

PROJECT DETAILS: Mesa 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: BCU 0993-21-04E

+N/-S 0.0 +E/-W 0.0 Northing 1529673.05 Easting 2354508.05 Latitude 39.265445 Longitude -107.780124

Project: Mesa County, CO
Site: Gunderson 0993 21-05 Pad
Well: BCU 0993-21-04E
Wellbore: Wellbore #1
Design: Design #1
Latitude: 39.265445
Longitude: -107.780124
Ground Level: 7256.0
well @ 7286.0usft (H&P #522)

REFERENCE INFORMATION

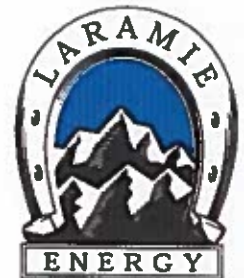
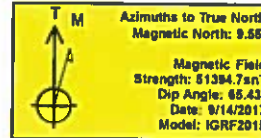
Co-ordinate (N/E) Reference: Well BCU 0993-21-04E, True North
Vertical (TVD) Reference: well @ 7286.0usft (H&P #522)
Section (VS) Reference: Slot - (0.0N, 0.0E)
Measured Depth Reference: well @ 7286.0usft (H&P #522)
Calculation Method: Minimum Curvature



DIRECTIONAL DRILLING

FORMATION TOP DETAILS

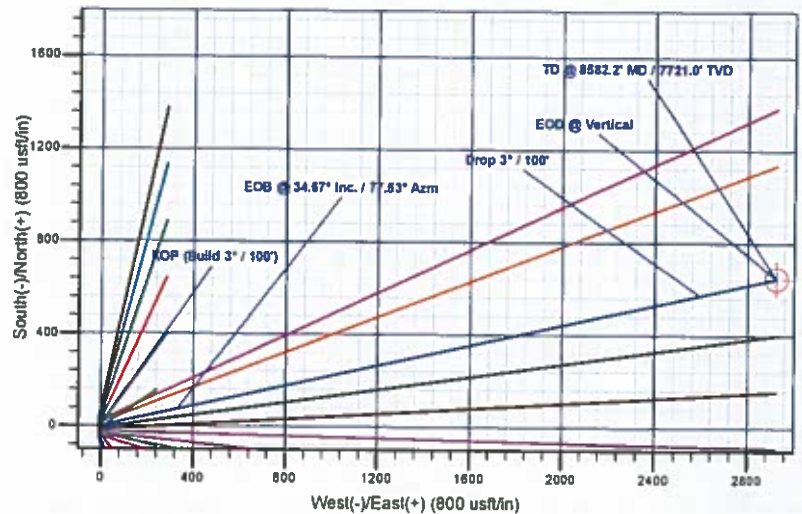
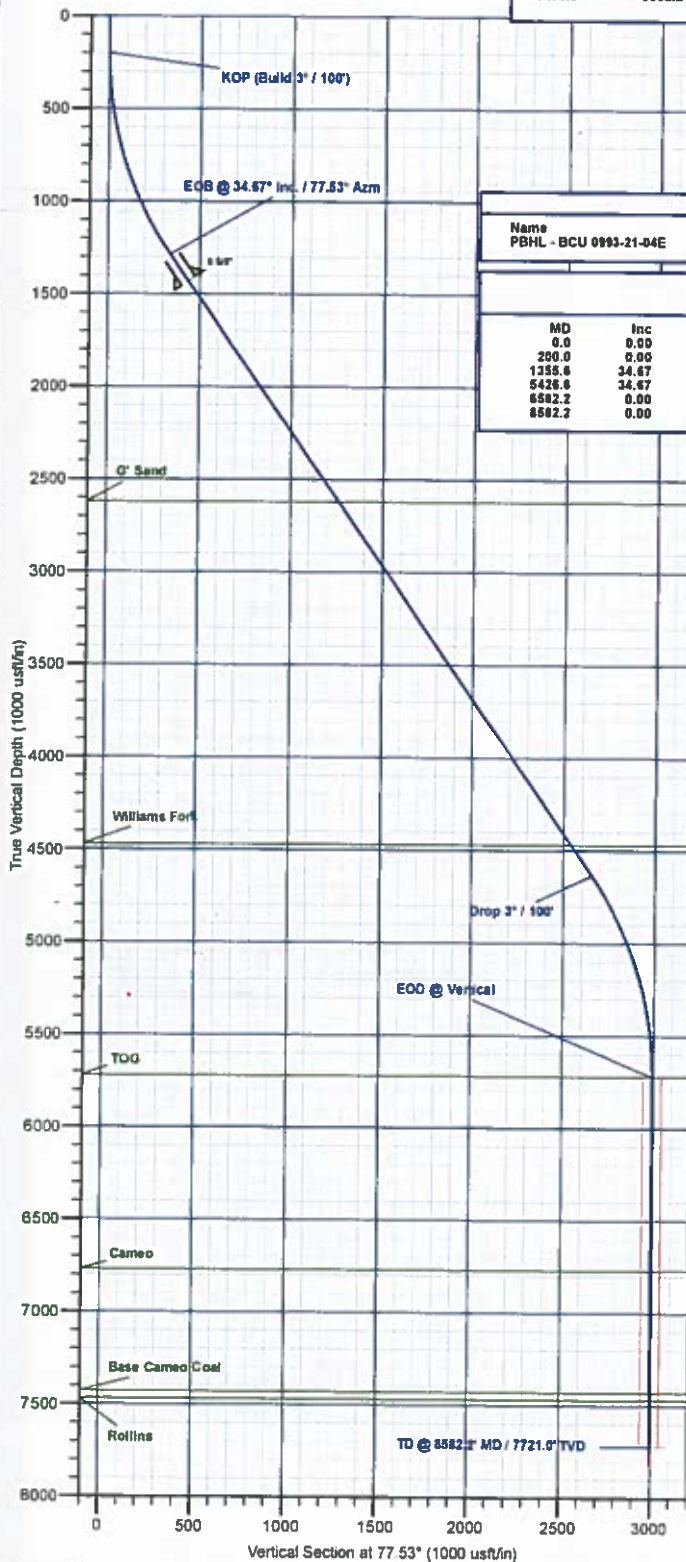
| TVDPath | MDPath | Formation |
|---------|--------|-----------------|
| 2621.0 | 2978.3 | G' Sand |
| 4471.0 | 5227.7 | Williams Fork |
| 5721.0 | 6582.2 | TOG |
| 6771.0 | 7632.2 | Cameo |
| 7431.0 | 8292.2 | Base Cameo Coal |
| 7471.0 | 8332.2 | Rollins |


DESIGN TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
|------------------------|--------|-------|--------|------------|------------|-----------|-------------|
| PBHL - BCU 0993-21-04E | 7721.0 | 646.7 | 2923.2 | 1530246.16 | 2357446.55 | 39.267220 | -107.769799 |

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') |
| 1355.6 | 34.67 | 77.53 | 1286.4 | 73.2 | 331.1 | 3.00 | 77.53 | 339.1 | EOB @ 34.67° Inc. / 77.53° Azm |
| 5426.6 | 34.67 | 77.53 | 4634.6 | 673.4 | 2592.1 | 0.00 | 0.00 | 2654.8 | Drop 3° / 100' |
| 6582.2 | 0.00 | 0.00 | 6721.0 | 646.7 | 2923.2 | 3.00 | 180.00 | 2993.9 | EOD @ Vertical |
| 6582.2 | 0.00 | 0.00 | 7721.0 | 646.7 | 2923.2 | 0.00 | 0.00 | 2993.9 | TD @ 6582.2' MD / 7721.0' TVD |



Plan: Design #1 (BCU 0993-21-04E/Wellbore #1)

Created By: Will Jircik

Date: 13:07, September 18 2017



Laramie Energy, LLC

Mesa County, CO

Gunderson 0993 21-05 Pad

BCU 0993-21-04E

Wellbore #1

Plan: Design #1

QES Well Planning Report

18 September, 2017





Well Planning Report



| | | | |
|------------------|---------------------------|-------------------------------------|------------------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well BCU 0993-21-04E |
| Company: | Laramie Energy, LLC | TVD Reference: | well @ 7286.0usft (H&P #522) |
| Project: | Mesa County, CO | MD Reference: | well @ 7286.0usft (H&P #522) |
| Site: | Gunderson 0993 21-05 Pad | North Reference: | True |
| Well: | BCU 0993-21-04E | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #1 | | |

| | | | |
|--------------------|---------------------------|----------------------|----------------|
| Project | Mesa 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 | | Gunderson 0993 21-05 Pad | | | |
| Site Position: | | Northing: | 1,529,627.90 usft | Latitude: | 39.265321 |
| From: | Lat/Long | Easting: | 2,354,508.90 usft | Longitude: | -107.780117 |
| Position Uncertainty: | 0.0 usft | Slot Radius: | 13-3/16 " | Grid Convergence: | -1.44 " |

| | | | | | | |
|----------------------|-----------------|-----------|---------------------|-------------------|---------------|--------------|
| Well | BCU 0993-21-04E | | | | | |
| Well Position | +N/-S | 45.2 usft | Northing: | 1,529,673.09 usft | Latitude: | 39.265445 |
| | +E/-W | -2.0 usft | Easting: | 2,354,508.06 usft | Longitude: | -107.780124 |
| Position Uncertainty | | 0.0 usft | Wellhead Elevation: | | Ground Level: | 7,256.0 usft |

| | | | | | |
|-----------|-------------|-------------|--------------------|------------------|------------------------|
| Wellbore | Wellbore #1 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2015 | 9/14/2017 | 9.55 | 65.43 | 51,394.73570398 |

| | | | | |
|-------------------|----------------------------|-----------------|-----------------|------------------|
| 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) | Direction (°) |
| | 0.0 | 0.0 | 0.0 | 77.53 |

| 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 | |
| 1,355.6 | 34.67 | 77.53 | 1,286.4 | 73.2 | 331.1 | 3.00 | 3.00 | 0.00 | 77.53 | |
| 5,426.6 | 34.67 | 77.53 | 4,634.6 | 573.4 | 2,592.1 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 6,582.2 | 0.00 | 0.00 | 5,721.0 | 646.7 | 2,923.2 | 3.00 | -3.00 | 0.00 | 180.00 | |
| 8,582.2 | 0.00 | 0.00 | 7,721.0 | 646.7 | 2,923.2 | 0.00 | 0.00 | 0.00 | 0.00 | PBHL - BCU 0993-21 |



Well Planning Report



Database: EDM 5000.1 Single User Db
Company: Laramie Energy, LLC
Project: Mesa County, CO
Site: Gunderson 0993 21-05 Pad
Well: BCU 0993-21-04E
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well BCU 0993-21-04E
TVD Reference: well @ 7286.0usft (H&P #522)
MD Reference: well @ 7286.0usft (H&P #522)
North Reference: True
Survey Calculation Method: 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) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 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 |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 300.0 | 3.00 | 77.53 | 300.0 | 0.6 | 2.6 | 2.6 | 3.00 | 3.00 | 0.00 |
| 400.0 | 6.00 | 77.53 | 399.6 | 2.3 | 10.2 | 10.5 | 3.00 | 3.00 | 0.00 |
| 500.0 | 9.00 | 77.53 | 498.8 | 5.1 | 23.0 | 23.5 | 3.00 | 3.00 | 0.00 |
| 600.0 | 12.00 | 77.53 | 597.1 | 9.0 | 40.7 | 41.7 | 3.00 | 3.00 | 0.00 |
| 700.0 | 15.00 | 77.53 | 694.3 | 14.1 | 63.5 | 65.1 | 3.00 | 3.00 | 0.00 |
| 800.0 | 18.00 | 77.53 | 790.2 | 20.2 | 91.3 | 93.5 | 3.00 | 3.00 | 0.00 |
| 900.0 | 21.00 | 77.53 | 884.4 | 27.4 | 123.9 | 126.9 | 3.00 | 3.00 | 0.00 |
| 1,000.0 | 24.00 | 77.53 | 976.8 | 35.7 | 161.2 | 165.1 | 3.00 | 3.00 | 0.00 |
| 1,100.0 | 27.00 | 77.53 | 1,067.1 | 45.0 | 203.2 | 208.2 | 3.00 | 3.00 | 0.00 |
| 1,200.0 | 30.00 | 77.53 | 1,154.9 | 55.3 | 249.8 | 255.9 | 3.00 | 3.00 | 0.00 |
| 1,300.0 | 33.00 | 77.53 | 1,240.2 | 66.6 | 300.8 | 308.1 | 3.00 | 3.00 | 0.00 |
| 1,355.6 | 34.67 | 77.53 | 1,286.4 | 73.2 | 331.1 | 339.1 | 3.00 | 3.00 | 0.00 |
| 1,400.0 | 34.67 | 77.53 | 1,322.9 | 78.7 | 355.7 | 364.3 | 0.00 | 0.00 | 0.00 |
| 1,500.0 | 34.67 | 77.53 | 1,405.1 | 91.0 | 411.3 | 421.2 | 0.00 | 0.00 | 0.00 |
| 8 5/8" | | | | | | | | | |
| 1,530.0 | 34.67 | 77.53 | 1,429.8 | 94.7 | 427.9 | 438.3 | 0.00 | 0.00 | 0.00 |
| 1,600.0 | 34.67 | 77.53 | 1,487.4 | 103.3 | 466.8 | 478.1 | 0.00 | 0.00 | 0.00 |
| 1,700.0 | 34.67 | 77.53 | 1,569.6 | 115.6 | 522.3 | 535.0 | 0.00 | 0.00 | 0.00 |
| 1,800.0 | 34.67 | 77.53 | 1,651.9 | 127.8 | 577.9 | 591.9 | 0.00 | 0.00 | 0.00 |
| 1,900.0 | 34.67 | 77.53 | 1,734.1 | 140.1 | 633.4 | 648.7 | 0.00 | 0.00 | 0.00 |
| 2,000.0 | 34.67 | 77.53 | 1,816.4 | 152.4 | 689.0 | 705.6 | 0.00 | 0.00 | 0.00 |
| 2,100.0 | 34.67 | 77.53 | 1,898.6 | 164.7 | 744.5 | 762.5 | 0.00 | 0.00 | 0.00 |
| 2,200.0 | 34.67 | 77.53 | 1,980.9 | 177.0 | 800.0 | 819.4 | 0.00 | 0.00 | 0.00 |
| 2,300.0 | 34.67 | 77.53 | 2,063.1 | 189.3 | 855.6 | 876.3 | 0.00 | 0.00 | 0.00 |
| 2,400.0 | 34.67 | 77.53 | 2,145.3 | 201.6 | 911.1 | 933.2 | 0.00 | 0.00 | 0.00 |
| 2,500.0 | 34.67 | 77.53 | 2,227.6 | 213.8 | 966.7 | 990.0 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 34.67 | 77.53 | 2,309.8 | 226.1 | 1,022.2 | 1,046.9 | 0.00 | 0.00 | 0.00 |
| 2,700.0 | 34.67 | 77.53 | 2,392.1 | 238.4 | 1,077.7 | 1,103.8 | 0.00 | 0.00 | 0.00 |
| 2,800.0 | 34.67 | 77.53 | 2,474.3 | 250.7 | 1,133.3 | 1,160.7 | 0.00 | 0.00 | 0.00 |
| 2,900.0 | 34.67 | 77.53 | 2,556.6 | 263.0 | 1,188.8 | 1,217.6 | 0.00 | 0.00 | 0.00 |
| G' Sand | | | | | | | | | |
| 2,978.3 | 34.67 | 77.53 | 2,621.0 | 272.6 | 1,232.3 | 1,262.1 | 0.00 | 0.00 | 0.00 |
| 3,000.0 | 34.67 | 77.53 | 2,638.8 | 275.3 | 1,244.4 | 1,274.4 | 0.00 | 0.00 | 0.00 |
| 3,100.0 | 34.67 | 77.53 | 2,721.1 | 287.6 | 1,299.9 | 1,331.3 | 0.00 | 0.00 | 0.00 |
| 3,200.0 | 34.67 | 77.53 | 2,803.3 | 299.8 | 1,355.4 | 1,388.2 | 0.00 | 0.00 | 0.00 |
| 3,300.0 | 34.67 | 77.53 | 2,885.6 | 312.1 | 1,411.0 | 1,445.1 | 0.00 | 0.00 | 0.00 |
| 3,400.0 | 34.67 | 77.53 | 2,967.8 | 324.4 | 1,466.5 | 1,502.0 | 0.00 | 0.00 | 0.00 |
| 3,500.0 | 34.67 | 77.53 | 3,050.0 | 336.7 | 1,522.1 | 1,558.9 | 0.00 | 0.00 | 0.00 |
| 3,600.0 | 34.67 | 77.53 | 3,132.3 | 349.0 | 1,577.6 | 1,615.7 | 0.00 | 0.00 | 0.00 |
| 3,700.0 | 34.67 | 77.53 | 3,214.5 | 361.3 | 1,633.1 | 1,672.6 | 0.00 | 0.00 | 0.00 |
| 3,800.0 | 34.67 | 77.53 | 3,296.8 | 373.6 | 1,688.7 | 1,729.5 | 0.00 | 0.00 | 0.00 |
| 3,900.0 | 34.67 | 77.53 | 3,379.0 | 385.9 | 1,744.2 | 1,786.4 | 0.00 | 0.00 | 0.00 |
| 4,000.0 | 34.67 | 77.53 | 3,461.3 | 398.1 | 1,799.8 | 1,843.3 | 0.00 | 0.00 | 0.00 |
| 4,100.0 | 34.67 | 77.53 | 3,543.5 | 410.4 | 1,855.3 | 1,900.2 | 0.00 | 0.00 | 0.00 |
| 4,200.0 | 34.67 | 77.53 | 3,625.8 | 422.7 | 1,910.8 | 1,957.0 | 0.00 | 0.00 | 0.00 |
| 4,300.0 | 34.67 | 77.53 | 3,708.0 | 435.0 | 1,966.4 | 2,013.9 | 0.00 | 0.00 | 0.00 |
| 4,400.0 | 34.67 | 77.53 | 3,790.3 | 447.3 | 2,021.9 | 2,070.8 | 0.00 | 0.00 | 0.00 |
| 4,500.0 | 34.67 | 77.53 | 3,872.5 | 459.6 | 2,077.5 | 2,127.7 | 0.00 | 0.00 | 0.00 |
| 4,600.0 | 34.67 | 77.53 | 3,954.7 | 471.9 | 2,133.0 | 2,184.6 | 0.00 | 0.00 | 0.00 |
| 4,700.0 | 34.67 | 77.53 | 4,037.0 | 484.1 | 2,188.5 | 2,241.5 | 0.00 | 0.00 | 0.00 |
| 4,800.0 | 34.67 | 77.53 | 4,119.2 | 496.4 | 2,244.1 | 2,298.3 | 0.00 | 0.00 | 0.00 |



Well Planning Report



| | | | |
|------------------|---------------------------|-------------------------------------|------------------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well BCU 0993-21-04E |
| Company: | Laramie Energy, LLC | TVD Reference: | well @ 7286 0usft (H&P #522) |
| Project: | Mesa County, CO | MD Reference: | well @ 7286 0usft (H&P #522) |
| Site: | Gunderson 0993 21-05 Pad | North Reference: | True |
| Well: | BCU 0993-21-04E | 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) |
|------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 4,900.0 | 34.67 | 77.53 | 4,201.5 | 508.7 | 2,299.6 | 2,355.2 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 34.67 | 77.53 | 4,283.7 | 521.0 | 2,355.2 | 2,412.1 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 34.67 | 77.53 | 4,366.0 | 533.3 | 2,410.7 | 2,469.0 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 34.67 | 77.53 | 4,448.2 | 545.6 | 2,466.2 | 2,525.9 | 0.00 | 0.00 | 0.00 |
| Williams Fork | | | | | | | | | |
| 5,227.7 | 34.67 | 77.53 | 4,471.0 | 549.0 | 2,481.6 | 2,541.6 | 0.00 | 0.00 | 0.00 |
| 5,300.0 | 34.67 | 77.53 | 4,530.5 | 557.9 | 2,521.8 | 2,582.7 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 34.67 | 77.53 | 4,612.7 | 570.1 | 2,577.3 | 2,639.6 | 0.00 | 0.00 | 0.00 |
| 5,426.6 | 34.67 | 77.53 | 4,634.6 | 573.4 | 2,592.1 | 2,654.8 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 32.47 | 77.53 | 4,695.7 | 582.2 | 2,631.7 | 2,695.3 | 3.00 | -3.00 | 0.00 |
| 5,600.0 | 29.47 | 77.53 | 4,781.5 | 593.3 | 2,682.0 | 2,746.8 | 3.00 | -3.00 | 0.00 |
| 5,700.0 | 26.47 | 77.53 | 4,869.8 | 603.4 | 2,727.7 | 2,793.7 | 3.00 | -3.00 | 0.00 |
| 5,800.0 | 23.47 | 77.53 | 4,960.4 | 612.5 | 2,768.9 | 2,835.9 | 3.00 | -3.00 | 0.00 |
| 5,900.0 | 20.47 | 77.53 | 5,053.2 | 620.6 | 2,805.5 | 2,873.3 | 3.00 | -3.00 | 0.00 |
| 6,000.0 | 17.47 | 77.53 | 5,147.7 | 627.6 | 2,837.2 | 2,905.8 | 3.00 | -3.00 | 0.00 |
| 6,100.0 | 14.47 | 77.53 | 5,243.9 | 633.6 | 2,864.1 | 2,933.3 | 3.00 | -3.00 | 0.00 |
| 6,200.0 | 11.47 | 77.53 | 5,341.3 | 638.4 | 2,886.0 | 2,955.7 | 3.00 | -3.00 | 0.00 |
| 6,300.0 | 8.47 | 77.53 | 5,439.8 | 642.2 | 2,902.9 | 2,973.0 | 3.00 | -3.00 | 0.00 |
| 6,400.0 | 5.47 | 77.53 | 5,539.0 | 644.8 | 2,914.7 | 2,985.2 | 3.00 | -3.00 | 0.00 |
| 6,500.0 | 2.47 | 77.53 | 5,638.8 | 646.3 | 2,921.5 | 2,992.1 | 3.00 | -3.00 | 0.00 |
| TOG | | | | | | | | | |
| 6,582.2 | 0.00 | 0.00 | 5,721.0 | 646.7 | 2,923.2 | 2,993.9 | 3.00 | -3.00 | 0.00 |
| 6,600.0 | 0.00 | 0.00 | 5,738.8 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| 6,700.0 | 0.00 | 0.00 | 5,838.8 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| 6,800.0 | 0.00 | 0.00 | 5,938.8 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| 6,900.0 | 0.00 | 0.00 | 6,038.8 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| 7,000.0 | 0.00 | 0.00 | 6,138.8 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| 7,100.0 | 0.00 | 0.00 | 6,238.8 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| 7,200.0 | 0.00 | 0.00 | 6,338.8 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| 7,300.0 | 0.00 | 0.00 | 6,438.8 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 0.00 | 0.00 | 6,538.8 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| 7,500.0 | 0.00 | 0.00 | 6,638.8 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| 7,600.0 | 0.00 | 0.00 | 6,738.8 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| Cameo | | | | | | | | | |
| 7,632.2 | 0.00 | 0.00 | 6,771.0 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| 7,700.0 | 0.00 | 0.00 | 6,838.8 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 0.00 | 0.00 | 6,938.8 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| 7,900.0 | 0.00 | 0.00 | 7,038.8 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| 8,000.0 | 0.00 | 0.00 | 7,138.8 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| 8,100.0 | 0.00 | 0.00 | 7,238.8 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| 8,200.0 | 0.00 | 0.00 | 7,338.8 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| Base Cameo Coal | | | | | | | | | |
| 8,292.2 | 0.00 | 0.00 | 7,431.0 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| 8,300.0 | 0.00 | 0.00 | 7,438.8 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| Rollins | | | | | | | | | |
| 8,332.2 | 0.00 | 0.00 | 7,471.0 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 0.00 | 0.00 | 7,538.8 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| 8,500.0 | 0.00 | 0.00 | 7,638.8 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |
| 8,582.2 | 0.00 | 0.00 | 7,721.0 | 646.7 | 2,923.2 | 2,993.9 | 0.00 | 0.00 | 0.00 |



Well Planning Report



| | | | |
|------------------|---------------------------|-------------------------------------|------------------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well BCU 0993-21-04E |
| Company: | Laramie Energy, LLC | TVD Reference: | well @ 7286.0usft (H&P #522) |
| Project: | Mesa County, CO | MD Reference: | well @ 7286.0usft (H&P #522) |
| Site: | Gunderson 0993 21-05 Pad | North Reference: | True |
| Well: | BCU 0993-21-04E | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #1 | | |

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 - BCU 0993-21-04 | 0.00 | 0.00 | 7,721.0 | 846.7 | 2,923.2 | 1,530,246.19 | 2,357,446.55 | 39.267220 | -107.769799 |
| - plan hits target center | | | | | | | | | |
| - Circle (radius 50.0) | | | | | | | | | |

Casing Points

| Measured Depth (usft) | Vertical Depth (usft) | Name | Casing Diameter (") | Hole Diameter (") |
|-----------------------------|-----------------------------|--------|---------------------------|-------------------------|
| 1,530.0 | 1,429.8 | 8 5/8" | 8-5/8 | 11 |

Formations

| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|-----------------------------|-----------------------------|-----------------|-----------|------------|-------------------------|
| 2,978.3 | 2,821.0 | G' Sand | | | |
| 5,227.7 | 4,471.0 | Williams Fork | | | |
| 6,582.2 | 5,721.0 | TOG | | | |
| 7,632.2 | 6,771.0 | Cameo | | | |
| 8,292.2 | 7,431.0 | Base Cameo Coal | | | |
| 8,332.2 | 7,471.0 | Rollins | | | |