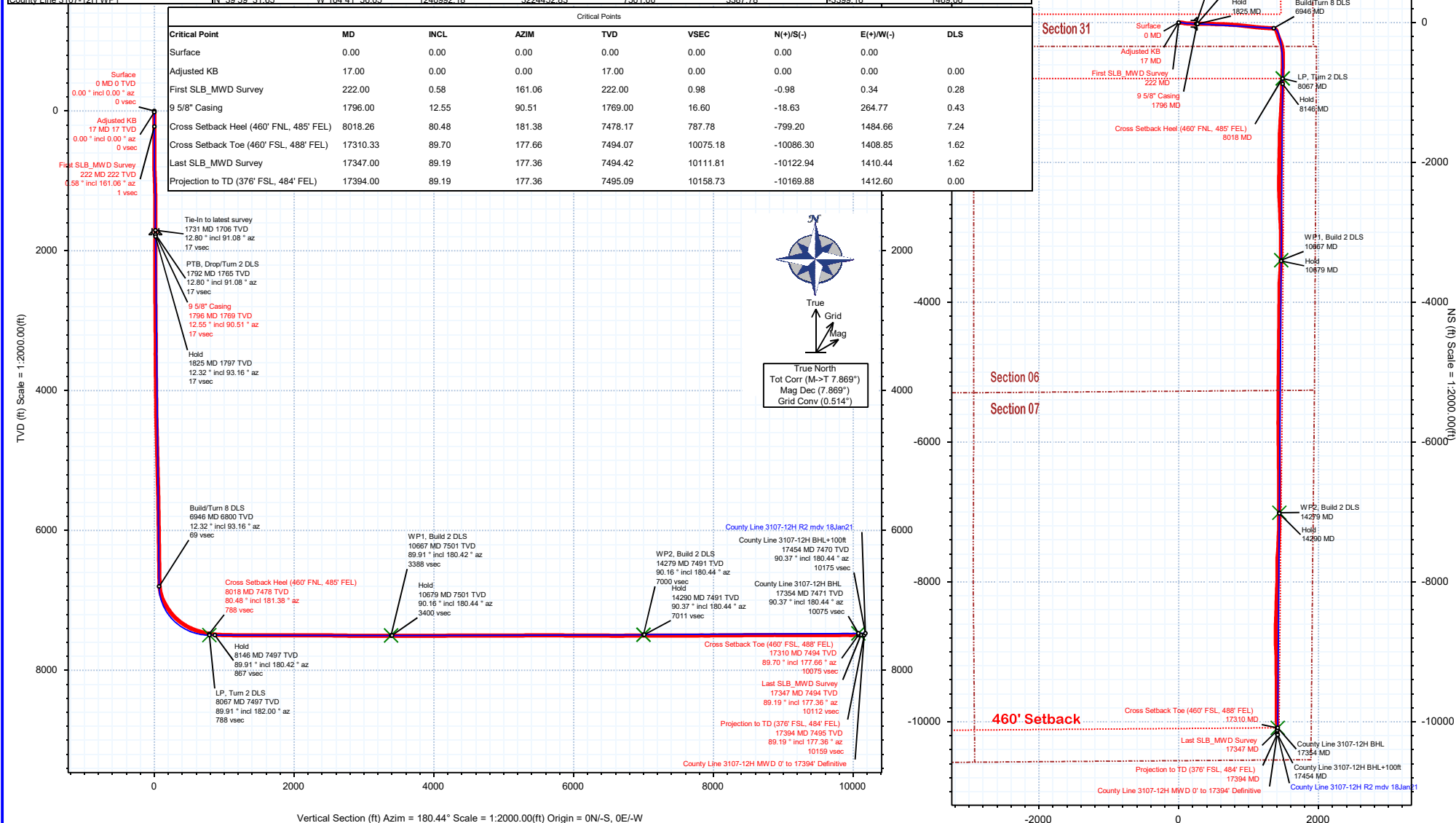


| | | | |
|----------------------|-----------------------------|---|--|
| Borehole: | Well: | Field: | Structure: |
| Original Hole | County Line 3107-12H | CO, Weld County (NAD 83 NZ) - 2019 | Verdad Resources 31-01N-65W (County Line Pad) |

| | | | | | | | | | | | | | | | |
|-------------------------------|-----------|------|-------------|------------------|----------------------------|------|----------------|--|---------------|-------------|------------|---------------|--|----------|---------------------------|
| Gravity & Magnetic Parameters | | | | Surface Location | | | | NAD83 Colorado State Plane, Northern Zone, US Feet | | | | Miscellaneous | | | |
| Model: | HDGM 2021 | Dip: | 66.229° | Date: | 18-Jan-2022 | Lat: | N 40 0 5.24 | Northing: | 1244377.39RUS | Grid Conv: | 0.5142° | Plot: | County Line 3107-12H | TVD Ref: | KB 21ft(5058ft above MSL) |
| MagDec: | 7.869° | FS: | 51624.316nT | Gravity FS: | 998.982mgn (9.80665 Based) | Lon: | W 104 42 14.93 | Easting: | 3229253.38fUS | Scale Fact: | 0.99996626 | Station: | County Line 3107-12H MWD 0° to 17394° Definitive | | |

[illegible]

| Critical Points | | | | | | | | |
|---|----------|-------|--------|---------|----------|-----------|-----------|------|
| Critical Point | MD | INCL | AZIM | TVD | VSEC | N(+)/S(-) | E(+)/W(-) | DLS |
| Surface | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Adjusted KB | 17.00 | 0.00 | 0.00 | 17.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| First SLB_MWD Survey | 222.00 | 0.58 | 161.06 | 222.00 | 0.98 | -0.98 | 0.34 | 0.28 |
| 9 5/8" Casing | 1796.00 | 12.55 | 90.51 | 1769.00 | 16.60 | -18.63 | 264.77 | 0.43 |
| Cross Setback Heel (460' FNL, 485' FEL) | 8018.26 | 80.48 | 181.38 | 7478.17 | 787.78 | -799.20 | 1484.66 | 7.24 |
| Cross Setback Toe (460' FSL, 488' FEL) | 17310.33 | 89.70 | 177.66 | 7494.07 | 10075.18 | -10086.30 | 1408.85 | 1.62 |
| Last SLB_MWD Survey | 17347.00 | 89.19 | 177.36 | 7494.42 | 10111.81 | -10122.94 | 1410.44 | 1.62 |
| Projection to TD (376' FSL, 484' FEL) | 17394.00 | 89.19 | 177.36 | 7495.09 | 10158.73 | -10169.88 | 1412.60 | 0.00 |



County Line 3107-12H MWD 0' to 17394' Definitive Survey Geodetic Report

(Def Survey)

Report Date: January 27, 2022 - 10:08 AM
Client: Verdad Resources LLC
Field: CO, Weld County (NAD 83 NZ) - 2019
Structure / Slot: Verdad Resources 31-01N-65W (County Line Pad) / County Line 3107-12H
Well: County Line 3107-12H
Borehole: Original Hole
UWI / API#: Unknown / 05-123-51174
Survey Name: County Line 3107-12H MWD 0' to 17394' Definitive
Survey Date: January 18, 2022
Tort / AHD / DDI / ERD Ratio: 249.263 ° / 11491.931 ft / 6.822 / 1.531
Coordinate Reference System: NAD83 Colorado State Plane, Northern Zone, US Feet
Location Lat / Long: N 40° 0' 5.24340", W 104° 42' 14.92848"
Location Grid N/E Y/X: N 1244377.900 ftUS, E 3222953.376 ftUS
CRS Grid Convergence Angle: 0.5142 °
Grid Scale Factor: 0.99996626
Version / Patch: 2.10.824.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 180.440 ° (True North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: KB 21ft
TVD Reference Elevation: 5058.000 ft above MSL
Seabed / Ground Elevation: 5037.000 ft above MSL
Magnetic Declination: 7.869 °
Total Gravity Field Strength: 998.9824mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 51624.316 nT
Magnetic Dip Angle: 66.229 °
Declination Date: January 18, 2022
Magnetic Declination Model: HDGM 2021
North Reference: True North
Grid Convergence Used: 0.0000 °
Total Corr Mag North→True North: 7.8685 °
Local Coord Referenced To: Well Head

| Comments | MD (ft) | Incl (°) | Azim True (°) | TVD (ft) | VSEC (ft) | NS (ft) | EW (ft) | DLS (°/100ft) | Northing (ftUS) | Easting (ftUS) | Latitude (°) | Longitude (°) |
|-------------------------|------------|-------------|------------------|-------------|--------------|------------|------------|------------------|--------------------|-------------------|-----------------|------------------|
| Surface | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | N/A | 1244377.90 | 3222953.38 | 40.001457 | -104.704147 |
| Adjusted KB | 17.00 | 0.00 | 0.00 | 17.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1244377.90 | 3222953.38 | 40.001457 | -104.704147 |
| First SLB_MWD Survey | 222.00 | 0.58 | 161.06 | 222.00 | 0.98 | -0.98 | 0.34 | 0.28 | 1244376.92 | 3222953.72 | 40.001454 | -104.704146 |
| | 252.00 | 0.62 | 144.83 | 251.99 | 1.25 | -1.26 | 0.48 | 0.58 | 1244376.65 | 3222953.87 | 40.001453 | -104.704145 |
| | 283.00 | 0.92 | 115.93 | 282.99 | 1.50 | -1.50 | 0.80 | 1.55 | 1244376.40 | 3222954.19 | 40.001452 | -104.704144 |
| | 313.00 | 1.10 | 117.28 | 312.99 | 1.73 | -1.74 | 1.27 | 0.61 | 1244376.17 | 3222954.66 | 40.001452 | -104.704142 |
| | 343.00 | 1.39 | 109.91 | 342.98 | 1.98 | -2.00 | 1.87 | 1.10 | 1244375.92 | 3222955.26 | 40.001451 | -104.704140 |
| | 373.00 | 2.15 | 101.46 | 372.97 | 2.21 | -2.23 | 2.76 | 2.67 | 1244375.69 | 3222956.16 | 40.001450 | -104.704137 |
| | 403.00 | 2.57 | 95.88 | 402.94 | 2.38 | -2.41 | 3.98 | 1.59 | 1244375.52 | 3222957.38 | 40.001450 | -104.704133 |
| | 433.00 | 2.86 | 91.89 | 432.91 | 2.47 | -2.51 | 5.40 | 1.15 | 1244375.44 | 3222958.80 | 40.001450 | -104.704128 |
| | 463.00 | 3.35 | 87.99 | 462.86 | 2.45 | -2.50 | 7.03 | 1.78 | 1244375.46 | 3222960.42 | 40.001450 | -104.704122 |
| | 493.00 | 4.35 | 89.27 | 492.79 | 2.39 | -2.46 | 9.04 | 3.35 | 1244375.53 | 3222962.44 | 40.001450 | -104.704115 |
| | 523.00 | 5.23 | 87.81 | 522.69 | 2.30 | -2.39 | 11.54 | 2.96 | 1244375.62 | 3222964.94 | 40.001450 | -104.704106 |
| | 553.00 | 5.98 | 84.08 | 552.55 | 2.06 | -2.18 | 14.46 | 2.78 | 1244375.85 | 3222967.86 | 40.001451 | -104.704095 |
| | 583.00 | 6.40 | 84.99 | 582.37 | 1.73 | -1.87 | 17.68 | 1.44 | 1244376.19 | 3222971.08 | 40.001451 | -104.704084 |
| | 613.00 | 7.12 | 86.20 | 612.16 | 1.44 | -1.60 | 21.21 | 2.45 | 1244376.49 | 3222974.59 | 40.001452 | -104.704071 |
| | 643.00 | 7.56 | 84.94 | 641.92 | 1.11 | -1.30 | 25.03 | 1.56 | 1244376.82 | 3222978.41 | 40.001453 | -104.704057 |
| | 673.00 | 7.99 | 86.35 | 671.64 | 0.77 | -0.99 | 29.07 | 1.57 | 1244377.17 | 3222982.46 | 40.001454 | -104.704043 |
| | 703.00 | 8.50 | 89.05 | 701.33 | 0.57 | -0.83 | 33.37 | 2.13 | 1244377.37 | 3222986.75 | 40.001454 | -104.704028 |
| | 733.00 | 8.90 | 91.86 | 730.99 | 0.57 | -0.86 | 37.91 | 1.95 | 1244377.38 | 3222991.29 | 40.001454 | -104.704011 |
| | 763.00 | 9.61 | 96.53 | 760.60 | 0.90 | -1.22 | 42.71 | 3.44 | 1244377.06 | 3222996.10 | 40.001453 | -104.703994 |
| | 793.00 | 10.06 | 98.63 | 790.15 | 1.53 | -1.90 | 47.79 | 1.92 | 1244376.43 | 3223001.18 | 40.001451 | -104.703976 |
| | 823.00 | 10.61 | 98.39 | 819.67 | 2.29 | -2.70 | 53.12 | 1.84 | 1244375.68 | 3223006.51 | 40.001449 | -104.703957 |
| | 853.00 | 11.09 | 100.19 | 849.13 | 3.16 | -3.61 | 58.69 | 1.96 | 1244374.82 | 3223012.09 | 40.001447 | -104.703937 |
| | 883.00 | 11.49 | 100.65 | 878.55 | 4.18 | -4.67 | 64.46 | 1.37 | 1244373.80 | 3223017.88 | 40.001444 | -104.703917 |
| | 913.00 | 11.95 | 100.99 | 907.92 | 5.28 | -5.82 | 70.45 | 1.55 | 1244372.71 | 3223023.87 | 40.001441 | -104.703895 |
| | 943.00 | 12.15 | 100.80 | 937.26 | 6.41 | -7.00 | 76.60 | 0.68 | 1244371.59 | 3223030.03 | 40.001437 | -104.703873 |
| | 973.00 | 12.32 | 100.39 | 966.58 | 7.53 | -8.17 | 82.85 | 0.64 | 1244370.47 | 3223036.29 | 40.001434 | -104.703851 |
| | 1003.00 | 12.54 | 100.78 | 995.88 | 8.67 | -9.36 | 89.20 | 0.78 | 1244369.34 | 3223042.65 | 40.001431 | -104.703828 |
| | 1033.00 | 13.03 | 98.85 | 1025.14 | 9.75 | -10.49 | 95.74 | 2.17 | 1244368.27 | 3223049.20 | 40.001428 | -104.703805 |
| | 1063.00 | 13.77 | 96.95 | 1054.32 | 10.65 | -11.44 | 102.62 | 2.87 | 1244367.38 | 3223056.09 | 40.001425 | -104.703780 |
| | 1093.00 | 14.50 | 96.63 | 1083.41 | 11.46 | -12.30 | 109.90 | 2.45 | 1244366.58 | 3223063.38 | 40.001423 | -104.703755 |
| | 1123.00 | 14.42 | 95.15 | 1112.46 | 12.17 | -13.07 | 117.35 | 1.26 | 1244366.88 | 3223070.83 | 40.001421 | -104.703728 |
| | 1153.00 | 14.59 | 94.42 | 1141.50 | 12.74 | -13.70 | 124.84 | 0.83 | 1244366.32 | 3223078.33 | 40.001419 | -104.703701 |
| | 1183.00 | 14.35 | 93.45 | 1170.55 | 13.20 | -14.22 | 132.31 | 1.14 | 1244364.87 | 3223085.81 | 40.001417 | -104.703675 |
| | 1213.00 | 13.88 | 92.32 | 1199.65 | 13.51 | -14.58 | 139.62 | 1.82 | 1244364.57 | 3223093.12 | 40.001416 | -104.703648 |
| | 1243.00 | 13.69 | 90.97 | 1228.78 | 13.66 | -14.79 | 146.77 | 1.25 | 1244364.43 | 3223100.26 | 40.001416 | -104.703623 |
| | 1273.00 | 13.35 | 90.73 | 1257.95 | 13.71 | -14.89 | 153.78 | 1.15 | 1244364.39 | 3223107.28 | 40.001416 | -104.703598 |
| | 1303.00 | 12.44 | 91.58 | 1287.19 | 13.80 | -15.03 | 160.47 | 3.10 | 1244364.31 | 3223113.97 | 40.001415 | -104.703574 |
| | 1333.00 | 11.75 | 90.68 | 1316.53 | 13.87 | -15.15 | 166.76 | 2.38 | 1244364.24 | 3223120.26 | 40.001415 | -104.703552 |
| | 1363.00 | 11.45 | 90.95 | 1345.92 | 13.91 | -15.24 | 172.79 | 1.02 | 1244364.21 | 3223126.29 | 40.001415 | -104.703530 |
| | 1393.00 | 11.68 | 92.15 | 1375.31 | 14.03 | -15.40 | 178.80 | 1.11 | 1244364.10 | 3223132.30 | 40.001414 | -104.703509 |
| | 1423.00 | 11.85 | 92.46 | 1404.68 | 14.23 | -15.65 | 184.91 | 0.60 | 1244363.91 | 3223138.41 | 40.001414 | -104.703487 |
| | 1453.00 | 11.94 | 93.28 | 1434.03 | 14.49 | -15.96 | 191.09 | 0.64 | 1244363.66 | 3223144.59 | 40.001413 | -104.703465 |
| | 1483.00 | 11.74 | 92.18 | 1463.39 | 14.74 | -16.25 | 197.24 | 1.01 | 1244363.42 | 3223150.74 | 40.001412 | -104.703443 |
| | 1513.00 | 11.92 | 92.43 | 1492.76 | 14.94 | -16.50 | 203.38 | 0.62 | 1244363.23 | 3223156.89 | 40.001411 | -104.703421 |
| | 1543.00 | 12.23 | 93.61 | 1522.09 | 15.22 | -16.83 | 209.65 | 1.32 | 1244362.95 | 3223163.16 | 40.001410 | -104.703398 |
| | 1573.00 | 12.28 | 94.86 | 1551.41 | 15.64 | -17.30 | 216.00 | 0.90 | 1244362.54 | 3223169.51 | 40.001409 | -104.703376 |
| | 1603.00 | 12.54 | 93.54 | 1580.71 | 16.06 | -17.77 | 222.43 | 1.28 | 1244362.13 | 3223175.95 | 40.001408 | -104.703353 |
| | 1633.00 | 12.62 | 91.88 | 1609.99 | 16.32 | -18.08 | 228.95 | 1.23 | 1244361.88 | 3223182.47 | 40.001407 | -104.703330 |
| | 1663.00 | 12.66 | 90.82 | 1639.26 | 16.43 | -18.24 | 235.52 | 0.78 | 1244361.78 | 3223189.04 | 40.001406 | -104.703306 |
| | 1693.00 | 12.82 | 90.82 | 1668.52 | 16.47 | -18.33 | 242.13 | 0.53 | 1244361.74 | 3223195.65 | 40.001406 | -104.703283 |
| | 1723.00 | 12.65 | 90.57 | 1697.78 | 16.50 | -18.41 | 248.74 | 0.60 | 1244361.72 | 3223202.27 | 40.001406 | -104.703259 |
| | 1731.00 | 12.80 | 91.08 | 1705.59 | 16.51 | -18.44 | 250.51 | 2.34 | 1244361.71 | 3223204.03 | 40.001406 | -104.703253 |
| 9 5/8" Casing | 1796.00 | 12.55 | 90.51 | 1769.00 | 16.60 | -18.63 | 264.77 | 0.43 | 1244361.64 | 3223218.29 | 40.001405 | -104.703202 |
| | 1873.00 | 12.26 | 89.81 | 1844.21 | 16.52 | -18.68 | 281.31 | 0.43 | 1244361.74 | 3223234.83 | 40.001405 | -104.703143 |
| | 1963.00 | 12.79 | 90.11 | 1932.06 | 16.36 | -18.67 | 300.83 | 0.59 | 1244361.93 | 3223254.35 | 40.001405 | -104.703073 |
| | 2052.00 | 12.67 | 87.79 | 2018.88 | 15.85 | -18.31 | 320.43 | 0.59 | 1244362.47 | 3223273.95 | 40.001406 | -104.703003 |
| | 2142.00 | 12.60 | 89.91 | 2106.70 | 15.30 | -17.92 | 340.11 | 0.52 | 1244363.04 | 3223293.62 | 40.001407 | -104.702933 |
| | 2231.00 | 12.40 | 89.07 | 2193.59 | 14.99 | -17.75 | 359.37 | 0.30 | 1244363.38 | 3223312.87 | 40.001408 | -104.702864 |
| | 2321.00 | 12.90 | 89.24 | 2281.40 | 14.54 | -17.46 | 379.07 | 0.56 | 1244363.85 | 3223332.58 | 40.001409 | -104.702794 |
| | 2410.00 | 12.81 | 89.93 | 2368.17 | 14.25 | -17.31 | 398.87 | 0.20 | 1244364.17 | 3223352.37 | 40.001409 | -104.702723 |
| | 2500.00 | 12.40 | 91.98 | 2456.00 | 14.42 | -17.63 | 418.51 | 0.67 | 1244364.02 | 3223372.01 | 40.001408 | -104.702653 |
| | 2590.00 | 12.82 | 92.20 | 2543.83 | 14.99 | -18.35 | 438.15 | 0.47 | 1244363.48 | 3223391.66 | 40.001406 | -104.702583 |
| | 2679.00 | 12.45 | 92.27 | 2630.68 | 15.59 | -19.11 | 457.61 | 0.42 | 1244362.90 | 3223411.12 | 40.001404 | -104.702513 |
| | 2768.00 | 12.91 | 92.03 | 2717.50 | 16.18 | -19.84 | 477.13 | 0.52 | 1244362.34 | 3223430.65 | 40.001402 | -104.702444 |
| | 2858.00 | 12.10 | 94.74 | 2805.37 | 17.16 | -20.98 | 496.58 | 1.11 | 1244361.38 | 3223450.11 | 40.001399 | -104.702374 |
| | 2947.00 | 11.71 | 92.80 | 2892.46 | 18.23 | -22.19 | 514.89 | 0.63 | 1244360.33 | 3223468.43 | 40.001396 | -104.702309 |
| | 3037.00 | 12.55 | 91.90 | 2980.45 | 18.86 | -22.96 | 533.78 | 0.96 | 1244359.73 | 3223487.33 | 40.001393 | -104.702242 |
| | 3127.00 | 12.71 | 91.60 | 3068.27 | 19.31 | -23.56 | 553.45 | 0.20 | 1244359.31 | 3223507.00 | 40.001392 | -104.702171 |
| | 3216.00 | 12.52 | 92.54 | 3155.12 | 19.86 | -24.26 | 572.88 | 0.32 | 1244358.78 | 3223526.43 | 40.001390 | -104.702102 |
| | 3306.00 | 12.77 | 90.90 | 3242.94 | 20.30 | -24.85 | 592.57 | 0.48 | 1244358.37 | 3223546.13 | 40.001388 | -104.702032 |
| | 3395.00 | 12.45 | 91.62 | 3329.79 | 20.57 | -25.27 | 612.00 | 0.40 | 1244358.12 | 3223565.55 | 40.001387 | -104.701962 |
| | 3485.00 | 12.12 | 87.19 | 3417.73 | 20.24 | -25.08 | 631.13 | 1.11 | 1244358.48 | 3223584.69 | 40.001388 | -104.701894 |
| | 3574.00 | 12.83 | 91.53 | 3504.63 | 19.89 | -24.89 | 650.34 | 1.32 | 1244358.85 | 3223603.89 | 40.001388 | -104.701825 |
| 3664.00 | 12.91 | 93.31 | 3592.37 | 20.59 | -25.74 | 670.37 | 0.45 | 1244358.18 | 3223623.93 | 40.001386 | -104.701757 | |

| Comments | MD (ft) | Incl (°) | Azim True (°) | TVD (ft) | VSEC (ft) | NS (ft) | EW (ft) | DLS (°/100ft) | Northing (ftUS) | Easting (ftUS) | Latitude (°) | Longitude (°) |
|---|------------|-------------|------------------|-------------|--------------|------------|------------|------------------|--------------------|-------------------|-----------------|------------------|
| | 3753.00 | 11.96 | 93.44 | 3679.28 | 21.57 | -26.86 | 689.51 | 1.07 | 1244357.23 | 3223643.07 | 40.001383 | -104.701686 |
| | 3843.00 | 12.58 | 93.81 | 3767.22 | 22.63 | -28.07 | 708.59 | 0.69 | 1244356.19 | 3223662.17 | 40.001379 | -104.701618 |
| | 3933.00 | 12.94 | 93.47 | 3855.00 | 23.74 | -29.34 | 728.43 | 0.41 | 1244355.10 | 3223682.01 | 40.001376 | -104.701547 |
| | 4022.00 | 12.66 | 94.36 | 3941.79 | 24.93 | -30.68 | 748.10 | 0.38 | 1244353.94 | 3223701.69 | 40.001372 | -104.701477 |
| | 4112.00 | 12.50 | 91.93 | 4029.63 | 25.86 | -31.76 | 767.67 | 0.61 | 1244353.03 | 3223721.27 | 40.001369 | -104.701407 |
| | 4201.00 | 12.69 | 93.51 | 4116.49 | 26.64 | -32.68 | 787.06 | 0.44 | 1244352.29 | 3223740.67 | 40.001367 | -104.701337 |
| | 4291.00 | 12.50 | 93.07 | 4204.32 | 27.61 | -33.81 | 806.65 | 0.24 | 1244351.33 | 3223760.27 | 40.001364 | -104.701268 |
| | 4380.00 | 12.80 | 93.38 | 4291.16 | 28.56 | -34.91 | 826.11 | 0.35 | 1244350.41 | 3223779.74 | 40.001361 | -104.701198 |
| | 4469.00 | 12.62 | 93.82 | 4377.98 | 29.64 | -36.14 | 845.66 | 0.23 | 1244349.36 | 3223799.30 | 40.001357 | -104.701128 |
| | 4559.00 | 12.48 | 97.61 | 4465.83 | 31.43 | -38.08 | 865.11 | 0.93 | 1244347.59 | 3223818.76 | 40.001352 | -104.701059 |
| | 4648.00 | 12.51 | 98.26 | 4552.72 | 33.95 | -40.74 | 884.18 | 0.16 | 1244345.10 | 3223837.85 | 40.001345 | -104.700991 |
| | 4737.00 | 12.46 | 97.42 | 4639.62 | 36.42 | -43.36 | 903.24 | 0.21 | 1244342.65 | 3223856.94 | 40.001337 | -104.700923 |
| | 4826.00 | 12.46 | 95.69 | 4726.52 | 38.47 | -45.55 | 922.31 | 0.42 | 1244340.63 | 3223876.03 | 40.001331 | -104.700855 |
| | 4916.00 | 12.76 | 97.06 | 4814.35 | 40.50 | -47.74 | 941.84 | 0.47 | 1244338.62 | 3223895.57 | 40.001325 | -104.700785 |
| | 5005.00 | 12.41 | 94.01 | 4901.21 | 42.23 | -49.61 | 961.13 | 0.85 | 1244336.92 | 3223914.88 | 40.001320 | -104.700716 |
| | 5095.00 | 12.23 | 97.85 | 4989.14 | 44.06 | -51.59 | 980.22 | 0.93 | 1244335.11 | 3223933.99 | 40.001315 | -104.700648 |
| | 5184.00 | 12.42 | 95.36 | 5076.09 | 46.10 | -53.77 | 999.09 | 0.63 | 1244333.10 | 3223952.87 | 40.001309 | -104.700581 |
| | 5274.00 | 12.57 | 96.99 | 5163.96 | 48.05 | -55.87 | 1018.45 | 0.43 | 1244331.17 | 3223972.25 | 40.001303 | -104.700512 |
| | 5363.00 | 12.10 | 96.64 | 5250.91 | 50.16 | -58.13 | 1037.33 | 0.53 | 1244329.09 | 3223991.15 | 40.001297 | -104.700444 |
| | 5452.00 | 12.47 | 97.62 | 5337.87 | 52.37 | -60.48 | 1056.12 | 0.47 | 1244326.90 | 3224009.96 | 40.001290 | -104.700377 |
| | 5541.00 | 12.35 | 97.99 | 5424.79 | 54.82 | -63.08 | 1075.06 | 0.16 | 1244324.48 | 3224028.92 | 40.001283 | -104.700309 |
| | 5631.00 | 11.96 | 93.81 | 5512.77 | 56.63 | -65.04 | 1093.90 | 1.07 | 1244322.69 | 3224047.78 | 40.001278 | -104.700242 |
| | 5720.00 | 11.58 | 96.21 | 5599.90 | 58.07 | -66.61 | 1111.99 | 0.70 | 1244321.27 | 3224065.88 | 40.001274 | -104.700178 |
| | 5809.00 | 12.32 | 94.74 | 5686.97 | 59.68 | -68.37 | 1130.33 | 0.90 | 1244319.68 | 3224084.23 | 40.001269 | -104.700112 |
| | 5899.00 | 12.06 | 94.60 | 5774.94 | 61.09 | -69.91 | 1149.27 | 0.28 | 1244318.31 | 3224103.19 | 40.001265 | -104.700045 |
| | 5988.00 | 12.33 | 94.12 | 5861.93 | 62.37 | -71.34 | 1168.02 | 0.32 | 1244317.05 | 3224121.95 | 40.001261 | -104.699978 |
| | 6078.00 | 12.65 | 93.71 | 5949.80 | 63.55 | -72.67 | 1187.44 | 0.37 | 1244315.89 | 3224141.37 | 40.001257 | -104.699908 |
| | 6167.00 | 12.60 | 93.74 | 6036.65 | 64.67 | -73.94 | 1206.85 | 0.06 | 1244314.80 | 3224160.80 | 40.001253 | -104.699839 |
| | 6257.00 | 12.73 | 93.83 | 6124.46 | 65.82 | -75.24 | 1226.54 | 0.15 | 1244313.67 | 3224180.50 | 40.001250 | -104.699769 |
| | 6346.00 | 12.77 | 93.58 | 6211.27 | 66.94 | -76.51 | 1246.14 | 0.08 | 1244312.58 | 3224200.11 | 40.001246 | -104.699699 |
| | 6435.00 | 12.32 | 94.20 | 6298.14 | 68.10 | -77.82 | 1265.43 | 0.53 | 1244311.44 | 3224219.41 | 40.001243 | -104.699630 |
| | 6525.00 | 12.05 | 93.59 | 6386.11 | 69.25 | -79.11 | 1284.39 | 0.34 | 1244310.32 | 3224238.38 | 40.001239 | -104.699562 |
| | 6614.00 | 12.23 | 92.51 | 6473.12 | 70.10 | -80.11 | 1303.08 | 0.33 | 1244309.49 | 3224257.08 | 40.001236 | -104.699496 |
| | 6704.00 | 12.42 | 94.47 | 6561.05 | 71.12 | -81.28 | 1322.26 | 0.51 | 1244308.49 | 3224276.26 | 40.001233 | -104.699427 |
| | 6793.00 | 12.52 | 94.86 | 6647.95 | 72.54 | -82.84 | 1341.41 | 0.14 | 1244307.10 | 3224295.43 | 40.001229 | -104.699359 |
| | 6883.00 | 12.19 | 94.02 | 6735.86 | 73.89 | -84.34 | 1360.61 | 0.41 | 1244305.78 | 3224314.64 | 40.001225 | -104.699290 |
| | 6972.00 | 12.75 | 116.72 | 6822.81 | 78.82 | -89.41 | 1378.77 | 5.51 | 1244300.87 | 3224332.84 | 40.001211 | -104.699225 |
| | 7061.00 | 17.68 | 149.03 | 6908.82 | 94.74 | -105.46 | 1394.53 | 10.81 | 1244284.97 | 3224348.75 | 40.001167 | -104.699169 |
| | 7151.00 | 24.98 | 163.48 | 6992.65 | 124.65 | -135.45 | 1406.99 | 9.94 | 1244255.08 | 3224361.48 | 40.001085 | -104.699125 |
| | 7240.00 | 33.03 | 162.62 | 7070.43 | 165.78 | -176.69 | 1419.60 | 9.06 | 1244213.97 | 3224374.46 | 40.000971 | -104.699080 |
| | 7329.00 | 36.25 | 157.07 | 7143.66 | 213.05 | -224.09 | 1437.11 | 5.06 | 1244166.72 | 3224392.39 | 40.000841 | -104.699017 |
| | 7418.00 | 44.68 | 159.34 | 7211.31 | 266.50 | -277.71 | 1458.44 | 9.61 | 1244113.30 | 3224414.20 | 40.000694 | -104.698941 |
| | 7508.00 | 49.16 | 165.64 | 7272.80 | 329.00 | -340.36 | 1478.07 | 7.13 | 1244050.83 | 3224434.39 | 40.000522 | -104.698871 |
| | 7597.00 | 55.10 | 175.73 | 7327.50 | 398.09 | -409.54 | 1489.16 | 11.15 | 1243981.75 | 3224446.10 | 40.000332 | -104.698831 |
| | 7687.00 | 61.64 | 179.69 | 7374.69 | 474.58 | -486.05 | 1492.13 | 8.17 | 1243905.28 | 3224449.75 | 40.000122 | -104.698821 |
| | 7776.00 | 67.81 | 180.61 | 7412.67 | 555.02 | -566.49 | 1491.90 | 7.00 | 1243824.84 | 3224450.25 | 39.999901 | -104.698822 |
| | 7866.00 | 73.85 | 181.79 | 7442.21 | 639.98 | -651.44 | 1490.11 | 6.82 | 1243739.88 | 3224449.22 | 39.999668 | -104.698828 |
| | 7955.00 | 76.06 | 182.60 | 7465.31 | 725.88 | -737.32 | 1486.81 | 2.63 | 1243653.98 | 3224446.69 | 39.999432 | -104.698840 |
| Cross Setback Heel (460' FNL, 485' FEL) | 8018.26 | 80.48 | 181.38 | 7478.17 | 787.78 | -799.20 | 1484.66 | 7.24 | 1243592.09 | 3224445.10 | 39.999263 | -104.698848 |
| | 8044.00 | 82.28 | 180.90 | 7482.03 | 813.22 | -824.65 | 1484.16 | 7.24 | 1243566.64 | 3224444.82 | 39.999193 | -104.698849 |
| | 8134.00 | 85.97 | 181.33 | 7491.24 | 902.73 | -914.14 | 1482.42 | 4.13 | 1243477.13 | 3224443.88 | 39.998947 | -104.698856 |
| | 8223.00 | 88.88 | 181.82 | 7495.23 | 991.61 | -1003.01 | 1479.97 | 3.32 | 1243388.25 | 3224442.23 | 39.998703 | -104.698864 |
| | 8313.00 | 88.67 | 183.19 | 7497.16 | 1081.53 | -1092.90 | 1476.03 | 1.53 | 1243298.33 | 3224439.11 | 39.998456 | -104.698878 |
| | 8402.00 | 90.06 | 183.14 | 7498.15 | 1170.42 | -1181.76 | 1471.12 | 1.56 | 1243209.44 | 3224434.99 | 39.998212 | -104.698896 |
| | 8491.00 | 90.05 | 183.00 | 7498.06 | 1259.33 | -1270.63 | 1466.36 | 0.16 | 1243120.53 | 3224431.03 | 39.997968 | -104.698913 |
| | 8580.00 | 89.80 | 183.29 | 7498.18 | 1348.23 | -1359.49 | 1461.47 | 0.43 | 1243031.63 | 3224426.94 | 39.997724 | -104.698930 |
| | 8670.00 | 89.99 | 183.37 | 7498.35 | 1438.12 | -1449.34 | 1456.24 | 0.24 | 1242941.74 | 3224422.52 | 39.997478 | -104.698949 |
| | 8759.00 | 90.25 | 183.03 | 7498.16 | 1527.01 | -1538.20 | 1451.27 | 0.48 | 1242852.84 | 3224418.34 | 39.997234 | -104.698967 |
| | 8848.00 | 89.88 | 180.73 | 7498.06 | 1615.98 | -1627.15 | 1448.35 | 2.62 | 1242763.87 | 3224416.22 | 39.996990 | -104.698977 |
| | 8938.00 | 90.23 | 180.80 | 7497.97 | 1705.98 | -1717.14 | 1447.15 | 0.40 | 1242673.88 | 3224415.83 | 39.996743 | -104.698982 |
| | 9027.00 | 90.09 | 180.68 | 7497.71 | 1794.97 | -1806.13 | 1446.01 | 0.21 | 1242584.88 | 3224415.48 | 39.996498 | -104.698986 |
| | 9117.00 | 89.80 | 181.59 | 7497.79 | 1884.97 | -1896.11 | 1444.23 | 1.06 | 1242494.89 | 3224414.51 | 39.996251 | -104.698992 |
| | 9206.00 | 89.97 | 180.76 | 7497.96 | 1973.96 | -1985.09 | 1442.41 | 0.95 | 1242405.90 | 3224413.09 | 39.996007 | -104.698999 |
| | 9296.00 | 89.82 | 180.87 | 7498.12 | 2063.96 | -2075.08 | 1441.13 | 0.21 | 1242315.91 | 3224413.02 | 39.995760 | -104.699003 |
| | 9385.00 | 89.85 | 181.08 | 7498.38 | 2152.95 | -2164.07 | 1439.61 | 0.23 | 1242226.91 | 3224412.30 | 39.995516 | -104.699009 |
| | 9474.00 | 89.83 | 180.56 | 7498.63 | 2241.95 | -2253.06 | 1438.34 | 0.58 | 1242137.92 | 3224411.83 | 39.995272 | -104.699013 |
| | 9563.00 | 89.62 | 179.49 | 7499.06 | 2330.94 | -2342.06 | 1438.30 | 1.23 | 1242048.93 | 3224412.59 | 39.995027 | -104.699013 |
| | 9653.00 | 89.96 | 178.52 | 7499.40 | 2420.91 | -2432.04 | 1439.87 | 1.14 | 1241958.96 | 3224414.96 | 39.994780 | -104.699008 |
| | 9742.00 | 88.89 | 176.94 | 7500.29 | 2509.81 | -2520.97 | 1443.39 | 2.14 | 1241870.08 | 3224419.28 | 39.994536 | -104.698995 |
| | 9832.00 | 89.81 | 176.79 | 7501.32 | 2599.62 | -2610.82 | 1448.31 | 1.05 | 1241780.27 | 3224425.01 | 39.994289 | -104.698978 |
| | 9921.00 | 88.88 | 178.19 | 7502.33 | 2688.50 | -2699.73 | 1452.20 | 1.89 | 1241691.41 | 3224429.70 | 39.994045 | -104.698964 |
| | 10010.00 | 88.50 | 178.00 | 7504.37 | 2777.40 | -2788.66 | 1455.16 | 0.48 | 1241602.51 | 3224433.43 | 39.993801 | -104.698953 |
| | 10099.00 | 90.35 | 176.32 | 7505.26 | 2866.24 | -2877.54 | 1459.56 | 2.80 | 1241513.68 | 3224438.65 | 39.993557 | -104.698938 |
| | 10188.00 | 89.85 | 178.91 | 7505.10 | 2955.13 | -2966.45 | 1463.27 | 2.95 | 1241424.81 | 3224443.16 | 39.993313 | -104.698924 |
| | 10278.00 | 89.75 | 179.23 | 7505.41 | 3045.10 | -3056.44 | 1464.73 | 0.37 | 1241334.84 | 3224445.43 | 39.993066 | -104.698919 |
| | 10367.00 | 90.01 | 179.72 | 7505.60 | 3134.09 | -3145.43 | 1465.55 | 0.62 | 1241245.86 | 3224447.05 | 39.992822 | -104.698916 |
| | 10457.00 | 89.94 | 179.73 | 7505.64 | 3224.08 | -3235.43 | 1465.98 | 0.08 | 1241155.87 | 3224448.28 | 39.992575 | -104.698915 |
| | 10546.00 | 90.33 | 180.87 | 7505.44 | 3313.08 | -3324.43 | 1465.52 | 1.34 | 1241066.87 | 3224448.62 | 39.992331 | -104.698916 |
| | 10636.00 | 90.06 | 182.53 | 7505.13 | 3403.05 | -3414.39 | 1462.85 | | | | | |

| Comments | MD (ft) | Incl (°) | Azim True (°) | TVD (ft) | VSEC (ft) | NS (ft) | EW (ft) | DLS (°/100ft) | Northing (ftUS) | Easting (ftUS) | Latitude (°) | Longitude (°) |
|--|------------|-------------|------------------|-------------|--------------|------------|------------|------------------|--------------------|-------------------|-----------------|------------------|
| | 13230.00 | 90.11 | 178.79 | 7502.30 | 5996.51 | -6007.68 | 1432.15 | 1.05 | 1238383.53 | 3224439.33 | 39.984965 | -104.699036 |
| | 13320.00 | 89.62 | 179.74 | 7502.51 | 6086.49 | -6097.67 | 1433.31 | 1.19 | 1238293.55 | 3224441.30 | 39.984718 | -104.699032 |
| | 13410.00 | 89.73 | 179.58 | 7503.02 | 6176.48 | -6187.67 | 1433.84 | 0.22 | 1238203.57 | 3224442.64 | 39.984471 | -104.699030 |
| | 13499.00 | 89.86 | 179.19 | 7503.34 | 6265.46 | -6276.67 | 1434.79 | 0.46 | 1238114.59 | 3224444.39 | 39.984226 | -104.699027 |
| | 13588.00 | 89.85 | 179.13 | 7503.56 | 6354.44 | -6365.66 | 1436.10 | 0.08 | 1238025.62 | 3224446.49 | 39.983982 | -104.699022 |
| | 13678.00 | 89.66 | 179.25 | 7503.95 | 6444.42 | -6455.65 | 1437.37 | 0.25 | 1237935.64 | 3224448.57 | 39.983735 | -104.699018 |
| | 13767.00 | 89.80 | 180.23 | 7504.37 | 6533.41 | -6544.64 | 1437.77 | 1.11 | 1237846.66 | 3224449.77 | 39.983491 | -104.699016 |
| | 13857.00 | 89.76 | 179.34 | 7504.73 | 6623.40 | -6634.64 | 1438.11 | 0.99 | 1237756.67 | 3224450.92 | 39.983244 | -104.699015 |
| | 13946.00 | 90.49 | 180.73 | 7504.53 | 6712.40 | -6723.64 | 1438.05 | 1.76 | 1237667.68 | 3224451.66 | 39.982999 | -104.699015 |
| | 14036.00 | 90.17 | 180.41 | 7504.01 | 6802.39 | -6813.63 | 1437.15 | 0.50 | 1237577.68 | 3224451.57 | 39.982752 | -104.699018 |
| | 14125.00 | 90.27 | 179.75 | 7503.67 | 6891.39 | -6902.63 | 1437.03 | 0.76 | 1237488.69 | 3224452.24 | 39.982508 | -104.699019 |
| | 14215.00 | 90.06 | 179.59 | 7503.42 | 6981.38 | -6992.63 | 1437.54 | 0.29 | 1237398.70 | 3224453.57 | 39.982261 | -104.699017 |
| | 14304.00 | 90.17 | 179.78 | 7503.24 | 7070.37 | -7081.63 | 1438.03 | 0.24 | 1237309.72 | 3224454.85 | 39.982017 | -104.699015 |
| | 14394.00 | 90.26 | 179.60 | 7502.90 | 7160.37 | -7171.62 | 1438.52 | 0.23 | 1237219.73 | 3224456.15 | 39.981770 | -104.699014 |
| | 14483.00 | 90.02 | 182.84 | 7502.68 | 7249.35 | -7260.59 | 1436.63 | 3.66 | 1237130.75 | 3224455.05 | 39.981525 | -104.699020 |
| | 14572.00 | 89.91 | 182.28 | 7502.73 | 7338.28 | -7349.50 | 1432.64 | 0.64 | 1237041.81 | 3224451.87 | 39.981281 | -104.699035 |
| | 14662.00 | 90.56 | 181.95 | 7502.36 | 7428.24 | -7439.44 | 1429.32 | 0.81 | 1236951.85 | 3224449.35 | 39.981034 | -104.699046 |
| | 14751.00 | 90.20 | 182.35 | 7501.77 | 7517.20 | -7528.37 | 1425.97 | 0.60 | 1236862.90 | 3224446.81 | 39.980790 | -104.699058 |
| | 14841.00 | 90.32 | 186.66 | 7501.37 | 7606.95 | -7618.07 | 1418.91 | 4.79 | 1236773.14 | 3224440.55 | 39.980544 | -104.699084 |
| | 14930.00 | 90.04 | 180.47 | 7501.08 | 7695.78 | -7706.86 | 1413.38 | 6.96 | 1236684.31 | 3224435.82 | 39.980300 | -104.699103 |
| | 15020.00 | 90.05 | 179.01 | 7501.01 | 7785.77 | -7796.86 | 1413.79 | 1.62 | 1236594.33 | 3224437.03 | 39.980053 | -104.699102 |
| | 15110.00 | 89.98 | 178.82 | 7500.98 | 7875.74 | -7886.84 | 1415.50 | 0.23 | 1236504.36 | 3224439.55 | 39.979806 | -104.699096 |
| | 15199.00 | 90.03 | 182.22 | 7500.97 | 7964.72 | -7975.82 | 1414.69 | 3.82 | 1236415.38 | 3224439.54 | 39.979562 | -104.699099 |
| | 15289.00 | 89.95 | 183.46 | 7500.98 | 8054.64 | -8065.71 | 1410.23 | 1.38 | 1236325.46 | 3224435.88 | 39.979315 | -104.699115 |
| | 15378.00 | 90.43 | 181.43 | 7500.89 | 8143.58 | -8154.62 | 1406.44 | 2.35 | 1236236.52 | 3224432.89 | 39.979071 | -104.699128 |
| | 15468.00 | 90.60 | 181.67 | 7499.87 | 8233.56 | -8244.59 | 1404.00 | 0.33 | 1236146.54 | 3224431.26 | 39.978824 | -104.699137 |
| | 15557.00 | 90.64 | 181.46 | 7498.91 | 8322.54 | -8333.55 | 1401.57 | 0.24 | 1236057.56 | 3224429.63 | 39.978580 | -104.699146 |
| | 15647.00 | 90.64 | 182.25 | 7497.90 | 8412.51 | -8423.50 | 1398.66 | 0.87 | 1235967.60 | 3224427.52 | 39.978333 | -104.699156 |
| | 15736.00 | 90.70 | 181.77 | 7496.86 | 8501.47 | -8512.43 | 1395.53 | 0.54 | 1235878.64 | 3224425.20 | 39.978089 | -104.699167 |
| | 15826.00 | 90.31 | 182.41 | 7496.06 | 8591.43 | -8602.37 | 1392.25 | 0.82 | 1235788.68 | 3224422.72 | 39.977842 | -104.699179 |
| | 15916.00 | 90.09 | 180.08 | 7495.75 | 8681.41 | -8692.34 | 1390.30 | 2.59 | 1235698.70 | 3224421.58 | 39.977595 | -104.699186 |
| | 16005.00 | 90.57 | 179.82 | 7495.24 | 8770.40 | -8781.34 | 1390.37 | 0.62 | 1235609.71 | 3224422.45 | 39.977351 | -104.699186 |
| | 16094.00 | 90.51 | 178.87 | 7494.40 | 8859.38 | -8870.33 | 1391.38 | 1.08 | 1235520.73 | 3224424.26 | 39.977107 | -104.699182 |
| | 16184.00 | 88.27 | 175.60 | 7495.36 | 8949.22 | -8960.20 | 1395.72 | 4.40 | 1235430.91 | 3224429.40 | 39.976860 | -104.699167 |
| | 16274.00 | 89.53 | 179.13 | 7497.09 | 9039.06 | -9050.07 | 1399.85 | 4.16 | 1235341.08 | 3224434.34 | 39.976613 | -104.699152 |
| | 16363.00 | 90.50 | 178.55 | 7497.06 | 9128.02 | -9139.05 | 1401.65 | 1.27 | 1235252.12 | 3224436.94 | 39.976369 | -104.699146 |
| | 16452.00 | 90.32 | 180.03 | 7496.42 | 9217.00 | -9228.04 | 1402.75 | 1.67 | 1235163.15 | 3224438.84 | 39.976125 | -104.699142 |
| | 16541.00 | 90.15 | 179.83 | 7496.05 | 9305.99 | -9317.04 | 1402.86 | 0.29 | 1235074.16 | 3224439.75 | 39.975880 | -104.699141 |
| | 16631.00 | 90.22 | 179.97 | 7495.75 | 9395.99 | -9407.04 | 1403.02 | 0.17 | 1234984.16 | 3224440.71 | 39.975633 | -104.699141 |
| | 16720.00 | 89.76 | 179.46 | 7495.77 | 9484.98 | -9496.04 | 1403.46 | 0.78 | 1234895.18 | 3224441.95 | 39.975389 | -104.699139 |
| | 16810.00 | 90.65 | 179.51 | 7495.45 | 9574.97 | -9586.03 | 1404.27 | 1.00 | 1234805.20 | 3224443.57 | 39.975142 | -104.699136 |
| | 16899.00 | 90.10 | 179.56 | 7494.87 | 9663.95 | -9675.03 | 1405.00 | 0.63 | 1234716.22 | 3224445.10 | 39.974898 | -104.699134 |
| | 16989.00 | 90.21 | 180.08 | 7494.63 | 9753.95 | -9765.03 | 1405.29 | 0.59 | 1234626.23 | 3224446.19 | 39.974650 | -104.699133 |
| | 17079.00 | 90.23 | 180.09 | 7494.29 | 9843.95 | -9855.03 | 1405.16 | 0.03 | 1234536.23 | 3224446.87 | 39.974403 | -104.699133 |
| | 17168.00 | 89.77 | 179.80 | 7494.29 | 9932.94 | -9944.03 | 1405.25 | 0.61 | 1234447.24 | 3224447.73 | 39.974159 | -104.699133 |
| | 17258.00 | 90.43 | 178.09 | 7494.13 | 10022.91 | -10034.01 | 1406.91 | 2.03 | 1234357.28 | 3224450.23 | 39.973912 | -104.699127 |
| Cross Setback Toe (460' FSL, 488' FEL) | 17310.33 | 89.70 | 177.66 | 7494.07 | 10075.18 | -10086.30 | 1408.85 | 1.62 | 1234305.01 | 3224452.63 | 39.973769 | -104.699120 |
| Last SLB_MWD Survey | 17347.00 | 89.19 | 177.36 | 7494.42 | 10111.81 | -10122.94 | 1410.44 | 1.62 | 1234268.39 | 3224454.56 | 39.973668 | -104.699114 |
| Projection to TD (376' FSL, 484' FEL) | 17394.00 | 89.19 | 177.36 | 7495.09 | 10158.73 | -10169.88 | 1412.60 | 0.00 | 1234221.47 | 3224457.14 | 39.973539 | -104.699107 |

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 3 *** 3-D 97.071% Confidence 3.0000 sigma
Survey Program:

| Description | Part | MD From (ft) | MD To (ft) | EOU Freq (ft) | Hole Size | Casing Diameter (in) | Survey Tool Type | Borehole / Survey |
|-------------|------|-----------------|---------------|------------------|-----------|-------------------------|-------------------------------|--|
| | 1 | 0.000 | 17.000 | 1/98.425 | 13.500 | 9.625 | B001Mb_MWD+HRGM-Depth Only | Original Hole / County Line 3107- 12H MWD 0' to 17394' Definitive |
| | 1 | 17.000 | 21.000 | Act Stns | 13.500 | 9.625 | B001Mb_MWD+HRGM-Depth Only | Original Hole / County Line 3107- 12H MWD 0' to 17394' Definitive |
| | 1 | 21.000 | 1731.000 | Act Stns | 13.500 | 9.625 | B001Mb_MWD+HRGM | Original Hole / County Line 3107- 12H MWD 0' to 17394' Definitive |
| | 1 | 1731.000 | 17394.000 | Act Stns | 8.500 | 5.500 | B001Mb_MWD+HRGM | Original Hole / County Line 3107- 12H MWD 0' to 17394' Definitive |