

**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 0697-04-07E**

+N-S 0.0 +E-W 0.0 Northing 1639408.24 Easting 2233527.75 8609.0  
Latitude 39.557473 Longitude -108.218836

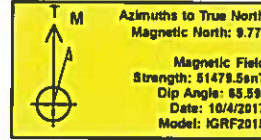
Project: Garfield County, CO  
Site: CC 604-41-32 Pad  
Well: CC 0697-04-07E  
Wellbore: Wellbore #1  
Design: Design #1  
Latitude: 39.557473  
Longitude: -108.218836  
Ground Level: 8609.0  
well @ 8633.0ustf (24' RKB)



DIRECTIONAL DRILLING

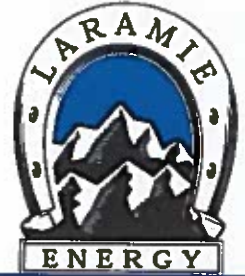
**FORMATION TOP DETAILS**

| TVDPath | MDPath | Formation        |
|---------|--------|------------------|
| 4751.0  | 4750.6 | Wasatch 'G' Sand |
| 5451.0  | 5454.3 | Ohio Creek       |
| 5601.0  | 5614.6 | Williams Fork    |
| 7401.0  | 7416.1 | TOG              |
| 9051.0  | 9066.1 | Cameo            |
| 9281.0  | 9296.1 | Base Cameo Coal  |
| 9301.0  | 9316.1 | Rollins          |



**REFERENCE INFORMATION**

Co-ordinate (N/E) Reference: Well CC 0697-04-07E, True North  
Vertical (TVD) Reference: well @ 8633.0ustf (24' RKB)  
Section (VS) Reference: Slot - (0.0N, 0.0E)  
Measured Depth Reference: well @ 8633.0ustf (24' RKB)  
Calculation Method: Minimum Curvature

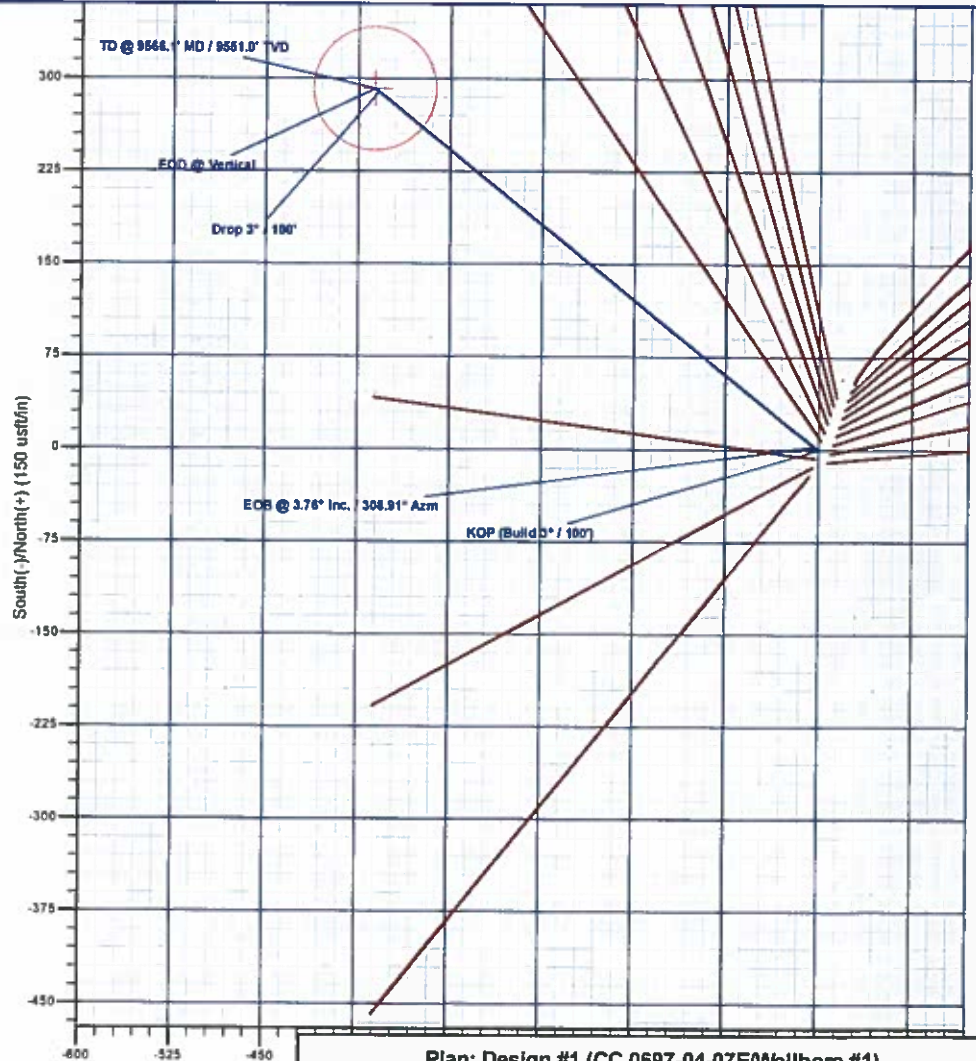
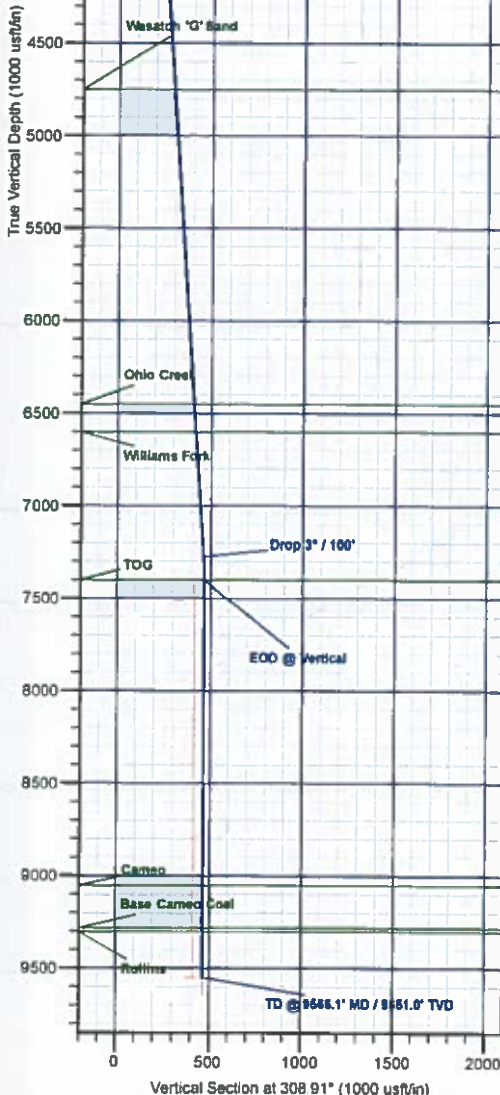


**DESIGN TARGET DETAILS**

| Name                  | TVD    | +N-S  | +E-W   | Northing   | Easting    | Latitude  | Longitude   |
|-----------------------|--------|-------|--------|------------|------------|-----------|-------------|
| PBHL - CC 0697-04-07E | 9551.0 | 291.8 | -361.5 | 1639710.70 | 2233178.18 | 39.558274 | -108.220118 |

**SECTION DETAILS**

| MD     | Inc  | Azi    | TVD    | +N-S  | +E-W   | Diag | TFace  | Vsect | Annotation                     |
|--------|------|--------|--------|-------|--------|------|--------|-------|--------------------------------|
| 0.0    | 0.00 | 0.00   | 0.0    | 0.0   | 0.0    | 0.00 | 0.00   | 0.0   |                                |
| 200.0  | 0.00 | 0.00   | 200.0  | 0.0   | 0.0    | 0.00 | 0.00   | 0.0   | KOP (Build 3" / 100')          |
| 325.2  | 3.76 | 308.91 | 325.1  | 2.6   | -3.2   | 3.00 | 308.91 | 4.1   | EOB @ 3.76° Inc. / 308.91° Azm |
| 7290.3 | 3.76 | 308.91 | 7275.9 | 289.2 | -358.3 | 0.00 | 0.00   | 460.4 | Drop 3" / 100'                 |
| 7416.1 | 0.00 | 0.00   | 7401.0 | 291.8 | -361.5 | 3.00 | 180.00 | 464.5 | EOO @ Vertical                 |
| 9556.1 | 0.00 | 0.00   | 9551.0 | 291.8 | -361.5 | 0.00 | 0.00   | 464.5 | TD @ 9556.1' MD / 9551.0' TVD  |



Plan: Design #1 (CC 0697-04-07E/Wellbore #1)

Created By: Will Jircik

Date: 15:28, October 04 2017



# **Laramie Energy, LLC**

**Garfield County, CO**

**CC 604-41-32 Pad**

**CC 0697-04-07E**

**Wellbore #1**

**Plan: Design #1**

## **QES Well Planning Report**

**04 October, 2017**





## Well Planning Report



|                  |                           |                                     |                             |
|------------------|---------------------------|-------------------------------------|-----------------------------|
| <b>Database:</b> | EDM 5000 1 Single User Db | <b>Local Co-ordinate Reference:</b> | Well CC 0697-04-07E         |
| <b>Company:</b>  | Laramie Energy, LLC       | <b>TVD Reference:</b>               | well @ 8633.0usft (24' RKB) |
| <b>Project:</b>  | Garfield County, CO       | <b>MD Reference:</b>                | well @ 8633.0usft (24' RKB) |
| <b>Site:</b>     | CC 604-41-32 Pad          | <b>North Reference:</b>             | True                        |
| <b>Well:</b>     | CC 0697-04-07E            | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Wellbore:</b> | Wellbore #1               |                                     |                             |
| <b>Design:</b>   | Design #1                 |                                     |                             |

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

|                              |                  |                     |                   |                                  |
|------------------------------|------------------|---------------------|-------------------|----------------------------------|
| <b>Site</b>                  | CC 604-41-32 Pad |                     |                   |                                  |
| <b>Site Position:</b>        |                  | <b>Northing:</b>    | 1,639,464.67 usft | <b>Latitude:</b> 39.557630       |
| <b>From:</b>                 | Lat/Long         | <b>Easting:</b>     | 2,233,548.14 usft | <b>Longitude:</b> -108.218770    |
| <b>Position Uncertainty:</b> | 0.0 usft         | <b>Slot Radius:</b> | 13-3/16 "         | <b>Grid Convergence:</b> -1.71 " |

|                             |                |            |                            |                                   |
|-----------------------------|----------------|------------|----------------------------|-----------------------------------|
| <b>Well</b>                 | CC 0697-04-07E |            |                            |                                   |
| <b>Well Position</b>        | +N/-S          | -57.0 usft | <b>Northing:</b>           | 1,639,408.24 usft                 |
|                             | +E/-W          | -18.7 usft | <b>Easting:</b>            | 2,233,527.75 usft                 |
| <b>Position Uncertainty</b> |                | 0.0 usft   | <b>Wellhead Elevation:</b> | <b>Ground Level:</b> 8,609.0 usft |

|                  |                   |                    |                            |                          |                                |
|------------------|-------------------|--------------------|----------------------------|--------------------------|--------------------------------|
| <b>Wellbore</b>  | Wellbore #1       |                    |                            |                          |                                |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination<br/>(°)</b> | <b>Dip Angle<br/>(°)</b> | <b>Field Strength<br/>(nT)</b> |
|                  | IGRF2015          | 10/4/2017          | 9.77                       | 65.59                    | 51,479.46924385                |

|                          |                                    |                         |                         |                          |
|--------------------------|------------------------------------|-------------------------|-------------------------|--------------------------|
| <b>Design</b>            | Design #1                          |                         |                         |                          |
| <b>Audit Notes:</b>      |                                    |                         |                         |                          |
| <b>Version:</b>          | <b>Phase:</b>                      | PLAN                    | <b>Tie On Depth:</b>    | 0.0                      |
| <b>Vertical Section:</b> | <b>Depth From (TVD)<br/>(usft)</b> | <b>+N/-S<br/>(usft)</b> | <b>+E/-W<br/>(usft)</b> | <b>Direction<br/>(°)</b> |
|                          | 0.0                                | 0.0                     | 0.0                     | 308.91                   |

| <b>Plan Sections</b>        |                    |                |                             |                 |                 |                               |                              |                             |            |                     |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|------------------------------|-----------------------------|------------|---------------------|
| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) | TFO<br>(°) | 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       |                     |
| 325.2                       | 3.76               | 308.91         | 325.1                       | 2.6             | -3.2            | 3.00                          | 3.00                         | 0.00                        | 308.91     |                     |
| 7,290.9                     | 3.76               | 308.91         | 7,275.9                     | 289.2           | -358.3          | 0.00                          | 0.00                         | 0.00                        | 0.00       |                     |
| 7,416.1                     | 0.00               | 0.00           | 7,401.0                     | 291.8           | -361.5          | 3.00                          | -3.00                        | 0.00                        | 180.00     |                     |
| 9,566.1                     | 0.00               | 0.00           | 9,551.0                     | 291.8           | -361.5          | 0.00                          | 0.00                         | 0.00                        | 0.00       | PBHL - CC 0697-04-C |





# Well Planning Report



|           |                           |                              |                             |
|-----------|---------------------------|------------------------------|-----------------------------|
| Database: | EDM 5000 1 Single User Db | Local Co-ordinate Reference: | Well CC 0697-04-07E         |
| 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 0697-04-07E            | 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            | 308.91      | 300.0                 | 1.6          | -2.0         | 2.6                     | 3.00                    | 3.00                   | 0.00                  |
| EOB @ 3.76° Inc. / 308.91° Azm |                 |             |                       |              |              |                         |                         |                        |                       |
| 325.2                          | 3.76            | 308.91      | 325.1                 | 2.6          | -3.2         | 4.1                     | 3.00                    | 3.00                   | 0.00                  |
| 400.0                          | 3.76            | 308.91      | 399.7                 | 5.7          | -7.0         | 9.0                     | 0.00                    | 0.00                   | 0.00                  |
| 500.0                          | 3.76            | 308.91      | 499.5                 | 9.8          | -12.1        | 15.6                    | 0.00                    | 0.00                   | 0.00                  |
| 600.0                          | 3.76            | 308.91      | 599.3                 | 13.9         | -17.2        | 22.1                    | 0.00                    | 0.00                   | 0.00                  |
| 700.0                          | 3.76            | 308.91      | 699.1                 | 18.0         | -22.3        | 28.7                    | 0.00                    | 0.00                   | 0.00                  |
| 800.0                          | 3.76            | 308.91      | 798.9                 | 22.1         | -27.4        | 35.2                    | 0.00                    | 0.00                   | 0.00                  |
| 900.0                          | 3.76            | 308.91      | 898.7                 | 26.2         | -32.5        | 41.8                    | 0.00                    | 0.00                   | 0.00                  |
| 1,000.0                        | 3.76            | 308.91      | 998.5                 | 30.3         | -37.6        | 48.3                    | 0.00                    | 0.00                   | 0.00                  |
| 1,100.0                        | 3.76            | 308.91      | 1,098.2               | 34.5         | -42.7        | 54.9                    | 0.00                    | 0.00                   | 0.00                  |
| 1,200.0                        | 3.76            | 308.91      | 1,198.0               | 38.6         | -47.8        | 61.4                    | 0.00                    | 0.00                   | 0.00                  |
| 1,300.0                        | 3.76            | 308.91      | 1,297.8               | 42.7         | -52.9        | 68.0                    | 0.00                    | 0.00                   | 0.00                  |
| 1,400.0                        | 3.76            | 308.91      | 1,397.6               | 46.8         | -58.0        | 74.5                    | 0.00                    | 0.00                   | 0.00                  |
| 1,500.0                        | 3.76            | 308.91      | 1,497.4               | 50.9         | -63.1        | 81.1                    | 0.00                    | 0.00                   | 0.00                  |
| 1,600.0                        | 3.76            | 308.91      | 1,597.2               | 55.0         | -68.2        | 87.6                    | 0.00                    | 0.00                   | 0.00                  |
| 1,700.0                        | 3.76            | 308.91      | 1,697.0               | 59.1         | -73.3        | 94.2                    | 0.00                    | 0.00                   | 0.00                  |
| 1,800.0                        | 3.76            | 308.91      | 1,796.7               | 63.3         | -78.4        | 100.7                   | 0.00                    | 0.00                   | 0.00                  |
| 1,900.0                        | 3.76            | 308.91      | 1,896.5               | 67.4         | -83.5        | 107.3                   | 0.00                    | 0.00                   | 0.00                  |
| 2,000.0                        | 3.76            | 308.91      | 1,996.3               | 71.5         | -88.6        | 113.8                   | 0.00                    | 0.00                   | 0.00                  |
| 2,100.0                        | 3.76            | 308.91      | 2,096.1               | 75.6         | -93.7        | 120.4                   | 0.00                    | 0.00                   | 0.00                  |
| 2,200.0                        | 3.76            | 308.91      | 2,195.9               | 79.7         | -98.8        | 126.9                   | 0.00                    | 0.00                   | 0.00                  |
| 2,300.0                        | 3.76            | 308.91      | 2,295.7               | 83.8         | -103.9       | 133.5                   | 0.00                    | 0.00                   | 0.00                  |
| 2,400.0                        | 3.76            | 308.91      | 2,395.5               | 87.9         | -109.0       | 140.0                   | 0.00                    | 0.00                   | 0.00                  |
| 2,500.0                        | 3.76            | 308.91      | 2,495.2               | 92.1         | -114.1       | 146.6                   | 0.00                    | 0.00                   | 0.00                  |
| 9 5/8"                         |                 |             |                       |              |              |                         |                         |                        |                       |
| 2,524.0                        | 3.76            | 308.91      | 2,519.2               | 93.1         | -115.3       | 148.1                   | 0.00                    | 0.00                   | 0.00                  |
| 2,600.0                        | 3.76            | 308.91      | 2,595.0               | 96.2         | -119.1       | 153.1                   | 0.00                    | 0.00                   | 0.00                  |
| 2,700.0                        | 3.76            | 308.91      | 2,694.8               | 100.3        | -124.2       | 159.7                   | 0.00                    | 0.00                   | 0.00                  |
| 2,800.0                        | 3.76            | 308.91      | 2,794.6               | 104.4        | -129.3       | 166.2                   | 0.00                    | 0.00                   | 0.00                  |
| 2,900.0                        | 3.76            | 308.91      | 2,894.4               | 108.5        | -134.4       | 172.8                   | 0.00                    | 0.00                   | 0.00                  |
| 3,000.0                        | 3.76            | 308.91      | 2,994.2               | 112.6        | -139.5       | 179.3                   | 0.00                    | 0.00                   | 0.00                  |
| 3,100.0                        | 3.76            | 308.91      | 3,093.9               | 116.8        | -144.6       | 185.9                   | 0.00                    | 0.00                   | 0.00                  |
| 3,200.0                        | 3.76            | 308.91      | 3,193.7               | 120.9        | -149.7       | 192.4                   | 0.00                    | 0.00                   | 0.00                  |
| 3,300.0                        | 3.76            | 308.91      | 3,293.5               | 125.0        | -154.8       | 199.0                   | 0.00                    | 0.00                   | 0.00                  |
| 3,400.0                        | 3.76            | 308.91      | 3,393.3               | 129.1        | -159.9       | 205.5                   | 0.00                    | 0.00                   | 0.00                  |
| 3,500.0                        | 3.76            | 308.91      | 3,493.1               | 133.2        | -165.0       | 212.1                   | 0.00                    | 0.00                   | 0.00                  |
| 3,600.0                        | 3.76            | 308.91      | 3,592.9               | 137.3        | -170.1       | 218.6                   | 0.00                    | 0.00                   | 0.00                  |
| 3,700.0                        | 3.76            | 308.91      | 3,692.7               | 141.4        | -175.2       | 225.2                   | 0.00                    | 0.00                   | 0.00                  |
| 3,800.0                        | 3.76            | 308.91      | 3,792.4               | 145.6        | -180.3       | 231.7                   | 0.00                    | 0.00                   | 0.00                  |
| 3,900.0                        | 3.76            | 308.91      | 3,892.2               | 149.7        | -185.4       | 238.3                   | 0.00                    | 0.00                   | 0.00                  |
| 4,000.0                        | 3.76            | 308.91      | 3,992.0               | 153.8        | -190.5       | 244.8                   | 0.00                    | 0.00                   | 0.00                  |
| 4,100.0                        | 3.76            | 308.91      | 4,091.8               | 157.9        | -195.6       | 251.4                   | 0.00                    | 0.00                   | 0.00                  |
| 4,200.0                        | 3.76            | 308.91      | 4,191.6               | 162.0        | -200.7       | 257.9                   | 0.00                    | 0.00                   | 0.00                  |
| 4,300.0                        | 3.76            | 308.91      | 4,291.4               | 166.1        | -205.8       | 264.5                   | 0.00                    | 0.00                   | 0.00                  |
| 4,400.0                        | 3.76            | 308.91      | 4,391.2               | 170.2        | -210.9       | 271.0                   | 0.00                    | 0.00                   | 0.00                  |
| 4,500.0                        | 3.76            | 308.91      | 4,490.9               | 174.4        | -216.0       | 277.6                   | 0.00                    | 0.00                   | 0.00                  |
| 4,600.0                        | 3.76            | 308.91      | 4,590.7               | 178.5        | -221.1       | 284.1                   | 0.00                    | 0.00                   | 0.00                  |
| 4,700.0                        | 3.76            | 308.91      | 4,690.5               | 182.6        | -226.2       | 290.7                   | 0.00                    | 0.00                   | 0.00                  |



## Well Planning Report



|           |                           |                              |                             |
|-----------|---------------------------|------------------------------|-----------------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well CC 0697-04-07E         |
| 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 0697-04-07E            | 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) |
|-----------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| <b>Wasatch 'G' Sand</b>     |                 |             |                       |              |              |                         |                         |                        |                       |
| 4,760.6                     | 3.76            | 308.91      | 4,751.0               | 185.1        | -229.3       | 294.7                   | 0.00                    | 0.00                   | 0.00                  |
| 4,800.0                     | 3.76            | 308.91      | 4,790.3               | 186.7        | -231.3       | 297.2                   | 0.00                    | 0.00                   | 0.00                  |
| 4,900.0                     | 3.76            | 308.91      | 4,890.1               | 190.8        | -236.4       | 303.8                   | 0.00                    | 0.00                   | 0.00                  |
| 5,000.0                     | 3.76            | 308.91      | 4,989.9               | 194.9        | -241.5       | 310.3                   | 0.00                    | 0.00                   | 0.00                  |
| 5,100.0                     | 3.76            | 308.91      | 5,089.7               | 199.0        | -246.6       | 316.9                   | 0.00                    | 0.00                   | 0.00                  |
| 5,200.0                     | 3.76            | 308.91      | 5,189.4               | 203.2        | -251.7       | 323.4                   | 0.00                    | 0.00                   | 0.00                  |
| 5,300.0                     | 3.76            | 308.91      | 5,289.2               | 207.3        | -256.8       | 330.0                   | 0.00                    | 0.00                   | 0.00                  |
| 5,400.0                     | 3.76            | 308.91      | 5,389.0               | 211.4        | -261.9       | 336.6                   | 0.00                    | 0.00                   | 0.00                  |
| 5,500.0                     | 3.76            | 308.91      | 5,488.8               | 215.5        | -267.0       | 343.1                   | 0.00                    | 0.00                   | 0.00                  |
| 5,600.0                     | 3.76            | 308.91      | 5,588.6               | 219.6        | -272.1       | 349.7                   | 0.00                    | 0.00                   | 0.00                  |
| 5,700.0                     | 3.76            | 308.91      | 5,688.4               | 223.7        | -277.2       | 356.2                   | 0.00                    | 0.00                   | 0.00                  |
| 5,800.0                     | 3.76            | 308.91      | 5,788.2               | 227.8        | -282.3       | 362.8                   | 0.00                    | 0.00                   | 0.00                  |
| 5,900.0                     | 3.76            | 308.91      | 5,887.9               | 232.0        | -287.4       | 369.3                   | 0.00                    | 0.00                   | 0.00                  |
| 6,000.0                     | 3.76            | 308.91      | 5,987.7               | 236.1        | -292.5       | 375.9                   | 0.00                    | 0.00                   | 0.00                  |
| 6,100.0                     | 3.76            | 308.91      | 6,087.5               | 240.2        | -297.6       | 382.4                   | 0.00                    | 0.00                   | 0.00                  |
| 6,200.0                     | 3.76            | 308.91      | 6,187.3               | 244.3        | -302.7       | 389.0                   | 0.00                    | 0.00                   | 0.00                  |
| 6,300.0                     | 3.76            | 308.91      | 6,287.1               | 248.4        | -307.8       | 395.5                   | 0.00                    | 0.00                   | 0.00                  |
| 6,400.0                     | 3.76            | 308.91      | 6,386.9               | 252.5        | -312.9       | 402.1                   | 0.00                    | 0.00                   | 0.00                  |
| <b>Ohio Creek</b>           |                 |             |                       |              |              |                         |                         |                        |                       |
| 6,464.3                     | 3.76            | 308.91      | 6,451.0               | 255.2        | -316.1       | 406.3                   | 0.00                    | 0.00                   | 0.00                  |
| 6,500.0                     | 3.76            | 308.91      | 6,486.6               | 256.7        | -318.0       | 408.6                   | 0.00                    | 0.00                   | 0.00                  |
| 6,600.0                     | 3.76            | 308.91      | 6,586.4               | 260.8        | -323.0       | 415.2                   | 0.00                    | 0.00                   | 0.00                  |
| <b>Williams Fork</b>        |                 |             |                       |              |              |                         |                         |                        |                       |
| 6,614.6                     | 3.76            | 308.91      | 6,601.0               | 261.4        | -323.8       | 416.1                   | 0.00                    | 0.00                   | 0.00                  |
| 6,700.0                     | 3.76            | 308.91      | 6,686.2               | 264.9        | -328.1       | 421.7                   | 0.00                    | 0.00                   | 0.00                  |
| 6,800.0                     | 3.76            | 308.91      | 6,786.0               | 269.0        | -333.2       | 428.3                   | 0.00                    | 0.00                   | 0.00                  |
| 6,900.0                     | 3.76            | 308.91      | 6,885.8               | 273.1        | -338.3       | 434.8                   | 0.00                    | 0.00                   | 0.00                  |
| 7,000.0                     | 3.76            | 308.91      | 6,985.6               | 277.2        | -343.4       | 441.4                   | 0.00                    | 0.00                   | 0.00                  |
| 7,100.0                     | 3.76            | 308.91      | 7,085.4               | 281.3        | -348.5       | 447.9                   | 0.00                    | 0.00                   | 0.00                  |
| 7,200.0                     | 3.76            | 308.91      | 7,185.1               | 285.5        | -353.6       | 454.5                   | 0.00                    | 0.00                   | 0.00                  |
| <b>Drop 3° / 100'</b>       |                 |             |                       |              |              |                         |                         |                        |                       |
| 7,290.9                     | 3.76            | 308.91      | 7,275.9               | 289.2        | -358.3       | 460.4                   | 0.00                    | 0.00                   | 0.00                  |
| 7,300.0                     | 3.48            | 308.91      | 7,284.9               | 289.6        | -358.7       | 461.0                   | 3.00                    | -3.00                  | 0.00                  |
| 7,400.0                     | 0.48            | 308.91      | 7,384.9               | 291.7        | -361.4       | 464.5                   | 3.00                    | -3.00                  | 0.00                  |
| <b>EOD @ Vertical - TOG</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 7,416.1                     | 0.00            | 0.00        | 7,401.0               | 291.8        | -361.5       | 464.5                   | 3.00                    | -3.00                  | 316.50                |
| 7,500.0                     | 0.00            | 0.00        | 7,484.9               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| 7,600.0                     | 0.00            | 0.00        | 7,584.9               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| 7,700.0                     | 0.00            | 0.00        | 7,684.9               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| 7,800.0                     | 0.00            | 0.00        | 7,784.9               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| 7,900.0                     | 0.00            | 0.00        | 7,884.9               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| 8,000.0                     | 0.00            | 0.00        | 7,984.9               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| 8,100.0                     | 0.00            | 0.00        | 8,084.9               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| 8,200.0                     | 0.00            | 0.00        | 8,184.9               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| 8,300.0                     | 0.00            | 0.00        | 8,284.9               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| 8,400.0                     | 0.00            | 0.00        | 8,384.9               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| 8,500.0                     | 0.00            | 0.00        | 8,484.9               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| 8,600.0                     | 0.00            | 0.00        | 8,584.9               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| 8,700.0                     | 0.00            | 0.00        | 8,684.9               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| 8,800.0                     | 0.00            | 0.00        | 8,784.9               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| 8,900.0                     | 0.00            | 0.00        | 8,884.9               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| 9,000.0                     | 0.00            | 0.00        | 8,984.9               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |



## Well Planning Report



|                  |                           |                                     |                             |
|------------------|---------------------------|-------------------------------------|-----------------------------|
| <b>Database:</b> | EDM 5000 1 Single User Db | <b>Local Co-ordinate Reference:</b> | Well CC 0697-04-07E         |
| <b>Company:</b>  | Laramie Energy, LLC       | <b>TVD Reference:</b>               | well @ 8633.0usft (24' RKB) |
| <b>Project:</b>  | Garfield County, CO       | <b>MD Reference:</b>                | well @ 8633.0usft (24' RKB) |
| <b>Site:</b>     | CC 604-41-32 Pad          | <b>North Reference:</b>             | True                        |
| <b>Well:</b>     | CC 0697-04-07E            | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Wellbore:</b> | Wellbore #1               |                                     |                             |
| <b>Design:</b>   | 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) |
|--------------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| <b>Cameo</b>                         |                 |             |                       |              |              |                         |                         |                        |                       |
| 9,066.1                              | 0.00            | 0.00        | 9,051.0               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| 9,100.0                              | 0.00            | 0.00        | 9,084.9               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| 9,200.0                              | 0.00            | 0.00        | 9,184.9               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| <b>Base Cameo Coal</b>               |                 |             |                       |              |              |                         |                         |                        |                       |
| 9,296.1                              | 0.00            | 0.00        | 9,281.0               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| 9,300.0                              | 0.00            | 0.00        | 9,284.9               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| <b>Rollins</b>                       |                 |             |                       |              |              |                         |                         |                        |                       |
| 9,316.1                              | 0.00            | 0.00        | 9,301.0               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| 9,400.0                              | 0.00            | 0.00        | 9,384.9               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| 9,500.0                              | 0.00            | 0.00        | 9,484.9               | 291.8        | -361.5       | 464.5                   | 0.00                    | 0.00                   | 0.00                  |
| <b>TD @ 9566.1' MD / 9551.0' TVD</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 9,566.1                              | 0.00            | 0.00        | 9,551.0               | 291.8        | -361.5       | 464.5                   | 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   |
|---------------------------|---------------|--------------|------------|--------------|--------------|-----------------|----------------|-----------|-------------|
| - hit/miss target         |               |              |            |              |              |                 |                |           |             |
| - Shape                   |               |              |            |              |              |                 |                |           |             |
| PBHL - CC 0697-04-07E     | 0.00          | 0.00         | 9,551.0    | 291.8        | -361.5       | 1,639,710.70    | 2,233,175.18   | 39 558274 | -108 220118 |
| - plan hits target center |               |              |            |              |              |                 |                |           |             |
| - Circle (radius 50.0)    |               |              |            |              |              |                 |                |           |             |

## Casing Points

| Measured Depth (usft) | Vertical Depth (usft) | Name   | Casing Diameter (") | Hole Diameter (") |
|-----------------------|-----------------------|--------|---------------------|-------------------|
| 2,524.0               | 2,519.2               | 9 5/8" | 9-5/8               | 14-3/4            |

## Formations

| Measured Depth (usft) | Vertical Depth (usft) | Name             | Lithology | Dip (°) | Dip Direction (°) |
|-----------------------|-----------------------|------------------|-----------|---------|-------------------|
| 4,760.6               | 4,751.0               | Wasatch 'G' Sand |           |         |                   |
| 6,464.3               | 6,451.0               | Ohio Creek       |           |         |                   |
| 6,614.6               | 6,601.0               | Williams Fork    |           |         |                   |
| 7,416.1               | 7,401.0               | TOG              |           |         |                   |
| 9,066.1               | 9,051.0               | Cameo            |           |         |                   |
| 9,296.1               | 9,281.0               | Base Cameo Coal  |           |         |                   |
| 9,316.1               | 9,301.0               | Rollins          |           |         |                   |



## Well Planning Report



|                  |                           |                                     |                             |
|------------------|---------------------------|-------------------------------------|-----------------------------|
| <b>Database:</b> | EDM 5000.1 Single User Db | <b>Local Co-ordinate Reference:</b> | Well CC 0697-04-07E         |
| <b>Company:</b>  | Laramie Energy, LLC       | <b>TVD Reference:</b>               | well @ 8633 0usft (24' RKB) |
| <b>Project:</b>  | Garfield County, CO       | <b>MD Reference:</b>                | well @ 8633 0usft (24' RKB) |
| <b>Site:</b>     | CC 604-41-32 Pad          | <b>North Reference:</b>             | True                        |
| <b>Well:</b>     | CC 0697-04-07E            | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Wellbore:</b> | Wellbore #1               |                                     |                             |
| <b>Design:</b>   | Design #1                 |                                     |                             |

### Plan Annotations

| Measured<br>Depth<br>(usft) | Vertical<br>Depth<br>(usft) | Local Coordinates |                 | Comment                        |
|-----------------------------|-----------------------------|-------------------|-----------------|--------------------------------|
|                             |                             | +N/-S<br>(usft)   | +E/-W<br>(usft) |                                |
| 200.0                       | 200.0                       | 0.0               | 0.0             | KOP (Build 3" / 100')          |
| 325.2                       | 325.1                       | 2.6               | -3.2            | EOB @ 3.76" Inc. / 308.91" Azm |
| 7,290.9                     | 7,275.9                     | 289.2             | -358.3          | Drop 3" / 100'                 |
| 7,416.1                     | 7,401.0                     | 291.8             | -361.5          | EOD @ Vertical                 |
| 9,566.1                     | 9,551.0                     | 291.8             | -361.5          | TD @ 9566.1' MD / 9551.0' TVD  |