

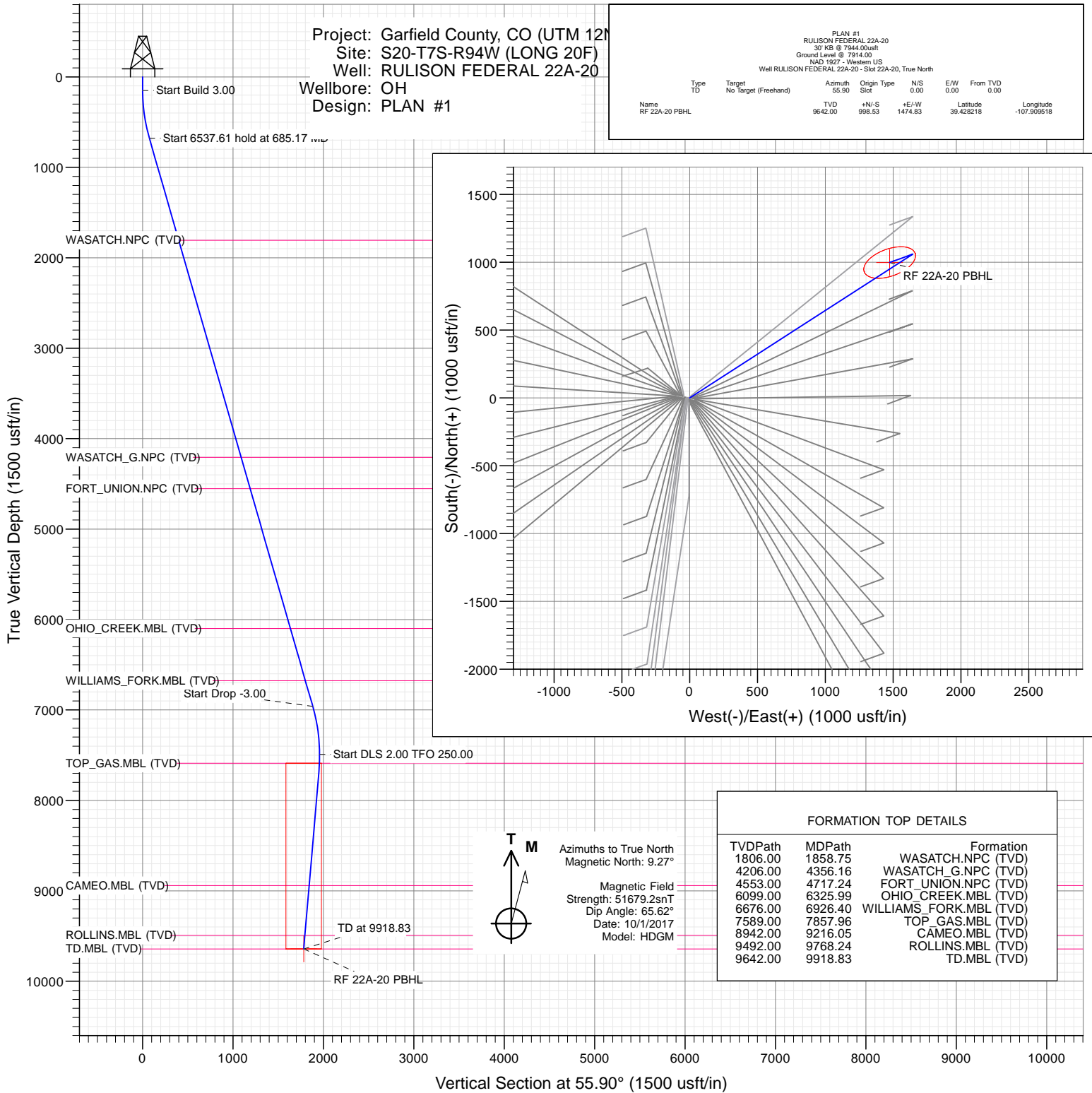


SECTION DETAILS

| 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 | 150.00 | 0.00 | 0.00 | 150.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 3 | 685.17 | 16.05 | 57.19 | 678.19 | 40.36 | 62.61 | 3.00 | 57.19 | 74.47 | |
| 4 | 7222.77 | 16.05 | 57.19 | 6960.81 | 1020.04 | 1582.22 | 0.00 | 0.00 | 1882.05 | |
| 5 | 7757.94 | 0.00 | 0.00 | 7489.00 | 1060.40 | 1644.83 | 3.00 | 180.00 | 1956.52 | |
| 6 | 8013.16 | 5.10 | 250.00 | 7743.89 | 1056.51 | 1634.15 | 2.00 | 250.00 | 1945.50 | |
| 7 | 9918.83 | 5.10 | 250.00 | 9642.00 | 998.53 | 1474.83 | 0.00 | 0.00 | 1781.06 | RF 22A-20 PBHL |

Project: Garfield County, CO (UTM 12N)
Site: S20-T7S-R94W (LONG 20F)
Well: RULISON FEDERAL 22A-20
Wellbore: OH
Design: PLAN #1

| PLAN #1 RULISON FEDERAL 22A-20 30' KB @ 7944.00usft Ground Level @ 7914.00 NAD 1927 - Western US Well RULISON FEDERAL 22A-20 - Slot 22A-20, True North | | | | | | | |
|---|----------------|--------|----------------------|---------|-------------|----------|-----------------------|
| Type | TD | Target | No Target (Freehand) | Azimuth | Origin Type | N/S | E/W |
| Name | RF 22A-20 PBHL | | | TVD | Slot | Latitude | Longitude |
| | | | | 9642.00 | 998.53 | 1474.83 | 39.428218 -107.909518 |



WELL DETAILS: RULISON FEDERAL 22A-20

| | | 7914.00 | | | |
|-------|-------|-------------|------------|-----------|-------------|
| +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
| 0.00 | 0.00 | 14331758.50 | 2511750.00 | 39.425478 | -107.914736 |

22A-20

CATHEDRAL



Cathedral Energy Services

Planning Report

| | | | |
|------------------|-------------------------------|-------------------------------------|---|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well RULISON FEDERAL 22A-20 - Slot 22A-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 22A-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 22A-20 - Slot 22A-20 | | | | | |
| Well Position | +N/-S | 0.00 usft | Northing: | 14,331,758.50 usft | Latitude: | 39.425478 |
| | +E/-W | 0.00 usft | Easting: | 2,511,750.00 usft | Longitude: | -107.914736 |
| 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 | 51,679.20000000 |

| | | | | |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|
| Design | PLAN #1 | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PLAN | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |
| | 0.00 | 0.00 | 0.00 | 55.90 |

| 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 | |
| 150.00 | 0.00 | 0.00 | 150.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 685.17 | 16.05 | 57.19 | 678.19 | 40.36 | 62.61 | 3.00 | 3.00 | 0.00 | 57.19 | |
| 7,222.77 | 16.05 | 57.19 | 6,960.81 | 1,020.04 | 1,582.22 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 7,757.94 | 0.00 | 0.00 | 7,489.00 | 1,060.40 | 1,644.83 | 3.00 | -3.00 | 0.00 | 180.00 | |
| 8,013.16 | 5.10 | 250.00 | 7,743.89 | 1,056.51 | 1,634.15 | 2.00 | 2.00 | -43.10 | 250.00 | |
| 9,918.83 | 5.10 | 250.00 | 9,642.00 | 998.53 | 1,474.83 | 0.00 | 0.00 | 0.00 | 0.00 | RF 22A-20 PBHL |

Cathedral Energy Services

Planning Report

| | | | |
|------------------|-------------------------------|-------------------------------------|---|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well RULISON FEDERAL 22A-20 - Slot 22A-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 22A-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 | |
| 150.00 | 0.00 | 0.00 | 150.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 200.00 | 1.50 | 57.19 | 199.99 | 0.35 | 0.55 | 0.65 | 3.00 | 3.00 | |
| 300.00 | 4.50 | 57.19 | 299.85 | 3.19 | 4.95 | 5.89 | 3.00 | 3.00 | |
| 400.00 | 7.50 | 57.19 | 399.29 | 8.85 | 13.73 | 16.33 | 3.00 | 3.00 | |
| 500.00 | 10.50 | 57.19 | 498.04 | 17.33 | 26.88 | 31.97 | 3.00 | 3.00 | |
| 600.00 | 13.50 | 57.19 | 595.85 | 28.59 | 44.35 | 52.76 | 3.00 | 3.00 | |
| 685.17 | 16.05 | 57.19 | 678.19 | 40.36 | 62.61 | 74.47 | 3.00 | 3.00 | |
| 700.00 | 16.05 | 57.19 | 692.45 | 42.59 | 66.06 | 78.57 | 0.00 | 0.00 | |
| 800.00 | 16.05 | 57.19 | 788.55 | 57.57 | 89.30 | 106.22 | 0.00 | 0.00 | |
| 900.00 | 16.05 | 57.19 | 884.64 | 72.56 | 112.54 | 133.87 | 0.00 | 0.00 | |
| 1,000.00 | 16.05 | 57.19 | 980.74 | 87.54 | 135.79 | 161.52 | 0.00 | 0.00 | |
| 1,100.00 | 16.05 | 57.19 | 1,076.84 | 102.53 | 159.03 | 189.17 | 0.00 | 0.00 | |
| 1,200.00 | 16.05 | 57.19 | 1,172.94 | 117.51 | 182.28 | 216.82 | 0.00 | 0.00 | |
| 1,300.00 | 16.05 | 57.19 | 1,269.04 | 132.50 | 205.52 | 244.47 | 0.00 | 0.00 | |
| 1,400.00 | 16.05 | 57.19 | 1,365.14 | 147.48 | 228.77 | 272.12 | 0.00 | 0.00 | |
| 1,500.00 | 16.05 | 57.19 | 1,461.24 | 162.47 | 252.01 | 299.76 | 0.00 | 0.00 | |
| 1,600.00 | 16.05 | 57.19 | 1,557.34 | 177.45 | 275.25 | 327.41 | 0.00 | 0.00 | |
| 1,700.00 | 16.05 | 57.19 | 1,653.44 | 192.44 | 298.50 | 355.06 | 0.00 | 0.00 | |
| 1,800.00 | 16.05 | 57.19 | 1,749.54 | 207.42 | 321.74 | 382.71 | 0.00 | 0.00 | |
| 1,858.75 | 16.05 | 57.19 | 1,806.00 | 216.23 | 335.40 | 398.95 | 0.00 | 0.00 | WASATCH.NPC (TVD) |
| 1,900.00 | 16.05 | 57.19 | 1,845.64 | 222.41 | 344.99 | 410.36 | 0.00 | 0.00 | |
| 2,000.00 | 16.05 | 57.19 | 1,941.74 | 237.39 | 368.23 | 438.01 | 0.00 | 0.00 | |
| 2,100.00 | 16.05 | 57.19 | 2,037.84 | 252.38 | 391.47 | 465.66 | 0.00 | 0.00 | |
| 2,200.00 | 16.05 | 57.19 | 2,133.94 | 267.36 | 414.72 | 493.31 | 0.00 | 0.00 | |
| 2,300.00 | 16.05 | 57.19 | 2,230.04 | 282.35 | 437.96 | 520.96 | 0.00 | 0.00 | |
| 2,400.00 | 16.05 | 57.19 | 2,326.14 | 297.33 | 461.21 | 548.60 | 0.00 | 0.00 | |
| 2,500.00 | 16.05 | 57.19 | 2,422.24 | 312.32 | 484.45 | 576.25 | 0.00 | 0.00 | |
| 2,600.00 | 16.05 | 57.19 | 2,518.34 | 327.30 | 507.70 | 603.90 | 0.00 | 0.00 | |
| 2,700.00 | 16.05 | 57.19 | 2,614.44 | 342.29 | 530.94 | 631.55 | 0.00 | 0.00 | |
| 2,800.00 | 16.05 | 57.19 | 2,710.54 | 357.28 | 554.18 | 659.20 | 0.00 | 0.00 | |
| 2,900.00 | 16.05 | 57.19 | 2,806.64 | 372.26 | 577.43 | 686.85 | 0.00 | 0.00 | |
| 3,000.00 | 16.05 | 57.19 | 2,902.74 | 387.25 | 600.67 | 714.50 | 0.00 | 0.00 | |
| 3,100.00 | 16.05 | 57.19 | 2,998.84 | 402.23 | 623.92 | 742.15 | 0.00 | 0.00 | |
| 3,200.00 | 16.05 | 57.19 | 3,094.94 | 417.22 | 647.16 | 769.80 | 0.00 | 0.00 | |
| 3,300.00 | 16.05 | 57.19 | 3,191.04 | 432.20 | 670.41 | 797.44 | 0.00 | 0.00 | |
| 3,400.00 | 16.05 | 57.19 | 3,287.14 | 447.19 | 693.65 | 825.09 | 0.00 | 0.00 | |
| 3,500.00 | 16.05 | 57.19 | 3,383.24 | 462.17 | 716.89 | 852.74 | 0.00 | 0.00 | |
| 3,600.00 | 16.05 | 57.19 | 3,479.34 | 477.16 | 740.14 | 880.39 | 0.00 | 0.00 | |
| 3,700.00 | 16.05 | 57.19 | 3,575.44 | 492.14 | 763.38 | 908.04 | 0.00 | 0.00 | |
| 3,800.00 | 16.05 | 57.19 | 3,671.54 | 507.13 | 786.63 | 935.69 | 0.00 | 0.00 | |
| 3,900.00 | 16.05 | 57.19 | 3,767.64 | 522.11 | 809.87 | 963.34 | 0.00 | 0.00 | |
| 4,000.00 | 16.05 | 57.19 | 3,863.74 | 537.10 | 833.11 | 990.99 | 0.00 | 0.00 | |
| 4,100.00 | 16.05 | 57.19 | 3,959.83 | 552.08 | 856.36 | 1,018.64 | 0.00 | 0.00 | |
| 4,200.00 | 16.05 | 57.19 | 4,055.93 | 567.07 | 879.60 | 1,046.28 | 0.00 | 0.00 | |
| 4,300.00 | 16.05 | 57.19 | 4,152.03 | 582.05 | 902.85 | 1,073.93 | 0.00 | 0.00 | |
| 4,356.16 | 16.05 | 57.19 | 4,206.00 | 590.47 | 915.90 | 1,089.46 | 0.00 | 0.00 | WASATCH_G.NPC (TVD) |
| 4,400.00 | 16.05 | 57.19 | 4,248.13 | 597.04 | 926.09 | 1,101.58 | 0.00 | 0.00 | |
| 4,500.00 | 16.05 | 57.19 | 4,344.23 | 612.02 | 949.34 | 1,129.23 | 0.00 | 0.00 | |
| 4,600.00 | 16.05 | 57.19 | 4,440.33 | 627.01 | 972.58 | 1,156.88 | 0.00 | 0.00 | |
| 4,700.00 | 16.05 | 57.19 | 4,536.43 | 641.99 | 995.82 | 1,184.53 | 0.00 | 0.00 | |

Cathedral Energy Services

Planning Report

| | | | |
|------------------|-------------------------------|-------------------------------------|---|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well RULISON FEDERAL 22A-20 - Slot 22A-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 22A-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 |
| 4,717.24 | 16.05 | 57.19 | 4,553.00 | 644.58 | 999.83 | 1,189.30 | 0.00 | 0.00 | FORT_UNION.NPC (TVD) |
| 4,800.00 | 16.05 | 57.19 | 4,632.53 | 656.98 | 1,019.07 | 1,212.18 | 0.00 | 0.00 | |
| 4,900.00 | 16.05 | 57.19 | 4,728.63 | 671.96 | 1,042.31 | 1,239.83 | 0.00 | 0.00 | |
| 5,000.00 | 16.05 | 57.19 | 4,824.73 | 686.95 | 1,065.56 | 1,267.48 | 0.00 | 0.00 | |
| 5,100.00 | 16.05 | 57.19 | 4,920.83 | 701.94 | 1,088.80 | 1,295.12 | 0.00 | 0.00 | |
| 5,200.00 | 16.05 | 57.19 | 5,016.93 | 716.92 | 1,112.04 | 1,322.77 | 0.00 | 0.00 | |
| 5,300.00 | 16.05 | 57.19 | 5,113.03 | 731.91 | 1,135.29 | 1,350.42 | 0.00 | 0.00 | |
| 5,400.00 | 16.05 | 57.19 | 5,209.13 | 746.89 | 1,158.53 | 1,378.07 | 0.00 | 0.00 | |
| 5,500.00 | 16.05 | 57.19 | 5,305.23 | 761.88 | 1,181.78 | 1,405.72 | 0.00 | 0.00 | |
| 5,600.00 | 16.05 | 57.19 | 5,401.33 | 776.86 | 1,205.02 | 1,433.37 | 0.00 | 0.00 | |
| 5,700.00 | 16.05 | 57.19 | 5,497.43 | 791.85 | 1,228.27 | 1,461.02 | 0.00 | 0.00 | OHIO_CREEK.MBL (TVD) |
| 5,800.00 | 16.05 | 57.19 | 5,593.53 | 806.83 | 1,251.51 | 1,488.67 | 0.00 | 0.00 | |
| 5,900.00 | 16.05 | 57.19 | 5,689.63 | 821.82 | 1,274.75 | 1,516.32 | 0.00 | 0.00 | |
| 6,000.00 | 16.05 | 57.19 | 5,785.73 | 836.80 | 1,298.00 | 1,543.97 | 0.00 | 0.00 | |
| 6,100.00 | 16.05 | 57.19 | 5,881.83 | 851.79 | 1,321.24 | 1,571.61 | 0.00 | 0.00 | |
| 6,200.00 | 16.05 | 57.19 | 5,977.93 | 866.77 | 1,344.49 | 1,599.26 | 0.00 | 0.00 | |
| 6,300.00 | 16.05 | 57.19 | 6,074.03 | 881.76 | 1,367.73 | 1,626.91 | 0.00 | 0.00 | |
| 6,325.99 | 16.05 | 57.19 | 6,099.00 | 885.65 | 1,373.77 | 1,634.10 | 0.00 | 0.00 | |
| 6,400.00 | 16.05 | 57.19 | 6,170.13 | 896.74 | 1,390.98 | 1,654.56 | 0.00 | 0.00 | |
| 6,500.00 | 16.05 | 57.19 | 6,266.23 | 911.73 | 1,414.22 | 1,682.21 | 0.00 | 0.00 | WILLIAMS_FORK.MBL (TVD) |
| 6,600.00 | 16.05 | 57.19 | 6,362.33 | 926.71 | 1,437.46 | 1,709.86 | 0.00 | 0.00 | |
| 6,700.00 | 16.05 | 57.19 | 6,458.43 | 941.70 | 1,460.71 | 1,737.51 | 0.00 | 0.00 | |
| 6,800.00 | 16.05 | 57.19 | 6,554.53 | 956.68 | 1,483.95 | 1,765.16 | 0.00 | 0.00 | |
| 6,900.00 | 16.05 | 57.19 | 6,650.63 | 971.67 | 1,507.20 | 1,792.81 | 0.00 | 0.00 | |
| 6,926.40 | 16.05 | 57.19 | 6,676.00 | 975.63 | 1,513.33 | 1,800.11 | 0.00 | 0.00 | |
| 7,000.00 | 16.05 | 57.19 | 6,746.73 | 986.65 | 1,530.44 | 1,820.45 | 0.00 | 0.00 | |
| 7,100.00 | 16.05 | 57.19 | 6,842.83 | 1,001.64 | 1,553.68 | 1,848.10 | 0.00 | 0.00 | |
| 7,200.00 | 16.05 | 57.19 | 6,938.93 | 1,016.62 | 1,576.93 | 1,875.75 | 0.00 | 0.00 | |
| 7,222.77 | 16.05 | 57.19 | 6,960.81 | 1,020.04 | 1,582.22 | 1,882.05 | 0.00 | 0.00 | TOP_GAS.MBL (TVD) |
| 7,300.00 | 13.74 | 57.19 | 7,035.44 | 1,030.79 | 1,598.91 | 1,901.90 | 3.00 | -3.00 | |
| 7,400.00 | 10.74 | 57.19 | 7,133.15 | 1,042.28 | 1,616.72 | 1,923.08 | 3.00 | -3.00 | |
| 7,500.00 | 7.74 | 57.19 | 7,231.84 | 1,050.98 | 1,630.21 | 1,939.13 | 3.00 | -3.00 | |
| 7,600.00 | 4.74 | 57.19 | 7,331.24 | 1,056.86 | 1,639.34 | 1,950.00 | 3.00 | -3.00 | |
| 7,700.00 | 1.74 | 57.19 | 7,431.07 | 1,059.92 | 1,644.09 | 1,955.64 | 3.00 | -3.00 | |
| 7,757.94 | 0.00 | 0.00 | 7,489.00 | 1,060.40 | 1,644.83 | 1,956.52 | 3.00 | -3.00 | |
| 7,800.00 | 0.84 | 250.00 | 7,531.06 | 1,060.29 | 1,644.54 | 1,956.22 | 2.00 | 2.00 | |
| 7,857.96 | 2.00 | 250.00 | 7,589.00 | 1,059.80 | 1,643.19 | 1,954.83 | 2.00 | 2.00 | |
| 7,900.00 | 2.84 | 250.00 | 7,631.00 | 1,059.20 | 1,641.52 | 1,953.10 | 2.00 | 2.00 | |
| 8,000.00 | 4.84 | 250.00 | 7,730.77 | 1,056.90 | 1,635.23 | 1,946.61 | 2.00 | 2.00 | |
| 8,013.16 | 5.10 | 250.00 | 7,743.89 | 1,056.51 | 1,634.15 | 1,945.50 | 2.00 | 2.00 | |
| 8,100.00 | 5.10 | 250.00 | 7,830.38 | 1,053.87 | 1,626.89 | 1,938.01 | 0.00 | 0.00 | |
| 8,200.00 | 5.10 | 250.00 | 7,929.98 | 1,050.83 | 1,618.53 | 1,929.38 | 0.00 | 0.00 | |
| 8,300.00 | 5.10 | 250.00 | 8,029.59 | 1,047.79 | 1,610.17 | 1,920.75 | 0.00 | 0.00 | |
| 8,400.00 | 5.10 | 250.00 | 8,129.19 | 1,044.74 | 1,601.81 | 1,912.12 | 0.00 | 0.00 | |
| 8,500.00 | 5.10 | 250.00 | 8,228.79 | 1,041.70 | 1,593.45 | 1,903.49 | 0.00 | 0.00 | |
| 8,600.00 | 5.10 | 250.00 | 8,328.40 | 1,038.66 | 1,585.09 | 1,894.86 | 0.00 | 0.00 | |
| 8,700.00 | 5.10 | 250.00 | 8,428.00 | 1,035.61 | 1,576.73 | 1,886.23 | 0.00 | 0.00 | |
| 8,800.00 | 5.10 | 250.00 | 8,527.60 | 1,032.57 | 1,568.37 | 1,877.60 | 0.00 | 0.00 | |
| 8,900.00 | 5.10 | 250.00 | 8,627.21 | 1,029.53 | 1,560.01 | 1,868.97 | 0.00 | 0.00 | |
| 9,000.00 | 5.10 | 250.00 | 8,726.81 | 1,026.49 | 1,551.65 | 1,860.35 | 0.00 | 0.00 | |
| 9,100.00 | 5.10 | 250.00 | 8,826.41 | 1,023.44 | 1,543.29 | 1,851.72 | 0.00 | 0.00 | |
| 9,200.00 | 5.10 | 250.00 | 8,926.02 | 1,020.40 | 1,534.93 | 1,843.09 | 0.00 | 0.00 | |

Cathedral Energy Services

Planning Report

| | | | |
|------------------|-------------------------------|-------------------------------------|---|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well RULISON FEDERAL 22A-20 - Slot 22A-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 22A-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 |
| 9,216.05 | 5.10 | 250.00 | 8,942.00 | 1,019.91 | 1,533.58 | 1,841.70 | 0.00 | 0.00 | CAMEO.MBL (TVD) |
| 9,300.00 | 5.10 | 250.00 | 9,025.62 | 1,017.36 | 1,526.56 | 1,834.46 | 0.00 | 0.00 | |
| 9,400.00 | 5.10 | 250.00 | 9,125.22 | 1,014.31 | 1,518.20 | 1,825.83 | 0.00 | 0.00 | |
| 9,500.00 | 5.10 | 250.00 | 9,224.83 | 1,011.27 | 1,509.84 | 1,817.20 | 0.00 | 0.00 | |
| 9,600.00 | 5.10 | 250.00 | 9,324.43 | 1,008.23 | 1,501.48 | 1,808.57 | 0.00 | 0.00 | |
| 9,700.00 | 5.10 | 250.00 | 9,424.03 | 1,005.19 | 1,493.12 | 1,799.94 | 0.00 | 0.00 | |
| 9,768.24 | 5.10 | 250.00 | 9,492.00 | 1,003.11 | 1,487.42 | 1,794.05 | 0.00 | 0.00 | ROLLINS.MBL (TVD) |
| 9,800.00 | 5.10 | 250.00 | 9,523.64 | 1,002.14 | 1,484.76 | 1,791.31 | 0.00 | 0.00 | |
| 9,900.00 | 5.10 | 250.00 | 9,623.24 | 999.10 | 1,476.40 | 1,782.68 | 0.00 | 0.00 | |
| 9,918.83 | 5.10 | 250.00 | 9,642.00 | 998.53 | 1,474.83 | 1,781.06 | 0.00 | 0.00 | TD.MBL (TVD) |

| Targets | | | | | | | | | |
|---|---------------|--------------|------------|--------------|--------------|-----------------|----------------|-----------|-------------|
| Target Name | | | | | | | | | |
| - hit/miss target | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
| - Shape | | | | | | | | | |
| RF 22A-20 PBHL | 0.00 | 0.00 | 9,642.00 | 998.53 | 1,474.83 | 14,332,806.90 | 2,513,189.80 | 39.428218 | -107.909518 |
| - 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 (°) | |
| 1,858.75 | 1,806.00 | WASATCH.NPC (TVD) | | | | |
| 4,356.16 | 4,206.00 | WASATCH_G.NPC (TVD) | | | | |
| 4,717.24 | 4,553.00 | FORT_UNION.NPC (TVD) | | | | |
| 6,325.99 | 6,099.00 | OHIO_CREEK.MBL (TVD) | | | | |
| 6,926.40 | 6,676.00 | WILLIAMS_FORK.MBL (TVD) | | | | |
| 7,857.96 | 7,589.00 | TOP_GAS.MBL (TVD) | | | | |
| 9,216.05 | 8,942.00 | CAMEO.MBL (TVD) | | | | |
| 9,768.24 | 9,492.00 | ROLLINS.MBL (TVD) | | | | |
| 9,918.83 | 9,642.00 | TD.MBL (TVD) | | | | |