.13 | 10.22 | -4.25 | 0.56 | 11.07 | 337.41 |
| 1325.00 | 0.18 | 355.99 | 1324.95 | 10.23 | 10.33 | -4.26 | 0.54 | 11.17 | 337.60 |
| 1350.00 | 0.23 | 339.26 | 1349.95 | 10.32 | 10.41 | -4.28 | 0.33 | 11.26 | 337.67 |
| 1375.00 | 0.23 | 318.19 | 1374.95 | 10.40 | 10.50 | -4.33 | 0.34 | 11.35 | 337.59 |
| 1400.00 | 0.26 | 305.15 | 1399.95 | 10.47 | 10.57 | -4.41 | 0.25 | 11.45 | 337.36 |
| 1425.00 | 0.28 | 292.87 | 1424.95 | 10.52 | 10.62 | -4.51 | 0.25 | 11.54 | 337.00 |
| 1450.00 | 0.29 | 297.84 | 1449.95 | 10.57 | 10.68 | -4.62 | 0.11 | 11.63 | 336.60 |
| 1475.00 | 0.31 | 300.27 | 1474.94 | 10.63 | 10.74 | -4.74 | 0.10 | 11.74 | 336.20 |
| 1500.00 | 0.30 | 301.06 | 1499.94 | 10.70 | 10.81 | -4.85 | 0.04 | 11.85 | 335.83 |
| 1525.00 | 0.33 | 306.26 | 1524.94 | 10.77 | 10.88 | -4.97 | 0.14 | 11.96 | 335.48 |
| 1550.00 | 0.32 | 309.25 | 1549.94 | 10.86 | 10.97 | -5.08 | 0.08 | 12.09 | 335.17 |
| 1575.00 | 0.28 | 306.41 | 1574.94 | 10.94 | 11.05 | -5.18 | 0.16 | 12.20 | 334.89 |

| MD ft | INC deg | AZIM deg | TVD ft | VS ft | +N/-S ft | +E/-W ft | DLS °/100ft | CLOSURE DIST ft | CLOSURE DIR deg |
|----------|------------|-------------|-----------|----------|-------------|-------------|----------------|-----------------------|-----------------------|
| 1600.00 | 0.24 | 308.48 | 1599.94 | 11.00 | 11.12 | -5.27 | 0.15 | 12.30 | 334.65 |
| 1625.00 | 0.17 | 299.36 | 1624.94 | 11.05 | 11.17 | -5.34 | 0.33 | 12.38 | 334.44 |
| 1650.00 | 0.17 | 296.45 | 1649.94 | 11.08 | 11.20 | -5.41 | 0.03 | 12.44 | 334.24 |
| 1675.00 | 0.28 | 305.34 | 1674.94 | 11.13 | 11.25 | -5.49 | 0.46 | 12.52 | 334.01 |
| 1700.00 | 0.26 | 297.19 | 1699.94 | 11.19 | 11.32 | -5.59 | 0.16 | 12.62 | 333.72 |
| 1725.00 | 0.32 | 292.19 | 1724.94 | 11.24 | 11.37 | -5.70 | 0.23 | 12.72 | 333.36 |
| 1750.00 | 0.40 | 286.25 | 1749.94 | 11.29 | 11.42 | -5.85 | 0.36 | 12.83 | 332.87 |
| 1775.00 | 0.39 | 278.76 | 1774.94 | 11.32 | 11.46 | -6.02 | 0.21 | 12.94 | 332.28 |
| 1800.00 | 0.41 | 268.22 | 1799.94 | 11.33 | 11.47 | -6.19 | 0.30 | 13.03 | 331.62 |
| 1825.00 | 0.49 | 276.33 | 1824.94 | 11.33 | 11.48 | -6.39 | 0.42 | 13.13 | 330.89 |
| 1850.00 | 0.53 | 273.54 | 1849.94 | 11.35 | 11.49 | -6.61 | 0.16 | 13.26 | 330.09 |
| 1875.00 | 0.69 | 284.62 | 1874.94 | 11.39 | 11.54 | -6.87 | 0.80 | 13.43 | 329.23 |
| 1900.00 | 0.71 | 283.02 | 1899.94 | 11.45 | 11.61 | -7.17 | 0.11 | 13.64 | 328.32 |
| 1925.00 | 0.71 | 279.87 | 1924.93 | 11.51 | 11.67 | -7.47 | 0.16 | 13.86 | 327.39 |
| 1950.00 | 0.73 | 278.02 | 1949.93 | 11.55 | 11.72 | -7.78 | 0.13 | 14.07 | 326.43 |
| 1975.00 | 0.78 | 287.22 | 1974.93 | 11.62 | 11.79 | -8.10 | 0.52 | 14.31 | 325.52 |
| 2000.00 | 0.85 | 298.48 | 1999.93 | 11.75 | 11.93 | -8.42 | 0.69 | 14.61 | 324.78 |
| 2025.00 | 0.84 | 300.80 | 2024.92 | 11.92 | 12.11 | -8.74 | 0.14 | 14.94 | 324.18 |
| 2050.00 | 0.87 | 306.95 | 2049.92 | 12.12 | 12.32 | -9.05 | 0.38 | 15.29 | 323.70 |
| 2075.00 | 0.81 | 311.61 | 2074.92 | 12.35 | 12.55 | -9.34 | 0.36 | 15.65 | 323.36 |
| 2100.00 | 0.83 | 315.27 | 2099.92 | 12.59 | 12.80 | -9.60 | 0.22 | 16.00 | 323.14 |
| 2125.00 | 0.83 | 317.62 | 2124.91 | 12.85 | 13.06 | -9.85 | 0.14 | 16.36 | 322.99 |
| 2150.00 | 0.75 | 319.90 | 2149.91 | 13.10 | 13.32 | -10.07 | 0.35 | 16.70 | 322.90 |
| 2175.00 | 0.68 | 318.29 | 2174.91 | 13.33 | 13.56 | -10.28 | 0.28 | 17.01 | 322.84 |
| 2200.00 | 0.64 | 323.25 | 2199.91 | 13.55 | 13.78 | -10.46 | 0.28 | 17.30 | 322.80 |
| 2225.00 | 0.67 | 324.80 | 2224.91 | 13.78 | 14.01 | -10.63 | 0.14 | 17.59 | 322.82 |
| 2250.00 | 0.68 | 325.22 | 2249.90 | 14.02 | 14.25 | -10.80 | 0.04 | 17.88 | 322.86 |
| 2275.00 | 0.62 | 326.77 | 2274.90 | 14.25 | 14.49 | -10.95 | 0.25 | 18.16 | 322.90 |
| 2300.00 | 0.65 | 322.48 | 2299.90 | 14.47 | 14.71 | -11.11 | 0.22 | 18.44 | 322.93 |
| 2325.00 | 0.62 | 318.14 | 2324.90 | 14.68 | 14.92 | -11.29 | 0.23 | 18.71 | 322.89 |
| 2350.00 | 0.52 | 311.85 | 2349.90 | 14.85 | 15.10 | -11.47 | 0.45 | 18.96 | 322.79 |
| 2375.00 | 0.53 | 304.26 | 2374.90 | 14.99 | 15.24 | -11.65 | 0.28 | 19.18 | 322.62 |

| MD ft | INC deg | AZIM deg | TVD ft | VS ft | +N/-S ft | +E/-W ft | DLS °/100ft | CLOSURE DIST ft | CLOSURE DIR deg |
|----------|------------|-------------|-----------|----------|-------------|-------------|----------------|-----------------------|-----------------------|
| 2400.00 | 0.56 | 304.20 | 2399.90 | 15.12 | 15.38 | -11.84 | 0.11 | 19.41 | 322.40 |
| 2425.00 | 0.57 | 299.15 | 2424.89 | 15.24 | 15.51 | -12.05 | 0.20 | 19.64 | 322.14 |
| 2450.00 | 0.57 | 298.75 | 2449.89 | 15.36 | 15.63 | -12.27 | 0.02 | 19.87 | 321.86 |
| 2475.00 | 0.47 | 298.63 | 2474.89 | 15.46 | 15.74 | -12.47 | 0.39 | 20.08 | 321.60 |
| 2500.00 | 0.42 | 288.86 | 2499.89 | 15.54 | 15.81 | -12.65 | 0.38 | 20.25 | 321.35 |
| 2525.00 | 0.43 | 288.36 | 2524.89 | 15.59 | 15.87 | -12.82 | 0.07 | 20.40 | 321.07 |
| 2550.00 | 0.45 | 299.83 | 2549.89 | 15.67 | 15.95 | -13.00 | 0.36 | 20.58 | 320.83 |
| 2575.00 | 0.45 | 292.84 | 2574.89 | 15.75 | 16.04 | -13.17 | 0.22 | 20.75 | 320.60 |
| 2600.00 | 0.49 | 300.09 | 2599.89 | 15.84 | 16.13 | -13.36 | 0.29 | 20.94 | 320.38 |
| 2625.00 | 0.48 | 302.83 | 2624.89 | 15.94 | 16.24 | -13.54 | 0.10 | 21.14 | 320.19 |
| 2650.00 | 0.49 | 305.41 | 2649.89 | 16.06 | 16.36 | -13.71 | 0.09 | 21.35 | 320.03 |
| 2675.00 | 0.45 | 299.73 | 2674.89 | 16.17 | 16.47 | -13.89 | 0.24 | 21.54 | 319.87 |
| 2700.00 | 0.48 | 300.72 | 2699.89 | 16.27 | 16.57 | -14.06 | 0.10 | 21.74 | 319.69 |
| 2725.00 | 0.48 | 297.47 | 2724.88 | 16.36 | 16.67 | -14.24 | 0.11 | 21.93 | 319.50 |
| 2750.00 | 0.50 | 298.02 | 2749.88 | 16.46 | 16.77 | -14.43 | 0.10 | 22.13 | 319.29 |
| 2775.00 | 0.49 | 301.54 | 2774.88 | 16.56 | 16.88 | -14.62 | 0.13 | 22.33 | 319.11 |
| 2800.00 | 0.47 | 310.70 | 2799.88 | 16.68 | 17.00 | -14.79 | 0.32 | 22.53 | 318.99 |
| 2825.00 | 0.57 | 312.98 | 2824.88 | 16.83 | 17.15 | -14.95 | 0.42 | 22.76 | 318.92 |
| 2850.00 | 0.53 | 312.52 | 2849.88 | 16.98 | 17.31 | -15.13 | 0.17 | 22.99 | 318.86 |
| 2875.00 | 0.50 | 313.64 | 2874.88 | 17.13 | 17.47 | -15.29 | 0.12 | 23.21 | 318.80 |
| 2900.00 | 0.46 | 309.67 | 2899.88 | 17.27 | 17.61 | -15.45 | 0.20 | 23.42 | 318.74 |
| 2925.00 | 0.41 | 316.53 | 2924.88 | 17.39 | 17.73 | -15.58 | 0.29 | 23.61 | 318.69 |
| 2950.00 | 0.38 | 322.54 | 2949.88 | 17.52 | 17.86 | -15.70 | 0.19 | 23.78 | 318.70 |
| 2975.00 | 0.33 | 330.19 | 2974.88 | 17.65 | 17.99 | -15.78 | 0.27 | 23.93 | 318.74 |
| 3000.00 | 0.43 | 340.44 | 2999.88 | 17.80 | 18.14 | -15.85 | 0.46 | 24.09 | 318.86 |
| 3025.00 | 0.42 | 330.65 | 3024.87 | 17.96 | 18.31 | -15.92 | 0.29 | 24.27 | 318.99 |
| 3050.00 | 0.36 | 323.40 | 3049.87 | 18.10 | 18.45 | -16.02 | 0.29 | 24.43 | 319.04 |
| 3075.00 | 0.39 | 323.75 | 3074.87 | 18.23 | 18.59 | -16.11 | 0.10 | 24.60 | 319.07 |
| 3100.00 | 0.49 | 327.64 | 3099.87 | 18.39 | 18.74 | -16.22 | 0.44 | 24.79 | 319.13 |
| 3125.00 | 0.51 | 333.34 | 3124.87 | 18.58 | 18.94 | -16.33 | 0.21 | 25.00 | 319.23 |
| 3150.00 | 0.36 | 345.75 | 3149.87 | 18.75 | 19.11 | -16.40 | 0.68 | 25.18 | 319.37 |
| 3175.00 | 0.36 | 334.88 | 3174.87 | 18.90 | 19.26 | -16.45 | 0.27 | 25.33 | 319.49 |

| MD ft | INC deg | AZIM deg | TVD ft | VS ft | +N/-S ft | +E/-W ft | DLS °/100ft | CLOSURE DIST ft | CLOSURE DIR deg |
|----------|------------|-------------|-----------|----------|-------------|-------------|----------------|-----------------------|-----------------------|
| 3200.00 | 0.31 | 326.15 | 3199.87 | 19.02 | 19.39 | -16.52 | 0.27 | 25.47 | 319.56 |
| 3225.00 | 0.34 | 319.18 | 3224.87 | 19.13 | 19.50 | -16.61 | 0.18 | 25.61 | 319.58 |
| 3250.00 | 0.29 | 317.24 | 3249.87 | 19.24 | 19.60 | -16.70 | 0.20 | 25.75 | 319.57 |
| 3275.00 | 0.46 | 330.35 | 3274.87 | 19.37 | 19.73 | -16.79 | 0.75 | 25.91 | 319.60 |
| 3300.00 | 0.58 | 325.02 | 3299.87 | 19.55 | 19.92 | -16.91 | 0.53 | 26.14 | 319.67 |
| 3325.00 | 0.39 | 313.64 | 3324.87 | 19.71 | 20.09 | -17.05 | 0.84 | 26.35 | 319.68 |
| 3350.00 | 0.19 | 295.84 | 3349.87 | 19.79 | 20.16 | -17.15 | 0.89 | 26.47 | 319.62 |
| 3375.00 | 0.19 | 328.18 | 3374.87 | 19.84 | 20.22 | -17.21 | 0.42 | 26.55 | 319.60 |
| 3400.00 | 0.31 | 333.91 | 3399.87 | 19.94 | 20.31 | -17.26 | 0.50 | 26.65 | 319.65 |
| 3425.00 | 0.42 | 299.27 | 3424.87 | 20.04 | 20.42 | -17.37 | 0.96 | 26.81 | 319.62 |
| 3450.00 | 0.57 | 283.95 | 3449.86 | 20.11 | 20.49 | -17.57 | 0.81 | 26.99 | 319.39 |
| 3475.00 | 0.50 | 287.52 | 3474.86 | 20.17 | 20.56 | -17.79 | 0.33 | 27.19 | 319.12 |
| 3500.00 | 0.46 | 297.33 | 3499.86 | 20.24 | 20.64 | -17.99 | 0.36 | 27.37 | 318.92 |
| 3525.00 | 0.28 | 335.71 | 3524.86 | 20.34 | 20.74 | -18.10 | 1.19 | 27.53 | 318.88 |
| 3550.00 | 0.20 | 57.62 | 3549.86 | 20.42 | 20.82 | -18.09 | 1.28 | 27.58 | 319.01 |
| 3575.00 | 0.21 | 124.73 | 3574.86 | 20.42 | 20.81 | -18.01 | 0.92 | 27.53 | 319.12 |
| 3600.00 | 0.25 | 148.81 | 3599.86 | 20.35 | 20.74 | -17.95 | 0.41 | 27.43 | 319.13 |
| 3625.00 | 0.44 | 112.38 | 3624.86 | 20.27 | 20.66 | -17.83 | 1.12 | 27.29 | 319.20 |
| 3650.00 | 0.68 | 98.60 | 3649.86 | 20.21 | 20.60 | -17.59 | 1.12 | 27.09 | 319.50 |
| 3675.00 | 0.59 | 81.41 | 3674.86 | 20.22 | 20.60 | -17.32 | 0.85 | 26.91 | 319.94 |
| 3700.00 | 0.53 | 64.13 | 3699.86 | 20.29 | 20.67 | -17.09 | 0.71 | 26.82 | 320.41 |
| 3725.00 | 0.83 | 56.17 | 3724.86 | 20.45 | 20.82 | -16.83 | 1.26 | 26.77 | 321.04 |
| 3750.00 | 1.03 | 63.88 | 3749.85 | 20.66 | 21.02 | -16.48 | 0.94 | 26.71 | 321.90 |
| 3775.00 | 1.12 | 69.34 | 3774.85 | 20.85 | 21.20 | -16.05 | 0.53 | 26.59 | 322.88 |
| 3800.00 | 1.14 | 61.67 | 3799.84 | 21.07 | 21.41 | -15.60 | 0.61 | 26.49 | 323.91 |
| 3825.00 | 1.22 | 56.54 | 3824.84 | 21.34 | 21.67 | -15.16 | 0.53 | 26.45 | 325.03 |
| 3850.00 | 1.15 | 60.11 | 3849.83 | 21.62 | 21.94 | -14.72 | 0.42 | 26.42 | 326.14 |
| 3875.00 | 1.16 | 71.14 | 3874.83 | 21.84 | 22.15 | -14.27 | 0.89 | 26.35 | 327.22 |
| 3900.00 | 1.48 | 76.35 | 3899.82 | 22.01 | 22.31 | -13.71 | 1.35 | 26.19 | 328.42 |
| 3925.00 | 1.70 | 80.68 | 3924.81 | 22.16 | 22.44 | -13.03 | 0.99 | 25.95 | 329.86 |
| 3950.00 | 1.63 | 84.43 | 3949.80 | 22.27 | 22.54 | -12.32 | 0.51 | 25.68 | 331.35 |
| 3975.00 | 1.50 | 89.52 | 3974.79 | 22.32 | 22.58 | -11.63 | 0.75 | 25.40 | 332.74 |

| MD ft | INC deg | AZIM deg | TVD ft | VS ft | +N/-S ft | +E/-W ft | DLS °/100ft | CLOSURE DIST ft | CLOSURE DIR deg |
|----------|------------|-------------|-----------|----------|-------------|-------------|----------------|-----------------------|-----------------------|
| 4000.00 | 1.56 | 92.39 | 3999.78 | 22.32 | 22.56 | -10.97 | 0.38 | 25.09 | 334.08 |
| 4025.00 | 1.53 | 83.28 | 4024.77 | 22.36 | 22.59 | -10.30 | 0.99 | 24.83 | 335.49 |
| 4050.00 | 1.54 | 93.87 | 4049.76 | 22.39 | 22.61 | -9.63 | 1.14 | 24.57 | 336.92 |
| 4075.00 | 1.61 | 103.87 | 4074.76 | 22.30 | 22.50 | -8.95 | 1.14 | 24.21 | 338.30 |
| 4100.00 | 1.67 | 111.98 | 4099.75 | 22.09 | 22.28 | -8.27 | 0.95 | 23.77 | 339.62 |
| 4125.00 | 1.59 | 115.51 | 4124.73 | 21.82 | 21.99 | -7.63 | 0.51 | 23.28 | 340.88 |
| 4150.00 | 1.55 | 114.44 | 4149.73 | 21.55 | 21.70 | -7.01 | 0.21 | 22.81 | 342.11 |
| 4175.00 | 1.57 | 118.22 | 4174.72 | 21.26 | 21.40 | -6.40 | 0.42 | 22.34 | 343.36 |
| 4200.00 | 1.58 | 122.15 | 4199.71 | 20.93 | 21.06 | -5.80 | 0.43 | 21.84 | 344.59 |
| 4225.00 | 1.29 | 121.50 | 4224.70 | 20.61 | 20.73 | -5.27 | 1.14 | 21.39 | 345.73 |
| 4250.00 | 0.75 | 134.31 | 4249.70 | 20.35 | 20.47 | -4.91 | 2.35 | 21.05 | 346.50 |
| 4275.00 | 0.36 | 173.20 | 4274.69 | 20.17 | 20.27 | -4.79 | 2.08 | 20.83 | 346.71 |
| 4300.00 | 0.55 | 123.37 | 4299.69 | 20.02 | 20.13 | -4.68 | 1.70 | 20.67 | 346.92 |
| 4325.00 | 1.23 | 124.30 | 4324.69 | 19.81 | 19.91 | -4.36 | 2.71 | 20.38 | 347.66 |
| 4350.00 | 0.64 | 95.79 | 4349.69 | 19.65 | 19.74 | -3.99 | 2.93 | 20.14 | 348.57 |
| 4375.00 | 1.25 | 130.38 | 4374.68 | 19.47 | 19.55 | -3.64 | 3.24 | 19.89 | 349.44 |
| 4400.00 | 1.33 | 137.30 | 4399.68 | 19.09 | 19.16 | -3.24 | 0.70 | 19.43 | 350.41 |
| 4425.00 | 1.30 | 134.66 | 4424.67 | 18.68 | 18.75 | -2.84 | 0.28 | 18.96 | 351.39 |
| 4450.00 | 1.33 | 129.80 | 4449.66 | 18.31 | 18.36 | -2.41 | 0.47 | 18.52 | 352.51 |
| 4475.00 | 1.35 | 130.80 | 4474.66 | 17.94 | 17.98 | -1.97 | 0.12 | 18.09 | 353.76 |
| 4500.00 | 1.34 | 131.86 | 4499.65 | 17.56 | 17.60 | -1.53 | 0.11 | 17.66 | 355.05 |
| 4525.00 | 1.25 | 129.82 | 4524.64 | 17.20 | 17.23 | -1.10 | 0.42 | 17.26 | 356.35 |
| 4550.00 | 1.06 | 135.67 | 4549.64 | 16.87 | 16.89 | -0.73 | 0.89 | 16.90 | 357.53 |
| 4575.00 | 0.91 | 150.00 | 4574.63 | 16.53 | 16.55 | -0.47 | 1.14 | 16.55 | 358.39 |
| 4600.00 | 1.26 | 164.78 | 4599.63 | 16.10 | 16.11 | -0.29 | 1.76 | 16.11 | 358.95 |
| 4625.00 | 0.75 | 160.13 | 4624.63 | 15.68 | 15.69 | -0.17 | 2.06 | 15.69 | 359.39 |
| 4650.00 | 0.57 | 155.32 | 4649.62 | 15.42 | 15.42 | -0.06 | 0.75 | 15.42 | 359.78 |
| 4675.00 | 0.84 | 136.63 | 4674.62 | 15.18 | 15.18 | 0.12 | 1.42 | 15.18 | 0.45 |
| 4692.41 | 1.08 | 134.98 | 4692.03 | 14.97 | 14.97 | 0.32 | 1.37 | 14.97 | 1.24 |

