

PROJECT DETAILS: Garfield County, CO

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Central Zone
System Datum: Mean Sea Level

WELL DETAILS: CC Federal 0697-03-04W

8609.0
+N-S 0.0 +E-W 0.0 Northing 1639440.01 Easting 2233549.86 Latitude 39.557562 Longitude -108.218761

Project: Garfield County, CO
Site: CC 604-41-32 Pad
Well: CC Federal 0697-03-04W
Wellbore: Wellbore #1
Design: Design #1
Latitude: 39.557562
Longitude: -108.218761
Ground Level: 8609.0
well @ 8633.0usft (24' RKB)



DIRECTIONAL DRILLING



REFERENCE INFORMATION

Co-ordinate (NE) Reference: Well CC Federal 0697-03-04W, True North
Vertical (TVD) Reference: well @ 8633.0usft (24' RKB)
Section (VS) Reference: Slot - (0.0N, 0.0E)
Measured Depth Reference: well @ 8633.0usft (24' RKB)
Calculation Method: Minimum Curvature

FORMATION TOP DETAILS

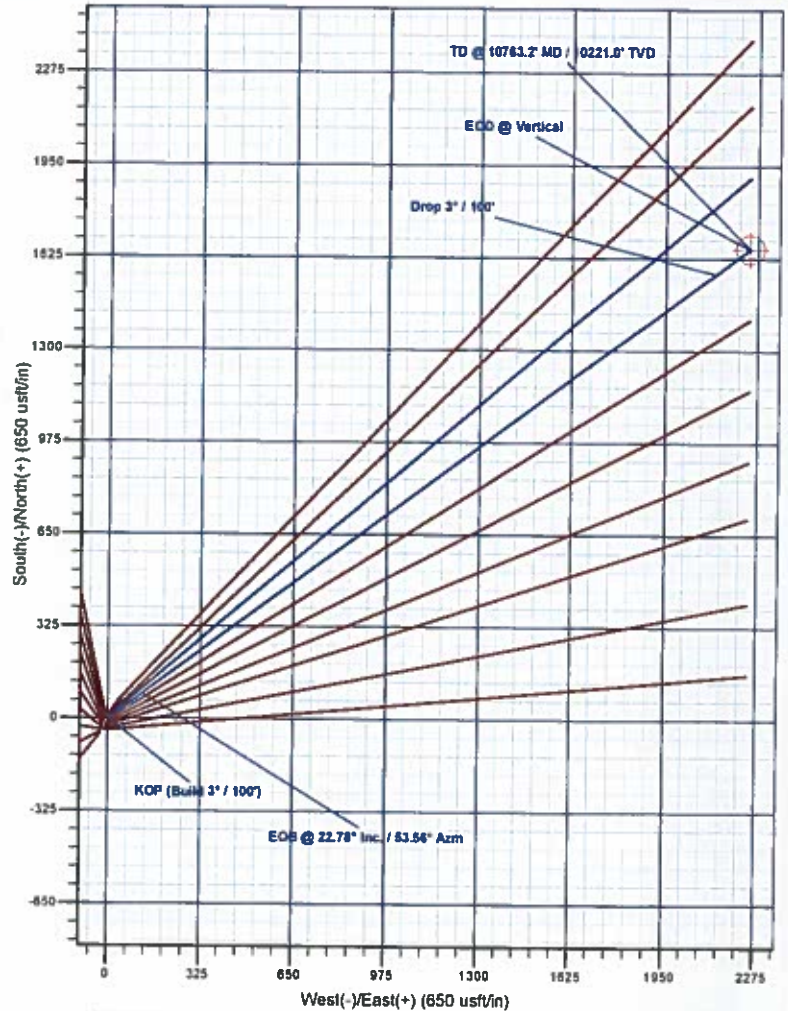
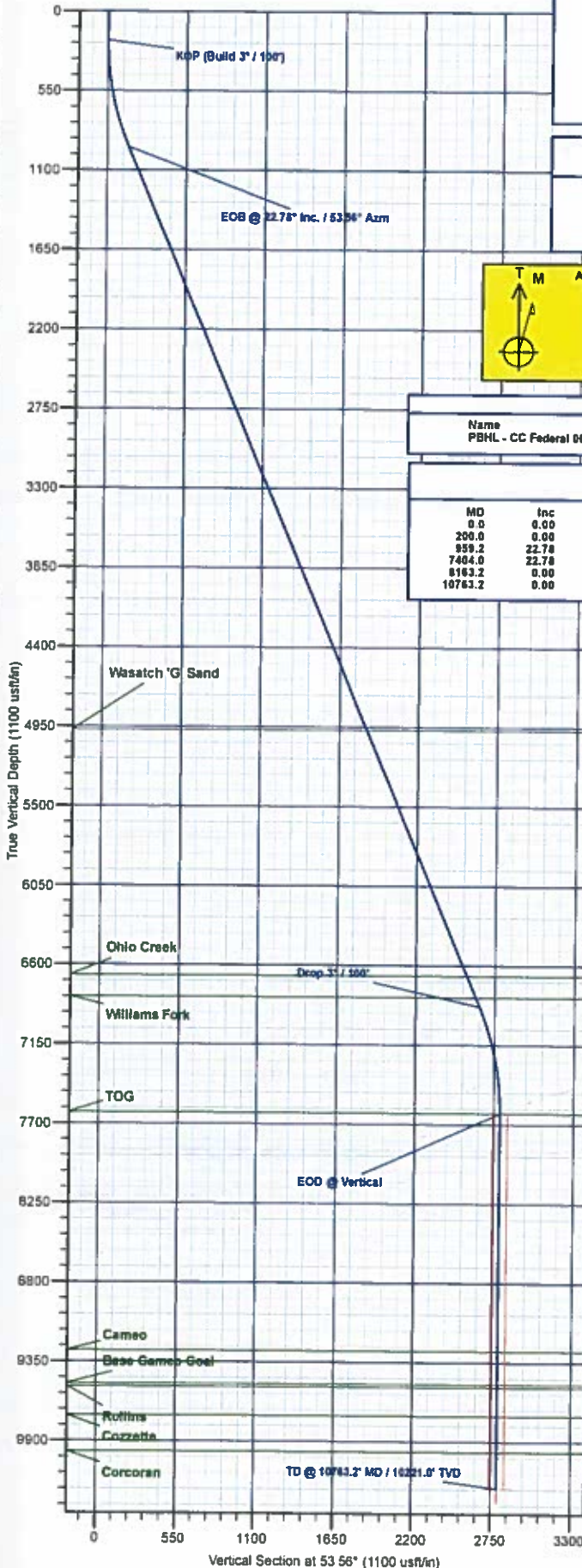
| MD | Inc | Azi | TVD | +N-S | +E-W | Diep | TFace | VSect | Annotation |
|--------|------|------|--------|------|------|------|-------|-------|------------|
| 4971.0 | 0.00 | 0.00 | 4971.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 5671.0 | 0.00 | 0.00 | 5671.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 6821.0 | 0.00 | 0.00 | 6821.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 7821.0 | 0.00 | 0.00 | 7821.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 8113.2 | 0.00 | 0.00 | 8113.2 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 9501.0 | 0.00 | 0.00 | 9501.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 9521.0 | 0.00 | 0.00 | 9521.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 9721.0 | 0.00 | 0.00 | 9721.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 9771.0 | 0.00 | 0.00 | 9771.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |

DESIGN TARGET DETAILS

| Name | TVD | +N-S | +E-W | Northing | Easting | Latitude | Longitude |
|-------------------------------|---------|--------|--------|------------|------------|-----------|-------------|
| PBHL - CC Federal 0697-03-04W | 10221.0 | 1658.9 | 2246.7 | 1641030.93 | 2235848.23 | 39.562116 | -108.210792 |

SECTION DETAILS

| MD | Inc | Azi | TVD | +N-S | +E-W | Diep | TFace | VSect | Annotation |
|---------|-------|-------|---------|--------|--------|------|--------|--------|---------------------------------|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 290.0 | 0.00 | 0.00 | 290.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 959.2 | 22.78 | 53.56 | 938.4 | 98.5 | 119.8 | 3.00 | 53.56 | 148.9 | KOP (Build 3' / 100') |
| 7404.0 | 22.78 | 53.56 | 6881.6 | 1570.4 | 2126.9 | 0.00 | 0.00 | 2643.9 | EOB @ 22.78° Inc. / 53.56° Azm |
| 8163.2 | 0.00 | 0.00 | 7621.0 | 1658.9 | 2246.7 | 3.00 | 180.00 | 2782.0 | EOD @ Vertical |
| 10763.2 | 0.00 | 0.00 | 10221.0 | 1658.9 | 2246.7 | 0.00 | 0.00 | 2792.8 | TD @ 10763.2' MD / 10221.0' TVD |



Plan: Design #1 (CC Federal 0697-03-04W/Wellbore #1)

Created By: Will Jircik

Date: 14:25, October 04 2017



Laramie Energy, LLC

Garfield County, CO

CC 604-41-32 Pad

CC Federal 0697-03-04W

Wellbore #1

Plan: Design #1

QES Well Planning Report

04 October, 2017





Well Planning Report



| | | | |
|------------------|---------------------------|-------------------------------------|-----------------------------|
| Database: | EDM 5000 1 Single User Db | Local Co-ordinate Reference: | Well CC Federal 0697-03-04W |
| Company: | Laramie Energy, LLC | TVD Reference: | well @ 8633.0usft (24' RKB) |
| Project: | Garfield County, CO | MD Reference: | well @ 8633.0usft (24' RKB) |
| Site: | CC 604-41-32 Pad | North Reference: | True |
| Well: | CC Federal 0697-03-04W | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #1 | | |

| | | | |
|--------------------|---------------------------|----------------------|----------------|
| Project | Garfield County, CO | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Central Zone | | |

| | | | |
|------------------------------|------------------|--------------------------|-------------------|
| Site | CC 604-41-32 Pad | | |
| Site Position: | | Northing: | 1,639,464.67 usft |
| From: | Lat/Long | Easting: | 2,233,548.14 usft |
| Position Uncertainty: | 0.0 usft | Slot Radius: | 13-3/16" |
| | | Grid Convergence: | -1.71° |

| | | | |
|-----------------------------|------------------------|----------------------------|-----------------------------------|
| Well | CC Federal 0697-03-04W | | |
| Well Position | +N/-S | -24.6 usft | Latitude: 39.557562 |
| | +E/-W | 2.5 usft | Longitude: -108.218770 |
| Position Uncertainty | 0.0 usft | Wellhead Elevation: | Ground Level: 8,609.0 usft |

| | | | |
|-----------------|-------------|--|--|
| Wellbore | Wellbore #1 | | |
|-----------------|-------------|--|--|

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|-----------|------------|-------------|-----------------|---------------|---------------------|
| | IGRF2015 | 10/4/2017 | 9.77 | 65.59 | 51,479.52666575 |

| | | | |
|---------------|-----------|--|--|
| Design | Design #1 | | |
|---------------|-----------|--|--|

| | | | |
|--------------------------|--------------------------------|---------------------|----------------------------|
| Audit Notes: | | | |
| Version: | Phase: | PLAN | Tie On Depth: 0.0 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) |
| | 0.0 | 0.0 | 0.0 |
| | | | Direction (°) 53.56 |

| | | | |
|----------------------|--|--|--|
| 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 |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|------------------------|-----------------------|---------|----------------------|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 959.2 | 22.78 | 53.56 | 939.4 | 88.5 | 119.8 | 3.00 | 3.00 | 0.00 | 53.56 | |
| 7,404.0 | 22.78 | 53.56 | 6,881.6 | 1,570.4 | 2,126.9 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 8,163.2 | 0.00 | 0.00 | 7,621.0 | 1,658.9 | 2,246.7 | 3.00 | -3.00 | 0.00 | 180.00 | |
| 10,763.2 | 0.00 | 0.00 | 10,221.0 | 1,658.9 | 2,246.7 | 0.00 | 0.00 | 0.00 | 0.00 | PBHL - CC Federal 01 |



Well Planning Report



| | | | |
|------------------|---------------------------|-------------------------------------|-----------------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well CC Federal 0697-03-04W |
| Company: | Laramie Energy, LLC | TVD Reference: | well @ 8633.0usft (24' RKB) |
| Project: | Garfield County, CO | MD Reference: | well @ 8633.0usft (24' RKB) |
| Site: | CC 604-41-32 Pad | North Reference: | True |
| Well: | CC Federal 0697-03-04W | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #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 (°/100usft) | Turn Rate (°/100usft) |
|---------------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 100.0 | 0.00 | 0.00 | 100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| KOP (Build 3° / 100') | | | | | | | | | |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 300.0 | 3.00 | 53.56 | 300.0 | 1.6 | 2.1 | 2.6 | 3.00 | 3.00 | 0.00 |
| 400.0 | 6.00 | 53.56 | 399.6 | 6.2 | 8.4 | 10.5 | 3.00 | 3.00 | 0.00 |
| 500.0 | 9.00 | 53.56 | 498.8 | 14.0 | 18.9 | 23.5 | 3.00 | 3.00 | 0.00 |
| 600.0 | 12.00 | 53.56 | 597.1 | 24.8 | 33.6 | 41.7 | 3.00 | 3.00 | 0.00 |
| 700.0 | 15.00 | 53.56 | 694.3 | 38.7 | 52.4 | 65.1 | 3.00 | 3.00 | 0.00 |
| 800.0 | 18.00 | 53.56 | 790.2 | 55.5 | 75.2 | 93.5 | 3.00 | 3.00 | 0.00 |
| 900.0 | 21.00 | 53.56 | 884.4 | 75.3 | 102.0 | 126.9 | 3.00 | 3.00 | 0.00 |
| EOB @ 22.78° Inc. / 53.56° Azm | | | | | | | | | |
| 959.2 | 22.78 | 53.56 | 939.4 | 88.5 | 119.8 | 148.9 | 3.00 | 3.00 | 0.00 |
| 1,000.0 | 22.78 | 53.56 | 977.0 | 97.8 | 132.5 | 164.7 | 0.00 | 0.00 | 0.00 |
| 1,100.0 | 22.78 | 53.56 | 1,069.2 | 120.8 | 163.7 | 203.4 | 0.00 | 0.00 | 0.00 |
| 1,200.0 | 22.78 | 53.56 | 1,161.4 | 143.8 | 194.8 | 242.1 | 0.00 | 0.00 | 0.00 |
| 1,300.0 | 22.78 | 53.56 | 1,253.6 | 166.8 | 225.9 | 280.9 | 0.00 | 0.00 | 0.00 |
| 1,400.0 | 22.78 | 53.56 | 1,345.8 | 189.8 | 257.1 | 319.6 | 0.00 | 0.00 | 0.00 |
| 1,500.0 | 22.78 | 53.56 | 1,438.0 | 212.8 | 288.2 | 358.3 | 0.00 | 0.00 | 0.00 |
| 1,600.0 | 22.78 | 53.56 | 1,530.2 | 235.8 | 319.4 | 397.0 | 0.00 | 0.00 | 0.00 |
| 1,700.0 | 22.78 | 53.56 | 1,622.4 | 258.8 | 350.5 | 435.7 | 0.00 | 0.00 | 0.00 |
| 1,800.0 | 22.78 | 53.56 | 1,714.6 | 281.8 | 381.7 | 474.4 | 0.00 | 0.00 | 0.00 |
| 1,900.0 | 22.78 | 53.56 | 1,806.8 | 304.8 | 412.8 | 513.1 | 0.00 | 0.00 | 0.00 |
| 2,000.0 | 22.78 | 53.56 | 1,899.0 | 327.8 | 443.9 | 551.8 | 0.00 | 0.00 | 0.00 |
| 2,100.0 | 22.78 | 53.56 | 1,991.2 | 350.8 | 475.1 | 590.6 | 0.00 | 0.00 | 0.00 |
| 2,200.0 | 22.78 | 53.56 | 2,083.4 | 373.8 | 506.2 | 629.3 | 0.00 | 0.00 | 0.00 |
| 2,300.0 | 22.78 | 53.56 | 2,175.6 | 396.8 | 537.4 | 668.0 | 0.00 | 0.00 | 0.00 |
| 2,400.0 | 22.78 | 53.56 | 2,267.8 | 419.8 | 568.5 | 706.7 | 0.00 | 0.00 | 0.00 |
| 2,500.0 | 22.78 | 53.56 | 2,360.0 | 442.8 | 599.7 | 745.4 | 0.00 | 0.00 | 0.00 |
| 9 5/8" | | | | | | | | | |
| 2,524.0 | 22.78 | 53.56 | 2,382.1 | 448.3 | 607.1 | 754.7 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 22.78 | 53.56 | 2,452.2 | 465.8 | 630.8 | 784.1 | 0.00 | 0.00 | 0.00 |
| 2,700.0 | 22.78 | 53.56 | 2,544.4 | 488.8 | 661.9 | 822.8 | 0.00 | 0.00 | 0.00 |
| 2,800.0 | 22.78 | 53.56 | 2,636.6 | 511.7 | 693.1 | 861.5 | 0.00 | 0.00 | 0.00 |
| 2,900.0 | 22.78 | 53.56 | 2,728.8 | 534.7 | 724.2 | 900.3 | 0.00 | 0.00 | 0.00 |
| 3,000.0 | 22.78 | 53.56 | 2,821.0 | 557.7 | 755.4 | 939.0 | 0.00 | 0.00 | 0.00 |
| 3,100.0 | 22.78 | 53.56 | 2,913.2 | 580.7 | 786.5 | 977.7 | 0.00 | 0.00 | 0.00 |
| 3,200.0 | 22.78 | 53.56 | 3,005.4 | 603.7 | 817.7 | 1,016.4 | 0.00 | 0.00 | 0.00 |
| 3,300.0 | 22.78 | 53.56 | 3,097.6 | 626.7 | 848.8 | 1,055.1 | 0.00 | 0.00 | 0.00 |
| 3,400.0 | 22.78 | 53.56 | 3,189.8 | 649.7 | 880.0 | 1,093.8 | 0.00 | 0.00 | 0.00 |
| 3,500.0 | 22.78 | 53.56 | 3,282.0 | 672.7 | 911.1 | 1,132.5 | 0.00 | 0.00 | 0.00 |
| 3,600.0 | 22.78 | 53.56 | 3,374.2 | 695.7 | 942.2 | 1,171.2 | 0.00 | 0.00 | 0.00 |
| 3,700.0 | 22.78 | 53.56 | 3,466.5 | 718.7 | 973.4 | 1,210.0 | 0.00 | 0.00 | 0.00 |
| 3,800.0 | 22.78 | 53.56 | 3,558.7 | 741.7 | 1,004.5 | 1,248.7 | 0.00 | 0.00 | 0.00 |
| 3,900.0 | 22.78 | 53.56 | 3,650.9 | 764.7 | 1,035.7 | 1,287.4 | 0.00 | 0.00 | 0.00 |
| 4,000.0 | 22.78 | 53.56 | 3,743.1 | 787.7 | 1,066.8 | 1,326.1 | 0.00 | 0.00 | 0.00 |
| 4,100.0 | 22.78 | 53.56 | 3,835.3 | 810.7 | 1,098.0 | 1,364.8 | 0.00 | 0.00 | 0.00 |
| 4,200.0 | 22.78 | 53.56 | 3,927.5 | 833.7 | 1,129.1 | 1,403.5 | 0.00 | 0.00 | 0.00 |
| 4,300.0 | 22.78 | 53.56 | 4,019.7 | 856.7 | 1,160.2 | 1,442.2 | 0.00 | 0.00 | 0.00 |
| 4,400.0 | 22.78 | 53.56 | 4,111.9 | 879.7 | 1,191.4 | 1,481.0 | 0.00 | 0.00 | 0.00 |
| 4,500.0 | 22.78 | 53.56 | 4,204.1 | 902.7 | 1,222.5 | 1,519.7 | 0.00 | 0.00 | 0.00 |
| 4,600.0 | 22.78 | 53.56 | 4,296.3 | 925.7 | 1,253.7 | 1,558.4 | 0.00 | 0.00 | 0.00 |
| 4,700.0 | 22.78 | 53.56 | 4,388.5 | 948.8 | 1,284.8 | 1,597.1 | 0.00 | 0.00 | 0.00 |



Well Planning Report



| | | | |
|------------------|---------------------------|-------------------------------------|-----------------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well CC Federal 0697-03-04W |
| Company: | Laramie Energy, LLC | TVD Reference: | well @ 8633.0usft (24' RKB) |
| Project: | Garfield County, CO | MD Reference: | well @ 8633.0usft (24' RKB) |
| Site: | CC 604-41-32 Pad | North Reference: | True |
| Well: | CC Federal 0697-03-04W | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #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 (°/100usft) | Turn Rate (°/100usft) |
|-----------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 4,800.0 | 22.78 | 53.56 | 4,480.7 | 971.6 | 1,316.0 | 1,635.8 | 0.00 | 0.00 | 0.00 |
| 4,900.0 | 22.78 | 53.56 | 4,572.9 | 994.6 | 1,347.1 | 1,674.5 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 22.78 | 53.56 | 4,665.1 | 1,017.6 | 1,378.2 | 1,713.2 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 22.78 | 53.56 | 4,757.3 | 1,040.6 | 1,409.4 | 1,751.9 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 22.78 | 53.56 | 4,849.5 | 1,063.6 | 1,440.5 | 1,790.7 | 0.00 | 0.00 | 0.00 |
| 5,300.0 | 22.78 | 53.56 | 4,941.7 | 1,086.6 | 1,471.7 | 1,829.4 | 0.00 | 0.00 | 0.00 |
| Wasatch 'G' Sand | | | | | | | | | |
| 5,331.8 | 22.78 | 53.56 | 4,971.0 | 1,093.9 | 1,481.6 | 1,841.7 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 22.78 | 53.56 | 5,033.9 | 1,109.8 | 1,502.8 | 1,868.1 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 22.78 | 53.56 | 5,126.1 | 1,132.8 | 1,534.0 | 1,906.8 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 22.78 | 53.56 | 5,218.3 | 1,155.6 | 1,565.1 | 1,945.5 | 0.00 | 0.00 | 0.00 |
| 5,700.0 | 22.78 | 53.56 | 5,310.5 | 1,178.6 | 1,596.3 | 1,984.2 | 0.00 | 0.00 | 0.00 |
| 5,800.0 | 22.78 | 53.56 | 5,402.7 | 1,201.6 | 1,627.4 | 2,022.9 | 0.00 | 0.00 | 0.00 |
| 5,900.0 | 22.78 | 53.56 | 5,494.9 | 1,224.6 | 1,658.5 | 2,061.6 | 0.00 | 0.00 | 0.00 |
| 6,000.0 | 22.78 | 53.56 | 5,587.1 | 1,247.6 | 1,689.7 | 2,100.4 | 0.00 | 0.00 | 0.00 |
| 6,100.0 | 22.78 | 53.56 | 5,679.3 | 1,270.6 | 1,720.8 | 2,139.1 | 0.00 | 0.00 | 0.00 |
| 6,200.0 | 22.78 | 53.56 | 5,771.5 | 1,293.6 | 1,752.0 | 2,177.8 | 0.00 | 0.00 | 0.00 |
| 6,300.0 | 22.78 | 53.56 | 5,863.7 | 1,316.6 | 1,783.1 | 2,216.5 | 0.00 | 0.00 | 0.00 |
| 6,400.0 | 22.78 | 53.56 | 5,955.9 | 1,339.6 | 1,814.3 | 2,255.2 | 0.00 | 0.00 | 0.00 |
| 6,500.0 | 22.78 | 53.56 | 6,048.1 | 1,362.6 | 1,845.4 | 2,293.9 | 0.00 | 0.00 | 0.00 |
| 6,600.0 | 22.78 | 53.56 | 6,140.3 | 1,385.6 | 1,876.5 | 2,332.6 | 0.00 | 0.00 | 0.00 |
| 6,700.0 | 22.78 | 53.56 | 6,232.5 | 1,408.5 | 1,907.7 | 2,371.3 | 0.00 | 0.00 | 0.00 |
| 6,800.0 | 22.78 | 53.56 | 6,324.7 | 1,431.5 | 1,938.8 | 2,410.1 | 0.00 | 0.00 | 0.00 |
| 6,900.0 | 22.78 | 53.56 | 6,416.9 | 1,454.5 | 1,970.0 | 2,448.8 | 0.00 | 0.00 | 0.00 |
| 7,000.0 | 22.78 | 53.56 | 6,509.1 | 1,477.5 | 2,001.1 | 2,487.5 | 0.00 | 0.00 | 0.00 |
| 7,100.0 | 22.78 | 53.56 | 6,601.3 | 1,500.5 | 2,032.3 | 2,526.2 | 0.00 | 0.00 | 0.00 |
| Ohio Creek | | | | | | | | | |
| 7,175.6 | 22.78 | 53.56 | 6,671.0 | 1,517.9 | 2,055.8 | 2,555.4 | 0.00 | 0.00 | 0.00 |
| 7,200.0 | 22.78 | 53.56 | 6,693.5 | 1,523.5 | 2,063.4 | 2,564.9 | 0.00 | 0.00 | 0.00 |
| 7,300.0 | 22.78 | 53.56 | 6,785.7 | 1,546.5 | 2,094.6 | 2,603.6 | 0.00 | 0.00 | 0.00 |
| Williams Fork | | | | | | | | | |
| 7,338.2 | 22.78 | 53.56 | 6,821.0 | 1,555.3 | 2,106.5 | 2,618.4 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 22.78 | 53.56 | 6,877.9 | 1,569.5 | 2,125.7 | 2,642.3 | 0.00 | 0.00 | 0.00 |
| Drop 3° / 100' | | | | | | | | | |
| 7,404.0 | 22.78 | 53.56 | 6,881.6 | 1,570.4 | 2,126.9 | 2,643.9 | 0.00 | 0.00 | 0.00 |
| 7,500.0 | 19.90 | 53.56 | 6,971.0 | 1,591.2 | 2,155.0 | 2,678.8 | 3.00 | -3.00 | 0.00 |
| 7,600.0 | 16.90 | 53.56 | 7,065.9 | 1,609.9 | 2,180.4 | 2,710.4 | 3.00 | -3.00 | 0.00 |
| 7,700.0 | 13.90 | 53.56 | 7,162.3 | 1,625.7 | 2,201.8 | 2,736.9 | 3.00 | -3.00 | 0.00 |
| 7,800.0 | 10.90 | 53.56 | 7,260.0 | 1,638.4 | 2,219.0 | 2,758.4 | 3.00 | -3.00 | 0.00 |
| 7,900.0 | 7.90 | 53.56 | 7,358.6 | 1,648.1 | 2,232.2 | 2,774.7 | 3.00 | -3.00 | 0.00 |
| 8,000.0 | 4.90 | 53.56 | 7,458.0 | 1,654.7 | 2,241.1 | 2,785.8 | 3.00 | -3.00 | 0.00 |
| 8,100.0 | 1.90 | 53.56 | 7,557.8 | 1,658.3 | 2,245.9 | 2,791.6 | 3.00 | -3.00 | 0.00 |
| EOD @ Vertical - TOG | | | | | | | | | |
| 8,163.2 | 0.00 | 0.00 | 7,621.0 | 1,658.9 | 2,246.7 | 2,792.8 | 3.00 | -3.00 | 0.00 |
| 8,200.0 | 0.00 | 0.00 | 7,657.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 8,300.0 | 0.00 | 0.00 | 7,757.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 0.00 | 0.00 | 7,857.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 8,500.0 | 0.00 | 0.00 | 7,957.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 8,600.0 | 0.00 | 0.00 | 8,057.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 8,700.0 | 0.00 | 0.00 | 8,157.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 8,800.0 | 0.00 | 0.00 | 8,257.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 8,900.0 | 0.00 | 0.00 | 8,357.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 9,000.0 | 0.00 | 0.00 | 8,457.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 9,100.0 | 0.00 | 0.00 | 8,557.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |



Well Planning Report



Database: EDM 5000.1 Single User Db
Company: Laramie Energy, LLC
Project: Garfield County, CO
Site: CC 604-41-32 Pad
Well: CC Federal 0697-03-04W
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Well CC Federal 0697-03-04W
well @ 8633.0usft (24' RKB)
well @ 8633.0usft (24' RKB)
True
Minimum Curvature

Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|--|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 9,200.0 | 0.00 | 0.00 | 8,657.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 9,300.0 | 0.00 | 0.00 | 8,757.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 9,400.0 | 0.00 | 0.00 | 8,857.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 9,500.0 | 0.00 | 0.00 | 8,957.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 9,600.0 | 0.00 | 0.00 | 9,057.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 9,700.0 | 0.00 | 0.00 | 9,157.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 9,800.0 | 0.00 | 0.00 | 9,257.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| Cameo | | | | | | | | | |
| 9,813.2 | 0.00 | 0.00 | 9,271.0 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 9,900.0 | 0.00 | 0.00 | 9,357.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 10,000.0 | 0.00 | 0.00 | 9,457.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| Base Cameo Coal | | | | | | | | | |
| 10,043.2 | 0.00 | 0.00 | 9,501.0 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| Rollins | | | | | | | | | |
| 10,063.2 | 0.00 | 0.00 | 9,521.0 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 10,100.0 | 0.00 | 0.00 | 9,557.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 10,200.0 | 0.00 | 0.00 | 9,657.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| Cozzette | | | | | | | | | |
| 10,263.2 | 0.00 | 0.00 | 9,721.0 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 10,300.0 | 0.00 | 0.00 | 9,757.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 10,400.0 | 0.00 | 0.00 | 9,857.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 10,500.0 | 0.00 | 0.00 | 9,957.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| Corcoran | | | | | | | | | |
| 10,513.2 | 0.00 | 0.00 | 9,971.0 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 10,600.0 | 0.00 | 0.00 | 10,057.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| 10,700.0 | 0.00 | 0.00 | 10,157.8 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |
| TD @ 10763.2' MD / 10221.0' TVD | | | | | | | | | |
| 10,763.2 | 0.00 | 0.00 | 10,221.0 | 1,658.9 | 2,246.7 | 2,792.8 | 0.00 | 0.00 | 0.00 |

Design Targets

| Target Name | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
|---|---------------|--------------|------------|--------------|--------------|-----------------|----------------|-----------|-------------|
| <ul style="list-style-type: none"> - hit/miss target - Shape | | | | | | | | | |
| PBHL - CC Federal 0697 | 0.00 | 0.00 | 10,221.0 | 1,658.9 | 2,246.7 | 1,641,030.93 | 2,235,845.23 | 39.562116 | -108.210792 |
| <ul style="list-style-type: none"> - plan hits target center - Circle (radius 50.0) | | | | | | | | | |

Casing Points

| Measured Depth (usft) | Vertical Depth (usft) | Name | Casing Diameter (") | Hole Diameter (") |
|-----------------------|-----------------------|--------|---------------------|-------------------|
| 2,524.0 | 2,382.1 | 9 5/8" | 9-5/8 | 14-3/4 |



Well Planning Report



| | | | |
|-----------|---------------------------|------------------------------|-----------------------------|
| Database: | EDM 5000 1 Single User Db | Local Co-ordinate Reference: | Well CC Federal 0697-03-04W |
| Company: | Laramie Energy, LLC | TVD Reference: | well @ 8633 0usft (24' RKB) |
| Project: | Garfield County, CO | MD Reference: | well @ 8633 0usft (24' RKB) |
| Site: | CC 604-41-32 Pad | North Reference: | True |
| Well: | CC Federal 0697-03-04W | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #1 | | |

Formations

| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (") | Dip Direction (") |
|-----------------------|-----------------------|------------------|-----------|---------|-------------------|
| 5,331.8 | 4,971.0 | Wasatch 'G' Sand | | | |
| 7,175.6 | 6,671.0 | Ohio Creek | | | |
| 7,338.2 | 6,821.0 | Williams Fork | | | |
| 8,163.2 | 7,621.0 | TOG | | | |
| 9,813.2 | 9,271.0 | Cameo | | | |
| 10,043.2 | 9,501.0 | Base Cameo Coal | | | |
| 10,083.2 | 9,521.0 | Rollins | | | |
| 10,263.2 | 9,721.0 | Cozzette | | | |
| 10,513.2 | 9,971.0 | Corcoran | | | |

Plan Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | Comment |
|-----------------------|-----------------------|-------------------|--------------|---------------------------------|
| | | +N/-S (usft) | +E/-W (usft) | |
| 200.0 | 200.0 | 0.0 | 0.0 | KOP (Build 3" / 100') |
| 959.2 | 939.4 | 88.5 | 119.8 | EOB @ 22.78° Inc. / 53.56° Azm |
| 7,404.0 | 6,881.6 | 1,570.4 | 2,126.9 | Drop 3" / 100' |
| 8,163.2 | 7,621.0 | 1,658.9 | 2,246.7 | EOD @ Vertical |
| 10,763.2 | 10,221.0 | 1,658.9 | 2,246.7 | TD @ 10763.2' MD / 10221.0' TVD |