

Grande 4-65 20-19 2CH Plan #1 Proposal Geodetic Report

(Def Plan)

Report Date: August 10, 2021 - 10:11 AM
Client: Crestone Peak Resources
Field: CO, Arapahoe County (NAD 83 CZ)
Structure / Slot: Crestone Peak 21-04S-65W (Grande North Pad) / Grande 4-65 20-19 2CH
Well: Grande 4-65 20-19 2CH
Borehole: Original Hole
UWI / API#: Unknown / Unknown
Survey Name: Grande 4-65 20-19 2CH Plan #1
Survey Date: August 06, 2021
Tort / AHD / DDI / ERD Ratio: 100.276 ° / 11683.952 ft / 6.429 / 1.470
Coordinate Reference System: NAD83 Colorado State Plane, Central Zone, US Feet
Location Lat / Long: N 39° 41' 38.65200", W 104° 40' 32.01240"
Location Grid N/E Y/X: N 1678746.747 ftUS, E 3231999.709 ftUS
CRS Grid Convergence Angle: 0.5200 °
Grid Scale Factor: 0.99998941
Version / Patch: 2.10.826.8

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 263.342 ° (True North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: KB 28ft
TVD Reference Elevation: 5688.800 ft above MSL
Seabed / Ground Elevation: 5660.800 ft above MSL
Magnetic Declination: 8.398 °
Total Gravity Field Strength: 998.9112mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 51409.355 nT
Magnetic Dip Angle: 66.299 °
Declination Date: August 06, 2021
Magnetic Declination Model: HDGM 2021
North Reference: True North
Grid Convergence Used: 0.0000 °
Total Corr Mag North->True North: 8.3984 °
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 | 0.00 | N/A | 1678746.75 | 3231999.71 | 39.694070 | -104.675559 |
| | 100.00 | 0.00 | 206.80 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1678746.75 | 3231999.71 | 39.694070 | -104.675559 | |
| | 200.00 | 0.00 | 206.80 | 200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1678746.75 | 3231999.71 | 39.694070 | -104.675559 | |
| | 300.00 | 0.00 | 206.80 | 300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1678746.75 | 3231999.71 | 39.694070 | -104.675559 | |
| | 400.00 | 0.00 | 206.80 | 400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1678746.75 | 3231999.71 | 39.694070 | -104.675559 | |
| | 500.00 | 0.00 | 206.80 | 500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1678746.75 | 3231999.71 | 39.694070 | -104.675559 | |
| | 600.00 | 0.00 | 206.80 | 600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1678746.75 | 3231999.71 | 39.694070 | -104.675559 | |
| | 700.00 | 0.00 | 206.80 | 700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1678746.75 | 3231999.71 | 39.694070 | -104.675559 | |
| | 800.00 | 0.00 | 206.80 | 800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1678746.75 | 3231999.71 | 39.694070 | -104.675559 | |
| | 900.00 | 0.00 | 206.80 | 900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1678746.75 | 3231999.71 | 39.694070 | -104.675559 | |
| | 1000.00 | 0.00 | 206.80 | 1000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1678746.75 | 3231999.71 | 39.694070 | -104.675559 | |
| | 1100.00 | 0.00 | 206.80 | 1100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1678746.75 | 3231999.71 | 39.694070 | -104.675559 | |
| | 1200.00 | 0.00 | 206.80 | 1200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1678746.75 | 3231999.71 | 39.694070 | -104.675559 | |
| | 1300.00 | 0.00 | 206.80 | 1300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1678746.75 | 3231999.71 | 39.694070 | -104.675559 | |
| | 1400.00 | 0.00 | 206.80 | 1400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1678746.75 | 3231999.71 | 39.694070 | -104.675559 | |
| Build 2 DLS | 1500.00 | 2.00 | 206.80 | 1499.98 | 0.96 | -1.56 | -0.79 | 2.00 | 1678745.18 | 3231998.94 | 39.694066 | -104.675562 | |
| | 1600.00 | 4.00 | 206.80 | 1599.84 | 3.85 | -6.23 | -3.15 | 2.00 | 1678740.49 | 3231996.62 | 39.694053 | -104.675570 | |
| | 1700.00 | 6.00 | 206.80 | 1699.45 | 8.65 | -14.01 | -7.08 | 2.00 | 1678732.68 | 3231992.76 | 39.694032 | -104.675584 | |
| | 1800.00 | 8.00 | 206.80 | 1798.70 | 15.37 | -24.89 | -12.57 | 2.00 | 1678721.75 | 3231987.37 | 39.694002 | -104.675604 | |
| | 1900.00 | 10.00 | 206.80 | 1897.47 | 23.99 | -38.85 | -19.62 | 2.00 | 1678707.72 | 3231980.44 | 39.693963 | -104.675629 | |
| | 2000.00 | 12.00 | 206.80 | 1995.62 | 34.51 | -55.88 | -28.22 | 2.00 | 1678690.62 | 3231971.99 | 39.693917 | -104.675659 | |
| Hold | 2029.80 | 12.60 | 206.80 | 2024.74 | 38.01 | -61.54 | -31.09 | 2.00 | 1678684.92 | 3231969.18 | 39.693901 | -104.675669 | |
| | 2100.00 | 12.60 | 206.80 | 2093.25 | 46.45 | -75.21 | -37.99 | 0.00 | 1678671.20 | 3231962.41 | 39.693864 | -104.675694 | |
| | 2200.00 | 12.60 | 206.80 | 2190.84 | 58.47 | -94.67 | -47.82 | 0.00 | 1678651.64 | 3231952.75 | 39.693810 | -104.675729 | |
| | 2300.00 | 12.60 | 206.80 | 2288.44 | 70.50 | -114.14 | -57.65 | 0.00 | 1678632.09 | 3231943.10 | 39.693757 | -104.675764 | |
| | 2400.00 | 12.60 | 206.80 | 2386.03 | 82.52 | -133.60 | -67.48 | 0.00 | 1678612.54 | 3231933.44 | 39.693703 | -104.675799 | |
| | 2500.00 | 12.60 | 206.80 | 2483.62 | 94.54 | -153.07 | -77.32 | 0.00 | 1678592.98 | 3231923.79 | 39.693650 | -104.675834 | |
| | 2600.00 | 12.60 | 206.80 | 2581.22 | 106.56 | -172.54 | -87.15 | 0.00 | 1678573.43 | 3231914.13 | 39.693596 | -104.675869 | |
| | 2700.00 | 12.60 | 206.80 | 2678.81 | 118.59 | -192.00 | -96.98 | 0.00 | 1678553.88 | 3231904.48 | 39.693543 | -104.675904 | |
| | 2800.00 | 12.60 | 206.80 | 2776.40 | 130.61 | -211.47 | -106.81 | 0.00 | 1678534.32 | 3231894.82 | 39.693489 | -104.675939 | |
| | 2900.00 | 12.60 | 206.80 | 2874.00 | 142.63 | -230.93 | -116.64 | 0.00 | 1678514.77 | 3231885.17 | 39.693436 | -104.675973 | |
| | 3000.00 | 12.60 | 206.80 | 2971.59 | 154.65 | -250.40 | -126.48 | 0.00 | 1678495.22 | 3231875.51 | 39.693383 | -104.676008 | |
| | 3100.00 | 12.60 | 206.80 | 3069.18 | 166.68 | -269.86 | -136.31 | 0.00 | 1678475.66 | 3231865.86 | 39.693329 | -104.676043 | |
| | 3200.00 | 12.60 | 206.80 | 3166.78 | 178.70 | -289.33 | -146.14 | 0.00 | 1678456.11 | 3231856.20 | 39.693276 | -104.676078 | |
| | 3300.00 | 12.60 | 206.80 | 3264.37 | 190.72 | -308.79 | -155.97 | 0.00 | 1678436.56 | 3231846.55 | 39.693222 | -104.676113 | |
| | 3400.00 | 12.60 | 206.80 | 3361.96 | 202.74 | -328.26 | -165.80 | 0.00 | 1678417.00 | 3231836.89 | 39.693169 | -104.676148 | |
| | 3500.00 | 12.60 | 206.80 | 3459.55 | 214.77 | -347.72 | -175.63 | 0.00 | 1678397.45 | 3231827.24 | 39.693115 | -104.676183 | |
| | 3600.00 | 12.60 | 206.80 | 3557.15 | 226.79 | -367.19 | -185.47 | 0.00 | 1678377.90 | 3231817.58 | 39.693062 | -104.676218 | |
| | 3700.00 | 12.60 | 206.80 | 3654.74 | 238.81 | -386.65 | -195.30 | 0.00 | 1678358.34 | 3231807.93 | 39.693009 | -104.676253 | |
| | 3800.00 | 12.60 | 206.80 | 3752.33 | 250.83 | -406.12 | -205.13 | 0.00 | 1678338.79 | 3231798.28 | 39.692955 | -104.676288 | |
| | 3900.00 | 12.60 | 206.80 | 3849.93 | 262.86 | -425.58 | -214.96 | 0.00 | 1678319.24 | 3231788.62 | 39.692902 | -104.676323 | |
| | 4000.00 | 12.60 | 206.80 | 3947.52 | 274.88 | -445.05 | -224.79 | 0.00 | 1678299.68 | 3231778.97 | 39.692848 | -104.676358 | |
| | 4100.00 | 12.60 | 206.80 | 4045.11 | 286.90 | -464.51 | -234.63 | 0.00 | 1678280.13 | 3231769.31 | 39.692795 | -104.676393 | |
| | 4200.00 | 12.60 | 206.80 | 4142.71 | 298.92 | -483.98 | -244.46 | 0.00 | 1678260.58 | 3231759.66 | 39.692741 | -104.676428 | |
| | 4300.00 | 12.60 | 206.80 | 4240.30 | 310.95 | -503.44 | -254.29 | 0.00 | 1678241.02 | 3231750.00 | 39.692688 | -104.676463 | |
| | 4400.00 | 12.60 | 206.80 | 4337.89 | 322.97 | -522.91 | -264.12 | 0.00 | 1678221.47 | 3231740.35 | 39.692634 | -104.676498 | |
| | 4500.00 | 12.60 | 206.80 | 4435.49 | 334.99 | -542.38 | -273.95 | 0.00 | 1678201.92 | 3231730.69 | 39.692581 | -104.676533 | |
| | 4600.00 | 12.60 | 206.80 | 4533.08 | 347.01 | -561.84 | -283.79 | 0.00 | 1678182.36 | 3231721.04 | 39.692528 | -104.676567 | |
| | 4700.00 | 12.60 | 206.80 | 4630.67 | 359.04 | -581.31 | -293.62 | 0.00 | 1678162.81 | 3231711.38 | 39.692474 | -104.676602 | |
| | 4800.00 | 12.60 | 206.80 | 4728.27 | 371.06 | -600.77 | -303.45 | 0.00 | 1678143.25 | 3231701.73 | 39.692421 | -104.676637 | |
| | 4900.00 | 12.60 | 206.80 | 4825.86 | 383.08 | -620.24 | -313.28 | 0.00 | 1678123.70 | 3231692.07 | 39.692367 | -104.676672 | |
| | 5000.00 | 12.60 | 206.80 | 4923.45 | 395.10 | -639.70 | -323.11 | 0.00 | 1678104.15 | 3231682.42 | 39.692314 | -104.676707 | |
| | 5100.00 | 12.60 | 206.80 | 5021.05 | 407.13 | -659.17 | -332.95 | 0.00 | 1678084.59 | 3231672.76 | 39.692260 | -104.676742 | |
| | 5200.00 | 12.60 | 206.80 | 5118.64 | 419.15 | -678.63 | -342.78 | 0.00 | 1678065.04 | 3231663.11 | 39.692207 | -104.676777 | |
| | 5300.00 | 12.60 | 206.80 | 5216.23 | 431.17 | -698.10 | -352.61 | 0.00 | 1678045.49 | 3231653.45 | 39.692154 | -104.676812 | |
| | 5400.00 | 12.60 | 206.80 | 5313.83 | 443.19 | -717.56 | -362.44 | 0.00 | 1678025.93 | 3231643.80 | 39.692100 | -104.676847 | |
| | 5500.00 | 12.60 | 206.80 | 5411.42 | 455.22 | -737.03 | -372.27 | 0.00 | 1678006.38 | 3231634.14 | 39.692047 | -104.676882 | |
| | 5600.00 | 12.60 | 206.80 | 5509.01 | 467.24 | -756.49 | -382.11 | 0.00 | 1677986.83 | 3231624.49 | 39.691993 | -104.676917 | |
| | 5700.00 | 12.60 | 206.80 | 5606.61 | 479.26 | -775.96 | -391.94 | 0.00 | 1677967.27 | 3231614.84 | 39.691940 | -104.676952 | |
| | 5800.00 | 12.60 | 206.80 | 5704.20 | 491.28 | -795.42 | -401.77 | 0.00 | 1677947.72 | 3231605.18 | 39.691886 | -104.676987 | |
| | 5900.00 | 12.60 | 206.80 | 5801.79 | 503.31 | -814.89 | -411.60 | 0.00 | 1677928.17 | 3231595.53 | 39.691833 | -104.677022 | |
| | 6000.00 | 12.60 | 206.80 | 5899.39 | 515.33 | -834.35 | -421.43 | 0.00 | 1677908.61 | 3231585.87 | 39.691779 | -104.677057 | |
| | 6100.00 | 12.60 | 206.80 | 5996.98 | 527.35 | -853.82 | -431.26 | 0.00 | 1677889.06 | 3231576.22 | 39.691726 | -104.677091 | |
| | 6200.00 | 12.60 | 206.80 | 6094.57 | 539.37 | -873.28 | -441.10 | 0.00 | 1677869.51 | 3231566.56 | 39.691673 | -104.677126 | |
| | 6300.00 | 12.60 | 206.80 | 6192.16 | 551.40 | -892.75 | -450.93 | 0.00 | 1677849.95 | 3231556.91 | 39.691619 | -104.677161 | |
| | 6400.00 | 12.60 | 206.80 | 6289.76 | 563.42 | -912.22 | -460.76 | 0.00 | 1677830.40 | 3231547.25 | 39.691566 | -104.677196 | |
| | 6500.00 | 12.60 | 206.80 | 6387.35 | 575.44 | -931.68 | -470.59 | 0.00 | 1677810.85 | 3231537.60 | 39.691512 | -104.677231 | |
| | 6600.00 | 12.60 | 206.80 | 6484.94 | 587.46 | -951.15 | -480.42 | 0.00 | 1677791.29 | 3231527.94 | 39.691459 | -104.677266 | |
| | 6700.00 | 12.60 | 206.80 | 6582.54 | 599.49 | -970.61 | -490.26 | 0.00 | 1677771.74 | 3231518.29 | 39.691405 | -104.677301 | |
| | 6800.00 | 12.60 | 206.80 | 6680.13 | 611.51 | -990.08 | -500.09 | 0.00 | 1677752.19 | 3231508.63 | 39.691352 | -104.677336 | |
| | 6900.00 | 12.60 | 206.80 | 6777.72 | 623.53 | -1009.54 | -509.92 | 0.00 | 1677732.63 | 3231498.98 | 39.691299 | -104.677371 | |
| | 7000.00 | 12.60 | 206.80 | 6875.32 | 635.55 | -1029.01 | -519.75 | 0.00 | 1677713.08 | 3231489.32 | 39.691245 | -104.677406 | |
| | 7100.00 | 12.60 | 206.80 | 6972.91 | 647.58 | -1048.47 | -529.58 | 0.00 | 1677693.53 | 3231479.67 | 39.691192 | -104.677441 | |
| | 7200.00 | 12.60 | 206.80 | 7070.50 | 659.60 | -1067.94 | -539.42 | 0.00 | 1677673.97 | 3231470.01 | 39.691138 | -104.677476 | |
| | 7300.00 | 12.60 | 206.80 | 7168.10 | 671.62 | -1087.40 | -549.25 | 0.00 | 1677654.42 | 3231460.36 | 39.691085 | - | |

| Comments | MD (ft) | Incl (°) | Azim True (°) | TVD (ft) | VSEC (ft) | NS (ft) | EW (ft) | DLS (°/100ft) | Northing (ftUS) | Easting (ftUS) | Latitude (°) | Longitude (°) |
|--------------------------|------------|-------------|------------------|-------------|--------------|------------|------------|------------------|--------------------|-------------------|-----------------|------------------|
| KOP_Build/Turn 8 DLS | 7460.95 | 12.60 | 206.80 | 7325.18 | 690.97 | -1118.73 | -565.07 | 0.00 | 1677622.95 | 3231444.82 | 39.690999 | -104.677567 |
| | 7500.00 | 14.42 | 217.70 | 7363.15 | 696.72 | -1126.38 | -569.97 | 8.00 | 1677615.25 | 3231440.00 | 39.690978 | -104.677584 |
| | 7600.00 | 20.54 | 235.18 | 7458.55 | 720.93 | -1146.28 | -592.02 | 8.00 | 1677595.16 | 3231418.13 | 39.690923 | -104.677663 |
| | 7700.00 | 27.61 | 244.47 | 7549.83 | 758.38 | -1166.31 | -627.38 | 8.00 | 1677574.80 | 3231382.95 | 39.690868 | -104.677788 |
| | 7800.00 | 35.05 | 250.12 | 7635.21 | 808.34 | -1186.10 | -675.37 | 8.00 | 1677554.58 | 3231335.14 | 39.690814 | -104.677959 |
| | 7900.00 | 42.68 | 253.99 | 7713.02 | 869.84 | -1205.24 | -735.06 | 8.00 | 1677534.90 | 3231275.63 | 39.690761 | -104.678171 |
| | 8000.00 | 50.41 | 256.87 | 7781.76 | 941.69 | -1223.38 | -805.27 | 8.00 | 1677516.13 | 3231205.58 | 39.690712 | -104.678420 |
| | 8100.00 | 58.19 | 259.16 | 7840.08 | 1022.47 | -1240.15 | -884.65 | 8.00 | 1677498.64 | 3231126.36 | 39.690665 | -104.678702 |
| | 8200.00 | 66.00 | 261.10 | 7886.85 | 1110.64 | -1255.23 | -971.65 | 8.00 | 1677482.76 | 3231039.50 | 39.690624 | -104.679012 |
| | 8300.00 | 73.84 | 262.81 | 7921.16 | 1204.45 | -1268.33 | -1064.58 | 8.00 | 1677468.82 | 3230946.76 | 39.690588 | -104.679342 |
| | 8400.00 | 81.69 | 264.39 | 7942.34 | 1302.10 | -1279.19 | -1161.62 | 8.00 | 1677457.08 | 3230849.76 | 39.690558 | -104.679687 |
| | 8500.00 | 89.54 | 265.91 | 7949.98 | 1401.68 | -1287.61 | -1260.89 | 8.00 | 1677447.77 | 3230750.57 | 39.690535 | -104.680039 |
| TPZ Point, Turn 2 DLS | 8505.82 | 90.00 | 266.00 | 7950.00 | 1407.49 | -1288.02 | -1266.69 | 8.00 | 1677447.31 | 3230744.77 | 39.690534 | -104.680060 |
| Hold to TD | 8600.00 | 90.00 | 267.88 | 7950.00 | 1501.48 | -1293.04 | -1360.74 | 2.00 | 1677441.43 | 3230650.78 | 39.690520 | -104.680394 |
| | 8700.00 | 90.00 | 269.88 | 7950.00 | 1601.01 | -1294.99 | -1460.71 | 2.00 | 1677438.57 | 3230560.53 | 39.690515 | -104.680749 |
| | 8710.39 | 90.00 | 270.09 | 7950.00 | 1611.32 | -1294.99 | -1471.10 | 2.00 | 1677438.48 | 3230540.44 | 39.690515 | -104.680786 |
| | 8800.00 | 90.00 | 270.09 | 7950.00 | 1700.32 | -1294.85 | -1560.71 | 0.00 | 1677437.81 | 3230450.83 | 39.690515 | -104.681105 |
| | 8900.00 | 90.00 | 270.09 | 7950.00 | 1799.62 | -1294.69 | -1660.71 | 0.00 | 1677437.06 | 3230350.84 | 39.690516 | -104.681460 |
| | 9000.00 | 90.00 | 270.09 | 7950.00 | 1898.93 | -1294.53 | -1760.71 | 0.00 | 1677436.31 | 3230250.84 | 39.690516 | -104.681815 |
| | 9100.00 | 90.00 | 270.09 | 7950.00 | 1998.24 | -1294.37 | -1860.71 | 0.00 | 1677435.56 | 3230150.84 | 39.690516 | -104.682171 |
| | 9200.00 | 90.00 | 270.09 | 7950.00 | 2097.54 | -1294.21 | -1960.71 | 0.00 | 1677434.81 | 3230050.85 | 39.690517 | -104.682526 |
| | 9300.00 | 90.00 | 270.09 | 7950.00 | 2196.85 | -1294.05 | -2060.71 | 0.00 | 1677434.07 | 3229950.85 | 39.690517 | -104.682881 |
| | 9400.00 | 90.00 | 270.09 | 7950.00 | 2296.16 | -1293.89 | -2160.71 | 0.00 | 1677433.32 | 3229850.86 | 39.690518 | -104.683237 |
| | 9500.00 | 90.00 | 270.09 | 7950.00 | 2395.47 | -1293.73 | -2260.71 | 0.00 | 1677432.57 | 3229750.86 | 39.690518 | -104.683592 |
| | 9600.00 | 90.00 | 270.09 | 7950.00 | 2494.77 | -1293.57 | -2360.71 | 0.00 | 1677431.82 | 3229650.86 | 39.690519 | -104.683947 |
| | 9700.00 | 90.00 | 270.09 | 7950.00 | 2594.08 | -1293.41 | -2460.71 | 0.00 | 1677431.07 | 3229550.87 | 39.690519 | -104.684303 |
| | 9800.00 | 90.00 | 270.09 | 7950.00 | 2693.39 | -1293.25 | -2560.71 | 0.00 | 1677430.33 | 3229450.87 | 39.690519 | -104.684658 |
| | 9900.00 | 90.00 | 270.09 | 7950.00 | 2792.69 | -1293.09 | -2660.71 | 0.00 | 1677429.58 | 3229350.88 | 39.690520 | -104.685013 |
| | 10000.00 | 90.00 | 270.09 | 7950.00 | 2892.00 | -1292.93 | -2760.71 | 0.00 | 1677428.83 | 3229250.88 | 39.690520 | -104.685369 |
| | 10100.00 | 90.00 | 270.09 | 7950.00 | 2991.31 | -1292.77 | -2860.71 | 0.00 | 1677428.08 | 3229150.89 | 39.690521 | -104.685724 |
| | 10200.00 | 90.00 | 270.09 | 7950.00 | 3090.61 | -1292.61 | -2960.71 | 0.00 | 1677427.33 | 3229050.89 | 39.690521 | -104.686079 |
| | 10300.00 | 90.00 | 270.09 | 7950.00 | 3189.92 | -1292.46 | -3060.71 | 0.00 | 1677426.59 | 3228950.89 | 39.690521 | -104.686435 |
| | 10400.00 | 90.00 | 270.09 | 7950.00 | 3289.23 | -1292.30 | -3160.71 | 0.00 | 1677425.84 | 3228850.90 | 39.690522 | -104.686790 |
| | 10500.00 | 90.00 | 270.09 | 7950.00 | 3388.53 | -1292.14 | -3260.71 | 0.00 | 1677425.09 | 3228750.90 | 39.690522 | -104.687145 |
| | 10600.00 | 90.00 | 270.09 | 7950.00 | 3487.84 | -1291.98 | -3360.71 | 0.00 | 1677424.34 | 3228650.91 | 39.690523 | -104.687501 |
| | 10700.00 | 90.00 | 270.09 | 7950.00 | 3587.15 | -1291.82 | -3460.71 | 0.00 | 1677423.59 | 3228550.91 | 39.690523 | -104.687856 |
| | 10800.00 | 90.00 | 270.09 | 7950.00 | 3686.46 | -1291.66 | -3560.71 | 0.00 | 1677422.85 | 3228450.91 | 39.690523 | -104.688211 |
| | 10900.00 | 90.00 | 270.09 | 7950.00 | 3785.76 | -1291.50 | -3660.71 | 0.00 | 1677422.10 | 3228350.92 | 39.690524 | -104.688567 |
| | 11000.00 | 90.00 | 270.09 | 7950.00 | 3885.07 | -1291.34 | -3760.71 | 0.00 | 1677421.35 | 3228250.92 | 39.690524 | -104.688922 |
| | 11100.00 | 90.00 | 270.09 | 7950.00 | 3984.38 | -1291.18 | -3860.71 | 0.00 | 1677420.60 | 3228150.93 | 39.690525 | -104.689277 |
| | 11200.00 | 90.00 | 270.09 | 7950.00 | 4083.68 | -1291.02 | -3960.71 | 0.00 | 1677419.85 | 3228050.93 | 39.690525 | -104.689633 |
| | 11300.00 | 90.00 | 270.09 | 7950.00 | 4182.99 | -1290.86 | -4060.71 | 0.00 | 1677419.11 | 3227950.93 | 39.690525 | -104.689988 |
| | 11400.00 | 90.00 | 270.09 | 7950.00 | 4282.30 | -1290.70 | -4160.71 | 0.00 | 1677418.36 | 3227850.94 | 39.690526 | -104.690343 |
| | 11500.00 | 90.00 | 270.09 | 7950.00 | 4381.60 | -1290.54 | -4260.71 | 0.00 | 1677417.61 | 3227750.94 | 39.690526 | -104.690699 |
| | 11600.00 | 90.00 | 270.09 | 7950.00 | 4480.91 | -1290.38 | -4360.71 | 0.00 | 1677416.86 | 3227650.95 | 39.690527 | -104.691054 |
| | 11700.00 | 90.00 | 270.09 | 7950.00 | 4580.22 | -1290.22 | -4460.71 | 0.00 | 1677416.11 | 3227550.95 | 39.690527 | -104.691409 |
| | 11800.00 | 90.00 | 270.09 | 7950.00 | 4679.52 | -1290.06 | -4560.71 | 0.00 | 1677415.37 | 3227450.95 | 39.690527 | -104.691765 |
| | 11900.00 | 90.00 | 270.09 | 7950.00 | 4778.83 | -1289.90 | -4660.71 | 0.00 | 1677414.62 | 3227350.96 | 39.690528 | -104.692120 |
| | 12000.00 | 90.00 | 270.09 | 7950.00 | 4878.14 | -1289.74 | -4760.71 | 0.00 | 1677413.87 | 3227250.96 | 39.690528 | -104.692475 |
| | 12100.00 | 90.00 | 270.09 | 7950.00 | 4977.45 | -1289.58 | -4860.71 | 0.00 | 1677413.12 | 3227150.97 | 39.690529 | -104.692831 |
| | 12200.00 | 90.00 | 270.09 | 7950.00 | 5076.75 | -1289.42 | -4960.71 | 0.00 | 1677412.37 | 3227050.97 | 39.690529 | -104.693186 |
| | 12300.00 | 90.00 | 270.09 | 7950.00 | 5176.06 | -1289.27 | -5060.71 | 0.00 | 1677411.63 | 3226950.97 | 39.690529 | -104.693541 |
| | 12400.00 | 90.00 | 270.09 | 7950.00 | 5275.37 | -1289.11 | -5160.71 | 0.00 | 1677410.88 | 3226850.98 | 39.690530 | -104.693897 |
| | 12500.00 | 90.00 | 270.09 | 7950.00 | 5374.67 | -1288.95 | -5260.71 | 0.00 | 1677410.13 | 3226750.98 | 39.690530 | -104.694252 |
| | 12600.00 | 90.00 | 270.09 | 7950.00 | 5473.98 | -1288.79 | -5360.71 | 0.00 | 1677409.38 | 3226650.99 | 39.690530 | -104.694608 |
| | 12700.00 | 90.00 | 270.09 | 7950.00 | 5573.29 | -1288.63 | -5460.71 | 0.00 | 1677408.63 | 3226550.99 | 39.690531 | -104.694963 |
| | 12800.00 | 90.00 | 270.09 | 7950.00 | 5672.59 | -1288.47 | -5560.71 | 0.00 | 1677407.89 | 3226450.99 | 39.690531 | -104.695318 |
| | 12900.00 | 90.00 | 270.09 | 7950.00 | 5771.90 | -1288.31 | -5660.71 | 0.00 | 1677407.14 | 3226351.00 | 39.690532 | -104.695674 |
| | 13000.00 | 90.00 | 270.09 | 7950.00 | 5871.21 | -1288.15 | -5760.71 | 0.00 | 1677406.39 | 3226251.00 | 39.690532 | -104.696029 |
| | 13100.00 | 90.00 | 270.09 | 7950.00 | 5970.52 | -1287.99 | -5860.71 | 0.00 | 1677405.64 | 3226151.01 | 39.690532 | -104.696384 |
| | 13200.00 | 90.00 | 270.09 | 7950.00 | 6069.82 | -1287.83 | -5960.71 | 0.00 | 1677404.89 | 3226051.01 | 39.690533 | -104.696740 |
| | 13300.00 | 90.00 | 270.09 | 7950.00 | 6169.13 | -1287.67 | -6060.71 | 0.00 | 1677404.15 | 3225951.01 | 39.690533 | -104.697095 |
| | 13400.00 | 90.00 | 270.09 | 7950.00 | 6268.44 | -1287.51 | -6160.71 | 0.00 | 1677403.40 | 3225851.02 | 39.690533 | -104.697450 |
| | 13500.00 | 90.00 | 270.09 | 7950.00 | 6367.74 | -1287.35 | -6260.71 | 0.00 | 1677402.65 | 3225751.02 | 39.690534 | -104.697806 |
| | 13600.00 | 90.00 | 270.09 | 7950.00 | 6467.05 | -1287.19 | -6360.71 | 0.00 | 1677401.90 | 3225651.03 | 39.690534 | -104.698161 |
| | 13700.00 | 90.00 | 270.09 | 7950.00 | 6566.36 | -1287.03 | -6460.71 | 0.00 | 1677401.15 | 3225551.03 | 39.690535 | -104.698516 |
| | 13800.00 | 90.00 | 270.09 | 7950.00 | 6665.66 | -1286.87 | -6560.71 | 0.00 | 1677400.41 | 3225451.04 | 39.690535 | -104.698872 |
| | 13900.00 | 90.00 | 270.09 | 7950.00 | 6764.97 | -1286.71 | -6660.71 | 0.00 | 1677399.66 | 3225351.04 | 39.690535 | -104.699227 |
| | 14000.00 | 90.00 | 270.09 | 7950.00 | 6864.28 | -1286.55 | -6760.71 | 0.00 | 1677398.91 | 3225251.04 | 39.690536 | -104.699582 |
| | 14100.00 | 90.00 | 270.09 | 7950.00 | 6963.58 | -1286.39 | -6860.70 | 0.00 | 1677398.16 | 3225151.05 | 39.690536 | -104.699938 |
| | 14200.00 | 90.00 | 270.09 | 7950.00 | 7062.89 | -1286.24 | -6960.70 | 0.00 | 1677397.41 | 3225051.05 | 39.690536 | -104.700293 |
| | 14300.00 | 90.00 | 270.09 | 7950.00 | 7162.20 | -1286.08 | -7060.70 | 0.00 | 1677396.67 | 3224951.06 | 39.690537 | -104.700648 |
| | 14400.00 | 90.00 | 270.09 | 7950.00 | 7261.51 | -1285.92 | -7160.70 | 0.00 | 1677395.92 | 3224851.06 | 39.690537 | -104.701004 |
| | 14500.00 | 90.00 | 270.09 | 7950.00 | 7360.81 | -1285.76 | -7260.70 | 0.00 | 1677395.17 | 3224751.06 | 39.690537 | -104.701359 |
| | 14600.00 | 90.00 | 270.09 | 7950.00 | 7460.12 | -1285.60 | -7360.70 | 0.00 | 1677394.42 | 3224651.07 | 39.690538 | -104.701714 |
| | 14700.00 | 90.00 | 270.09 | 7950.00 | 7559.43 | -1285.44 | -7460.70 | 0.00 | 1677393.67 | 3224551.07 | 39.690538 | -104.702070 |
| | 14800.00 | 90.00 | 270.09 | 7950.00 | 7658.73 | -1285.28 | -7560.70 | 0.00 | 1677392.93 | 3224451.0 | | |

| Comments | MD (ft) | Incl (°) | Azim True (°) | TVD (ft) | VSEC (ft) | NS (ft) | EW (ft) | DLS (°/100ft) | Northing (ftUS) | Easting (ftUS) | Latitude (°) | Longitude (°) |
|---------------------------|------------|-------------|------------------|-------------|--------------|------------|------------|------------------|--------------------|-------------------|-----------------|------------------|
| | 17800.00 | 90.00 | 270.09 | 7950.00 | 10637.94 | -1280.49 | -10560.70 | 0.00 | 1677370.49 | 3221451.20 | 39.690549 | -104.713085 |
| | 17900.00 | 90.00 | 270.09 | 7950.00 | 10737.25 | -1280.33 | -10660.70 | 0.00 | 1677369.74 | 3221351.20 | 39.690549 | -104.713440 |
| | 18000.00 | 90.00 | 270.09 | 7950.00 | 10836.56 | -1280.17 | -10760.70 | 0.00 | 1677368.99 | 3221251.21 | 39.690549 | -104.713796 |
| | 18100.00 | 90.00 | 270.09 | 7950.00 | 10935.86 | -1280.01 | -10860.70 | 0.00 | 1677368.24 | 3221151.21 | 39.690550 | -104.714151 |
| | 18200.00 | 90.00 | 270.09 | 7950.00 | 11035.17 | -1279.86 | -10960.70 | 0.00 | 1677367.49 | 3221051.21 | 39.690550 | -104.714506 |
| Grande 4-65 20-19 2CH BHL | 18203.30 | 90.00 | 270.09 | 7950.00 | 11038.45 | -1279.85 | -10964.00 | 0.00 | 1677367.47 | 3221047.92 | 39.690550 | -104.714518 |

Survey Type: Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

| Description | Part | MD From (ft) | MD To (ft) | EOU Freq (ft) | Hole Size | Casing Diameter (in) | Expected Max Inclination (deg) | Survey Tool Type | Borehole / Survey |
|-------------|------|-----------------|---------------|------------------|-----------|-------------------------|--------------------------------------|-------------------------------|--|
| | 1 | 0.000 | 28.000 | 1/100.000 | 13.500 | 9.625 | | NAL_MWD-NON_SLB-Depth Only | Original Hole / Grande 4-65 20-19 2CH Plan #1 |
| | 1 | 28.000 | 2200.000 | 1/100.000 | 13.500 | 9.625 | | NAL_MWD-NON_SLB | Original Hole / Grande 4-65 20-19 2CH Plan #1 |
| | 1 | 2200.000 | 18203.299 | 1/100.000 | 8.500 | 5.500 | | NAL_MWD_PLUS_0.5_DEG | Original Hole / Grande 4-65 20-19 2CH Plan #1 |