

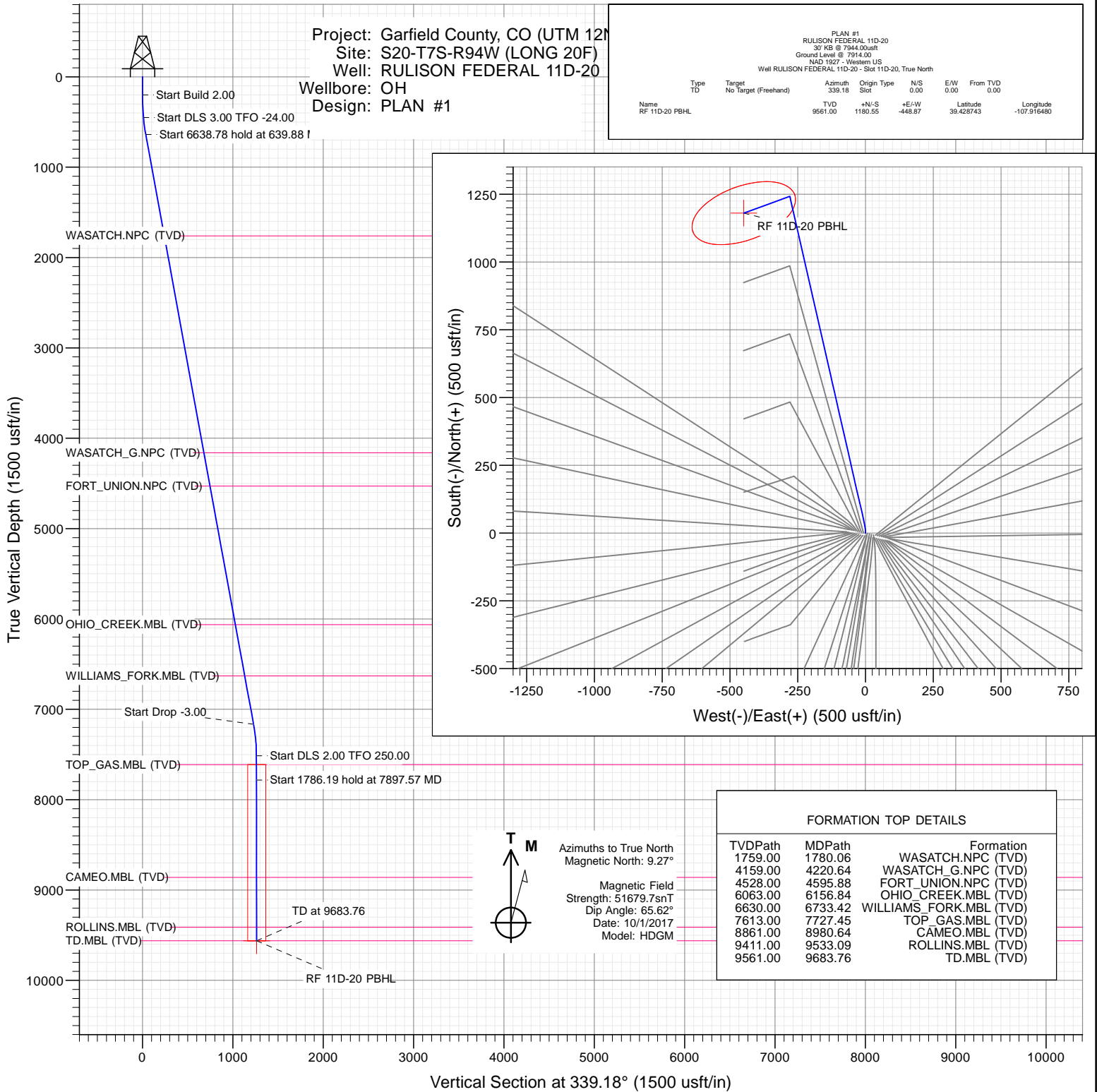


SECTION DETAILS

| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | TFace | Vsect | Target |
|-----|---------|-------|--------|---------|---------|---------|------|--------|---------|----------------|
| 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2 | 200.00 | 0.00 | 0.00 | 200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 3 | 450.00 | 5.00 | 0.00 | 449.68 | 10.90 | 0.00 | 2.00 | 0.00 | 10.19 | |
| 4 | 639.88 | 10.46 | 347.16 | 637.78 | 36.01 | -3.84 | 3.00 | -24.00 | 35.02 | |
| 5 | 7278.66 | 10.46 | 347.16 | 7166.17 | 1211.46 | -271.81 | 0.00 | 0.00 | 1228.97 | |
| 6 | 7627.43 | 0.00 | 0.00 | 7513.00 | 1242.42 | -278.87 | 3.00 | 180.00 | 1260.42 | |
| 7 | 7897.57 | 5.40 | 250.00 | 7782.75 | 1238.07 | -290.83 | 2.00 | 250.00 | 1260.60 | |
| 8 | 9683.76 | 5.40 | 250.00 | 9561.00 | 1180.55 | -448.87 | 0.00 | 0.00 | 1263.00 | RF 11D-20 PBHL |

Project: Garfield County, CO (UTM 12N)
Site: S20-T7S-R94W (LONG 20F)
Well: RULISON FEDERAL 11D-20
Wellbore: OH
Design: PLAN #1

| PLAN #1 RULISON FEDERAL 11D-20 30' KB @ 7944.00usft Ground Level @ 7914.00 NAD 1927 - Western US Well RULISON FEDERAL 11D-20 - Slot 11D-20, True North | | | | | | | |
|---|----------------------|---------|-------------|-----------|-------------|----------|--|
| Type | Target | Azimuth | Origin Type | N/S | E/W | From TVD | |
| TD | No Target (Freehand) | 339.18 | Slot | | 0.00 | 0.00 | |
| Name | TVD | +N/-S | +E/-W | Latitude | Longitude | | |
| RF 11D-20 PBHL | 9561.00 | 1180.55 | -448.87 | 39.428743 | -107.916480 | | |



WELL DETAILS: RULISON FEDERAL 11D-20

| | | 7914.00 | | | |
|-------|-------|-------------|------------|-----------|-------------|
| +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
| 0.00 | 0.00 | 14331766.50 | 2511705.80 | 39.425504 | -107.914892 |

11D-20

CATHEDRAL



Cathedral Energy Services

Planning Report

| | | | |
|------------------|-------------------------------|-------------------------------------|---|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well RULISON FEDERAL 11D-20 - Slot 11D-20 |
| Company: | Caerus Oil & Gas | TVD Reference: | 30' KB @ 7944.00usft |
| Project: | Garfield County, CO (UTM 12N) | MD Reference: | 30' KB @ 7944.00usft |
| Site: | S20-T7S-R94W (LONG 20F) | North Reference: | True |
| Well: | RULISON FEDERAL 11D-20 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | PLAN #1 | | |

| | | | |
|--------------------|--|----------------------|----------------|
| Project | Garfield County, CO (UTM 12N) | | |
| Map System: | Universal Transverse Mercator (US Survey Feet) | System Datum: | Mean Sea Level |
| Geo Datum: | NAD 1927 - Western US | | |
| Map Zone: | Zone 12N (114 W to 108 W) | | |

| | | | | | |
|-----------------------|-----------|-------------------------|--------------------|-------------------|-------------|
| Site | | S20-T7S-R94W (LONG 20F) | | | |
| Site Position: | | Northing: | 14,331,773.27 usft | Latitude: | 39.425526 |
| From: | Map | Easting: | 2,511,668.92 usft | Longitude: | -107.915021 |
| Position Uncertainty: | 0.00 usft | Slot Radius: | 13-3/16" | Grid Convergence: | 1.96 ° |

| | | | | | | |
|----------------------|--------------------------------------|-----------|---------------------|--------------------|---------------|---------------|
| Well | RULISON FEDERAL 11D-20 - Slot 11D-20 | | | | | |
| Well Position | +N/-S | 0.00 usft | Northing: | 14,331,766.50 usft | Latitude: | 39.425504 |
| | +E/-W | 0.00 usft | Easting: | 2,511,705.80 usft | Longitude: | -107.914892 |
| Position Uncertainty | | 0.00 usft | Wellhead Elevation: | usft | Ground Level: | 7,914.00 usft |

| | | | | | |
|------------------|-------------------|--------------------|--------------------|------------------|-----------------------|
| Wellbore | OH | | | | |
| Magnetics | Model Name | Sample Date | Declination | Dip Angle | Field Strength |
| | | | (°) | (°) | (nT) |
| | HDGM | 10/1/2017 | 9.27 | 65.62 | 51,679.70000000 |

| | | | | |
|--------------------------|-------------------------|--------------|----------------------|------------------|
| Design | PLAN #1 | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PLAN | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) | +N/-S | +E/-W | Direction |
| | (usft) | (usft) | (usft) | (°) |
| | 0.00 | 0.00 | 0.00 | 339.18 |

| Plan Sections | | | | | | | | | | |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|------------------------|-----------------------|---------|----------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 200.00 | 0.00 | 0.00 | 200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 450.00 | 5.00 | 0.00 | 449.68 | 10.90 | 0.00 | 2.00 | 2.00 | 0.00 | 0.00 | |
| 639.88 | 10.46 | 347.16 | 637.78 | 36.01 | -3.84 | 3.00 | 2.88 | -6.76 | -24.00 | |
| 7,278.66 | 10.46 | 347.16 | 7,166.17 | 1,211.46 | -271.81 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 7,627.43 | 0.00 | 0.00 | 7,513.00 | 1,242.42 | -278.87 | 3.00 | -3.00 | 0.00 | 180.00 | |
| 7,897.57 | 5.40 | 250.00 | 7,782.75 | 1,238.07 | -290.83 | 2.00 | 2.00 | -40.72 | 250.00 | |
| 9,683.76 | 5.40 | 250.00 | 9,561.00 | 1,180.55 | -448.87 | 0.00 | 0.00 | 0.00 | 0.00 | RF 11D-20 PBHL |

Cathedral Energy Services

Planning Report

| | | | |
|------------------|-------------------------------|-------------------------------------|---|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well RULISON FEDERAL 11D-20 - Slot 11D-20 |
| Company: | Caerus Oil & Gas | TVD Reference: | 30' KB @ 7944.00usft |
| Project: | Garfield County, CO (UTM 12N) | MD Reference: | 30' KB @ 7944.00usft |
| Site: | S20-T7S-R94W (LONG 20F) | North Reference: | True |
| Well: | RULISON FEDERAL 11D-20 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | PLAN #1 | | |

Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100u) | Comments / Formations |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|---------------------|-----------------------|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 100.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 200.00 | 0.00 | 0.00 | 200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 300.00 | 2.00 | 0.00 | 299.98 | 1.75 | 0.00 | 1.63 | 2.00 | 2.00 | |
| 400.00 | 4.00 | 0.00 | 399.84 | 6.98 | 0.00 | 6.52 | 2.00 | 2.00 | |
| 450.00 | 5.00 | 0.00 | 449.68 | 10.90 | 0.00 | 10.19 | 2.00 | 2.00 | |
| 500.00 | 6.40 | 354.52 | 499.43 | 15.85 | -0.27 | 14.91 | 3.00 | 2.80 | |
| 600.00 | 9.29 | 348.60 | 598.49 | 29.32 | -2.39 | 28.26 | 3.00 | 2.89 | |
| 639.88 | 10.46 | 347.16 | 637.78 | 36.01 | -3.84 | 35.02 | 3.00 | 2.94 | |
| 700.00 | 10.46 | 347.16 | 696.90 | 46.65 | -6.26 | 45.83 | 0.00 | 0.00 | |
| 800.00 | 10.46 | 347.16 | 795.24 | 64.36 | -10.30 | 63.82 | 0.00 | 0.00 | |
| 900.00 | 10.46 | 347.16 | 893.57 | 82.06 | -14.34 | 81.80 | 0.00 | 0.00 | |
| 1,000.00 | 10.46 | 347.16 | 991.91 | 99.77 | -18.37 | 99.78 | 0.00 | 0.00 | |
| 1,100.00 | 10.46 | 347.16 | 1,090.25 | 117.47 | -22.41 | 117.77 | 0.00 | 0.00 | |
| 1,200.00 | 10.46 | 347.16 | 1,188.58 | 135.18 | -26.44 | 135.75 | 0.00 | 0.00 | |
| 1,300.00 | 10.46 | 347.16 | 1,286.92 | 152.89 | -30.48 | 153.74 | 0.00 | 0.00 | |
| 1,400.00 | 10.46 | 347.16 | 1,385.26 | 170.59 | -34.52 | 171.72 | 0.00 | 0.00 | |
| 1,500.00 | 10.46 | 347.16 | 1,483.60 | 188.30 | -38.55 | 189.71 | 0.00 | 0.00 | |
| 1,600.00 | 10.46 | 347.16 | 1,581.93 | 206.00 | -42.59 | 207.69 | 0.00 | 0.00 | |
| 1,700.00 | 10.46 | 347.16 | 1,680.27 | 223.71 | -46.63 | 225.68 | 0.00 | 0.00 | |
| 1,780.06 | 10.46 | 347.16 | 1,759.00 | 237.89 | -49.86 | 240.07 | 0.00 | 0.00 | WASATCH.NPC (TVD) |
| 1,800.00 | 10.46 | 347.16 | 1,778.61 | 241.42 | -50.66 | 243.66 | 0.00 | 0.00 | |
| 1,900.00 | 10.46 | 347.16 | 1,876.94 | 259.12 | -54.70 | 261.64 | 0.00 | 0.00 | |
| 2,000.00 | 10.46 | 347.16 | 1,975.28 | 276.83 | -58.74 | 279.63 | 0.00 | 0.00 | |
| 2,100.00 | 10.46 | 347.16 | 2,073.62 | 294.53 | -62.77 | 297.61 | 0.00 | 0.00 | |
| 2,200.00 | 10.46 | 347.16 | 2,171.96 | 312.24 | -66.81 | 315.60 | 0.00 | 0.00 | |
| 2,300.00 | 10.46 | 347.16 | 2,270.29 | 329.94 | -70.85 | 333.58 | 0.00 | 0.00 | |
| 2,400.00 | 10.46 | 347.16 | 2,368.63 | 347.65 | -74.88 | 351.57 | 0.00 | 0.00 | |
| 2,500.00 | 10.46 | 347.16 | 2,466.97 | 365.36 | -78.92 | 369.55 | 0.00 | 0.00 | |
| 2,600.00 | 10.46 | 347.16 | 2,565.31 | 383.06 | -82.96 | 387.54 | 0.00 | 0.00 | |
| 2,700.00 | 10.46 | 347.16 | 2,663.64 | 400.77 | -86.99 | 405.52 | 0.00 | 0.00 | |
| 2,800.00 | 10.46 | 347.16 | 2,761.98 | 418.47 | -91.03 | 423.51 | 0.00 | 0.00 | |
| 2,900.00 | 10.46 | 347.16 | 2,860.32 | 436.18 | -95.07 | 441.49 | 0.00 | 0.00 | |
| 3,000.00 | 10.46 | 347.16 | 2,958.65 | 453.89 | -99.10 | 459.47 | 0.00 | 0.00 | |
| 3,100.00 | 10.46 | 347.16 | 3,056.99 | 471.59 | -103.14 | 477.46 | 0.00 | 0.00 | |
| 3,200.00 | 10.46 | 347.16 | 3,155.33 | 489.30 | -107.18 | 495.44 | 0.00 | 0.00 | |
| 3,300.00 | 10.46 | 347.16 | 3,253.67 | 507.00 | -111.21 | 513.43 | 0.00 | 0.00 | |
| 3,400.00 | 10.46 | 347.16 | 3,352.00 | 524.71 | -115.25 | 531.41 | 0.00 | 0.00 | |
| 3,500.00 | 10.46 | 347.16 | 3,450.34 | 542.41 | -119.28 | 549.40 | 0.00 | 0.00 | |
| 3,600.00 | 10.46 | 347.16 | 3,548.68 | 560.12 | -123.32 | 567.38 | 0.00 | 0.00 | |
| 3,700.00 | 10.46 | 347.16 | 3,647.01 | 577.83 | -127.36 | 585.37 | 0.00 | 0.00 | |
| 3,800.00 | 10.46 | 347.16 | 3,745.35 | 595.53 | -131.39 | 603.35 | 0.00 | 0.00 | |
| 3,900.00 | 10.46 | 347.16 | 3,843.69 | 613.24 | -135.43 | 621.33 | 0.00 | 0.00 | |
| 4,000.00 | 10.46 | 347.16 | 3,942.03 | 630.94 | -139.47 | 639.32 | 0.00 | 0.00 | |
| 4,100.00 | 10.46 | 347.16 | 4,040.36 | 648.65 | -143.50 | 657.30 | 0.00 | 0.00 | |
| 4,200.00 | 10.46 | 347.16 | 4,138.70 | 666.36 | -147.54 | 675.29 | 0.00 | 0.00 | |
| 4,220.64 | 10.46 | 347.16 | 4,159.00 | 670.01 | -148.37 | 679.00 | 0.00 | 0.00 | WASATCH_G.NPC (TVD) |
| 4,300.00 | 10.46 | 347.16 | 4,237.04 | 684.06 | -151.58 | 693.27 | 0.00 | 0.00 | |
| 4,400.00 | 10.46 | 347.16 | 4,335.38 | 701.77 | -155.61 | 711.26 | 0.00 | 0.00 | |
| 4,500.00 | 10.46 | 347.16 | 4,433.71 | 719.47 | -159.65 | 729.24 | 0.00 | 0.00 | |
| 4,595.88 | 10.46 | 347.16 | 4,528.00 | 736.45 | -163.52 | 746.49 | 0.00 | 0.00 | FORT_UNION.NPC (TVD) |
| 4,600.00 | 10.46 | 347.16 | 4,532.05 | 737.18 | -163.69 | 747.23 | 0.00 | 0.00 | |

Cathedral Energy Services

Planning Report

| | | | |
|------------------|-------------------------------|-------------------------------------|---|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well RULISON FEDERAL 11D-20 - Slot 11D-20 |
| Company: | Caerus Oil & Gas | TVD Reference: | 30' KB @ 7944.00usft |
| Project: | Garfield County, CO (UTM 12N) | MD Reference: | 30' KB @ 7944.00usft |
| Site: | S20-T7S-R94W (LONG 20F) | North Reference: | True |
| Well: | RULISON FEDERAL 11D-20 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | PLAN #1 | | |

| Planned Survey | | | | | | | | | |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|---------------------|-------------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100u) | Comments / Formations |
| 4,700.00 | 10.46 | 347.16 | 4,630.39 | 754.88 | -167.72 | 765.21 | 0.00 | 0.00 | |
| 4,800.00 | 10.46 | 347.16 | 4,728.72 | 772.59 | -171.76 | 783.19 | 0.00 | 0.00 | |
| 4,900.00 | 10.46 | 347.16 | 4,827.06 | 790.30 | -175.80 | 801.18 | 0.00 | 0.00 | |
| 5,000.00 | 10.46 | 347.16 | 4,925.40 | 808.00 | -179.83 | 819.16 | 0.00 | 0.00 | |
| 5,100.00 | 10.46 | 347.16 | 5,023.74 | 825.71 | -183.87 | 837.15 | 0.00 | 0.00 | |
| 5,200.00 | 10.46 | 347.16 | 5,122.07 | 843.41 | -187.91 | 855.13 | 0.00 | 0.00 | |
| 5,300.00 | 10.46 | 347.16 | 5,220.41 | 861.12 | -191.94 | 873.12 | 0.00 | 0.00 | |
| 5,400.00 | 10.46 | 347.16 | 5,318.75 | 878.83 | -195.98 | 891.10 | 0.00 | 0.00 | |
| 5,500.00 | 10.46 | 347.16 | 5,417.08 | 896.53 | -200.02 | 909.09 | 0.00 | 0.00 | |
| 5,600.00 | 10.46 | 347.16 | 5,515.42 | 914.24 | -204.05 | 927.07 | 0.00 | 0.00 | |
| 5,700.00 | 10.46 | 347.16 | 5,613.76 | 931.94 | -208.09 | 945.05 | 0.00 | 0.00 | |
| 5,800.00 | 10.46 | 347.16 | 5,712.10 | 949.65 | -212.12 | 963.04 | 0.00 | 0.00 | |
| 5,900.00 | 10.46 | 347.16 | 5,810.43 | 967.35 | -216.16 | 981.02 | 0.00 | 0.00 | |
| 6,000.00 | 10.46 | 347.16 | 5,908.77 | 985.06 | -220.20 | 999.01 | 0.00 | 0.00 | |
| 6,100.00 | 10.46 | 347.16 | 6,007.11 | 1,002.77 | -224.23 | 1,016.99 | 0.00 | 0.00 | |
| 6,156.84 | 10.46 | 347.16 | 6,063.00 | 1,012.83 | -226.53 | 1,027.21 | 0.00 | 0.00 | OHIO_CREEK.MBL (TVD) |
| 6,200.00 | 10.46 | 347.16 | 6,105.45 | 1,020.47 | -228.27 | 1,034.98 | 0.00 | 0.00 | |
| 6,300.00 | 10.46 | 347.16 | 6,203.78 | 1,038.18 | -232.31 | 1,052.96 | 0.00 | 0.00 | |
| 6,400.00 | 10.46 | 347.16 | 6,302.12 | 1,055.88 | -236.34 | 1,070.95 | 0.00 | 0.00 | |
| 6,500.00 | 10.46 | 347.16 | 6,400.46 | 1,073.59 | -240.38 | 1,088.93 | 0.00 | 0.00 | |
| 6,600.00 | 10.46 | 347.16 | 6,498.79 | 1,091.30 | -244.42 | 1,106.92 | 0.00 | 0.00 | |
| 6,700.00 | 10.46 | 347.16 | 6,597.13 | 1,109.00 | -248.45 | 1,124.90 | 0.00 | 0.00 | |
| 6,733.42 | 10.46 | 347.16 | 6,630.00 | 1,114.92 | -249.80 | 1,130.91 | 0.00 | 0.00 | WILLIAMS_FORK.MBL (TVD) |
| 6,800.00 | 10.46 | 347.16 | 6,695.47 | 1,126.71 | -252.49 | 1,142.88 | 0.00 | 0.00 | |
| 6,900.00 | 10.46 | 347.16 | 6,793.81 | 1,144.41 | -256.53 | 1,160.87 | 0.00 | 0.00 | |
| 7,000.00 | 10.46 | 347.16 | 6,892.14 | 1,162.12 | -260.56 | 1,178.85 | 0.00 | 0.00 | |
| 7,100.00 | 10.46 | 347.16 | 6,990.48 | 1,179.82 | -264.60 | 1,196.84 | 0.00 | 0.00 | |
| 7,200.00 | 10.46 | 347.16 | 7,088.82 | 1,197.53 | -268.64 | 1,214.82 | 0.00 | 0.00 | |
| 7,278.66 | 10.46 | 347.16 | 7,166.17 | 1,211.46 | -271.81 | 1,228.97 | 0.00 | 0.00 | |
| 7,300.00 | 9.82 | 347.16 | 7,187.18 | 1,215.12 | -272.65 | 1,232.69 | 3.00 | -3.00 | |
| 7,400.00 | 6.82 | 347.16 | 7,286.11 | 1,229.23 | -275.86 | 1,247.02 | 3.00 | -3.00 | |
| 7,500.00 | 3.82 | 347.16 | 7,385.67 | 1,238.28 | -277.93 | 1,256.21 | 3.00 | -3.00 | |
| 7,600.00 | 0.82 | 347.16 | 7,485.58 | 1,242.23 | -278.83 | 1,260.22 | 3.00 | -3.00 | |
| 7,627.43 | 0.00 | 0.00 | 7,513.00 | 1,242.42 | -278.87 | 1,260.42 | 3.00 | -3.00 | |
| 7,700.00 | 1.45 | 250.00 | 7,585.57 | 1,242.11 | -279.73 | 1,260.43 | 2.00 | 2.00 | |
| 7,727.45 | 2.00 | 250.00 | 7,613.00 | 1,241.82 | -280.51 | 1,260.44 | 2.00 | 2.00 | TOP_GAS.MBL (TVD) |
| 7,800.00 | 3.45 | 250.00 | 7,685.47 | 1,240.64 | -283.75 | 1,260.49 | 2.00 | 2.00 | |
| 7,897.57 | 5.40 | 250.00 | 7,782.75 | 1,238.07 | -290.83 | 1,260.60 | 2.00 | 2.00 | |
| 7,900.00 | 5.40 | 250.00 | 7,785.16 | 1,237.99 | -291.05 | 1,260.60 | 0.00 | 0.00 | |
| 8,000.00 | 5.40 | 250.00 | 7,884.72 | 1,234.77 | -299.89 | 1,260.74 | 0.00 | 0.00 | |
| 8,100.00 | 5.40 | 250.00 | 7,984.28 | 1,231.55 | -308.74 | 1,260.87 | 0.00 | 0.00 | |
| 8,200.00 | 5.40 | 250.00 | 8,083.83 | 1,228.33 | -317.59 | 1,261.01 | 0.00 | 0.00 | |
| 8,300.00 | 5.40 | 250.00 | 8,183.39 | 1,225.11 | -326.44 | 1,261.14 | 0.00 | 0.00 | |
| 8,400.00 | 5.40 | 250.00 | 8,282.94 | 1,221.89 | -335.29 | 1,261.28 | 0.00 | 0.00 | |
| 8,500.00 | 5.40 | 250.00 | 8,382.50 | 1,218.67 | -344.13 | 1,261.41 | 0.00 | 0.00 | |
| 8,600.00 | 5.40 | 250.00 | 8,482.05 | 1,215.45 | -352.98 | 1,261.55 | 0.00 | 0.00 | |
| 8,700.00 | 5.40 | 250.00 | 8,581.61 | 1,212.23 | -361.83 | 1,261.68 | 0.00 | 0.00 | |
| 8,800.00 | 5.40 | 250.00 | 8,681.17 | 1,209.01 | -370.68 | 1,261.81 | 0.00 | 0.00 | |
| 8,900.00 | 5.40 | 250.00 | 8,780.72 | 1,205.79 | -379.53 | 1,261.95 | 0.00 | 0.00 | |
| 8,980.64 | 5.40 | 250.00 | 8,861.00 | 1,203.19 | -386.66 | 1,262.06 | 0.00 | 0.00 | CAMEO.MBL (TVD) |
| 9,000.00 | 5.40 | 250.00 | 8,880.28 | 1,202.57 | -388.37 | 1,262.08 | 0.00 | 0.00 | |
| 9,100.00 | 5.40 | 250.00 | 8,979.83 | 1,199.35 | -397.22 | 1,262.22 | 0.00 | 0.00 | |

Cathedral Energy Services

Planning Report

| | | | |
|------------------|-------------------------------|-------------------------------------|---|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well RULISON FEDERAL 11D-20 - Slot 11D-20 |
| Company: | Caerus Oil & Gas | TVD Reference: | 30' KB @ 7944.00usft |
| Project: | Garfield County, CO (UTM 12N) | MD Reference: | 30' KB @ 7944.00usft |
| Site: | S20-T7S-R94W (LONG 20F) | North Reference: | True |
| Well: | RULISON FEDERAL 11D-20 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | PLAN #1 | | |

| Planned Survey | | | | | | | | | |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|---------------------|-----------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100u) | Comments / Formations |
| 9,200.00 | 5.40 | 250.00 | 9,079.39 | 1,196.13 | -406.07 | 1,262.35 | 0.00 | 0.00 | |
| 9,300.00 | 5.40 | 250.00 | 9,178.94 | 1,192.91 | -414.92 | 1,262.49 | 0.00 | 0.00 | |
| 9,400.00 | 5.40 | 250.00 | 9,278.50 | 1,189.69 | -423.77 | 1,262.62 | 0.00 | 0.00 | |
| 9,500.00 | 5.40 | 250.00 | 9,378.06 | 1,186.47 | -432.62 | 1,262.76 | 0.00 | 0.00 | |
| 9,533.09 | 5.40 | 250.00 | 9,411.00 | 1,185.40 | -435.54 | 1,262.80 | 0.00 | 0.00 | ROLLINS.MBL (TVD) |
| 9,600.00 | 5.40 | 250.00 | 9,477.61 | 1,183.24 | -441.46 | 1,262.89 | 0.00 | 0.00 | |
| 9,683.76 | 5.40 | 250.00 | 9,561.00 | 1,180.55 | -448.87 | 1,263.00 | 0.00 | 0.00 | TD.MBL (TVD) |

| Targets | | | | | | | | | |
|---|---------------|--------------|------------|--------------|--------------|-----------------|----------------|-----------|-------------|
| Target Name | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
| - hit/miss target | | | | | | | | | |
| - Shape | | | | | | | | | |
| RF 11D-20 PBHL | 0.00 | 0.00 | 9,561.00 | 1,180.55 | -448.87 | 14,332,931.00 | 2,511,216.80 | 39.428743 | -107.916480 |
| - plan hits target center | | | | | | | | | |
| - Ellipse (radii L200.00 W100.00 on 250.00 azi) | | | | | | | | | |

| Formations | | | | | | |
|-----------------------|-----------------------|-------------------------|-----------|---------|-------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) | |
| 1,780.06 | 1,759.00 | WASATCH.NPC (TVD) | | | | |
| 4,220.64 | 4,159.00 | WASATCH_G.NPC (TVD) | | | | |
| 4,595.88 | 4,528.00 | FORT_UNION.NPC (TVD) | | | | |
| 6,156.84 | 6,063.00 | OHIO_CREEK.MBL (TVD) | | | | |
| 6,733.42 | 6,630.00 | WILLIAMS_FORK.MBL (TVD) | | | | |
| 7,727.45 | 7,613.00 | TOP_GAS.MBL (TVD) | | | | |
| 8,980.64 | 8,861.00 | CAMEO.MBL (TVD) | | | | |
| 9,533.09 | 9,411.00 | ROLLINS.MBL (TVD) | | | | |
| 9,683.76 | 9,561.00 | TD.MBL (TVD) | | | | |