

**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 0697-04-01E**  
 Ground Level: 8609.0  
 Longitude: -108.218761  
 Easting: 2233850.80  
 Latitude: 39.557649  
 Northing: 1639471.88  
 +N-S: 0.0  
 +E-W: 0.0

**Project: Garfield County, CO**  
 Site: CC 604-41-32 Pad  
 Well: CC Federal 0697-04-01E  
 Wellbore: Wellbore #1  
 Design: Design #3  
 Latitude: 39.557649  
 Longitude: -108.218761  
 Ground Level: 8609.0  
 Well @ 8639.0ustf (RKB 30')



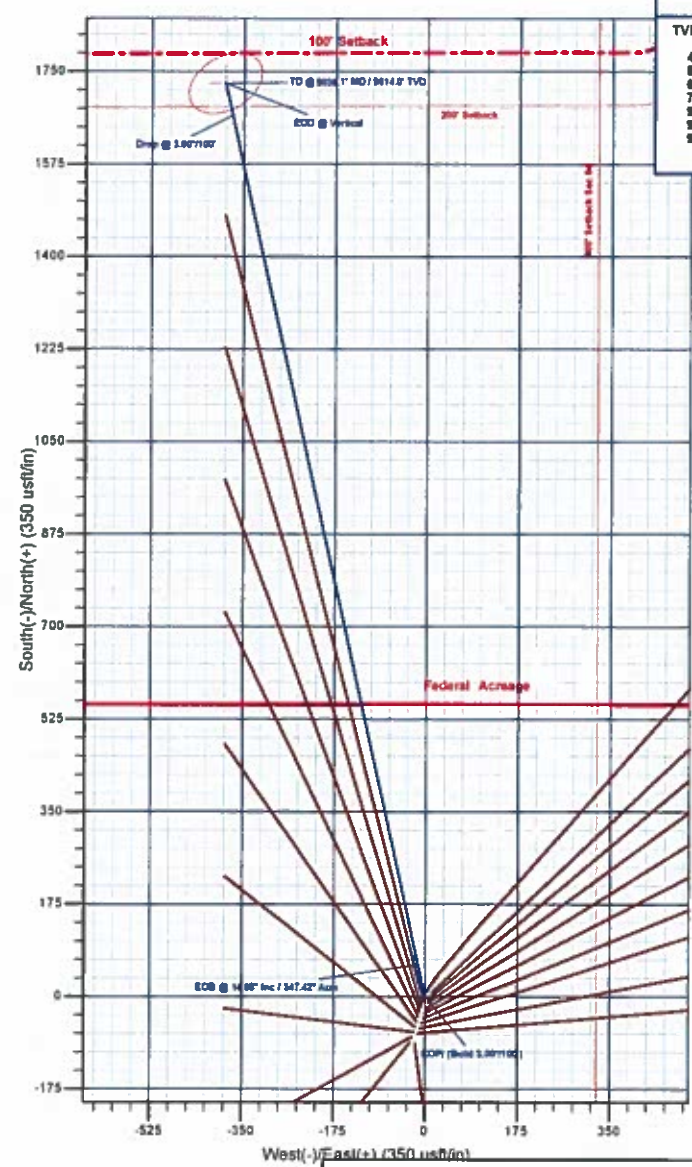
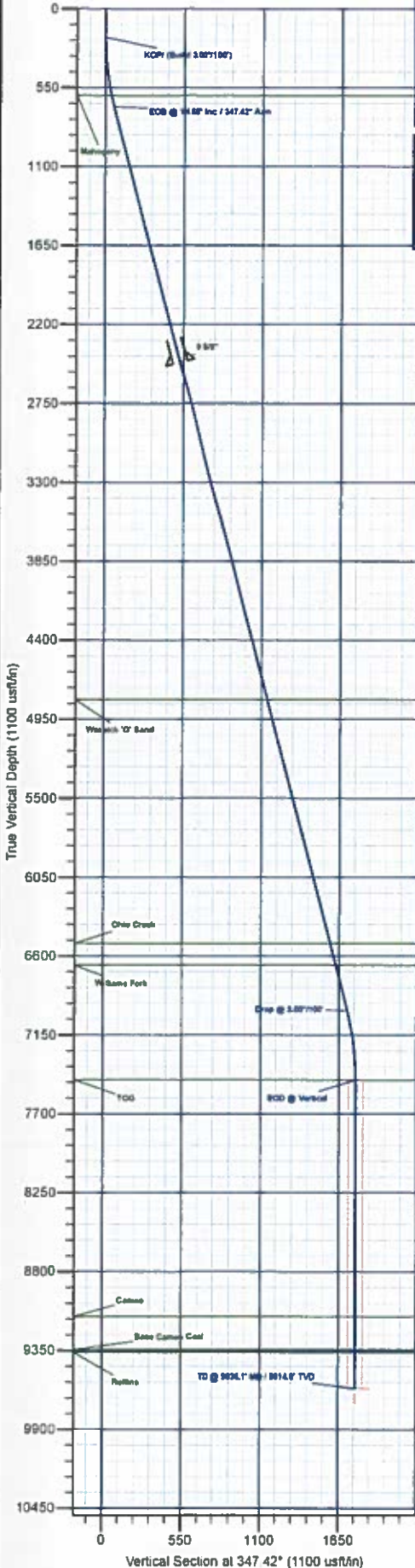
**REFERENCE INFORMATION**  
 Co-ordinate (N/E) Reference: Well CC Federal 0697-04-01E, True North  
 Vertical (TVD) Reference: Well @ 8639.0ustf (RKB 30')  
 Section (VS) Reference: Slot = (0.0N, 0.0E)  
 Measured Depth Reference: Well @ 8639.0ustf (RKB 30')  
 Calculation Method: Minimum Curvature

**DESIGN TARGET DETAILS**

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
PBHL - CC Federal 0697-04-01E	9614.0	1727.5	-385.7	1641210.09	2233216.99	39.562392	-108.220129

**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 3.00°/100')
688.2	14.65	347.42	682.9	60.6	-13.5	3.00	347.42	62.1	EOB @ 14.65° Inc / 347.42° Azm
7197.9	14.65	347.42	6961.1	1667.1	-372.2	0.00	0.00	1708.1	Drop @ 3.00°/100'
7656.1	0.00	0.00	7464.0	1727.5	-385.7	3.00	180.00	1770.2	EOD @ Vertical
9636.1	0.00	0.00	9614.0	1727.5	-385.7	0.00	0.00	1770.2	TD @ 9636.1' MD / 9614.0' TVD



**FORMATION TOP DETAILS**

TVDPath	MDPath	Formation
406.0	688.1	Mahogany
4214.0	4958.1	Wasatch 'G' Sand
6514.0	6715.2	Ohio Creek
6664.0	6870.2	Williams Fork
7464.0	7686.1	TOG
9314.0	9336.1	Cameo
9344.0	9586.1	Base Cameo Coal
9364.0	9586.1	Rollins

**Compass Rose**  
 Azimuths to True North  
 Magnetic North: 9.77°  
 Magnetic Field  
 Strength: 51479.8snT  
 Dip Angle: 65.59°  
 Date: 10/4/2017  
 Model: IGRF2016

**Plan: Design #3 (CC Federal 0697-04-01E/Wellbore #1)**  
 Created By: Will Jircik Date: 15:35, February 04 2019



# **Laramie Energy, LLC**

**Garfield County, CO**

**CC 604-41-32 Pad**

**CC Federal 0697-04-01E**

**Wellbore #1**

**Plan: Design #3**

## **QES Well Planning Report**

**04 February, 2019**





# Well Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CC Federal 0697-04-01E
<b>Company:</b>	Laramie Energy, LLC	<b>TVD Reference:</b>	Well @ 8639.0usft (RKB 30')
<b>Project:</b>	Garfield County, CO	<b>MD Reference:</b>	Well @ 8639.0usft (RKB 30')
<b>Site:</b>	CC 604-41-32 Pad	<b>North Reference:</b>	True
<b>Well:</b>	CC Federal 0697-04-01E	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #3		

<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 Federal 0697-04-01E					
<b>Well Position</b>	<b>+N/-S</b>	7.1 usft	<b>Northing:</b>	1,639,471.68 usft	<b>Latitude:</b>	39.557649
	<b>+E/-W</b>	2.5 usft	<b>Easting:</b>	2,233,550.80 usft	<b>Longitude:</b>	-108.218761
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	8,609.0 usft

<b>Wellbore</b>	Wellbore #1
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/4/2017	9.77	65.59	51,479.57341048

<b>Design</b>	Design #3
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<b>Audit Notes:</b>	
<b>Version:</b>	<b>Phase:</b> PLAN <b>Tie On Depth:</b> 0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	347.42

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	
688.2	14.65	347.42	682.9	60.6	-13.5	3.00	3.00	0.00	347.42	
7,197.9	14.65	347.42	6,981.1	1,667.1	-372.2	0.00	0.00	0.00	0.00	
7,686.1	0.00	0.00	7,464.0	1,727.6	-385.7	3.00	-3.00	0.00	180.00	
9,836.1	0.00	0.00	9,614.0	1,727.6	-385.7	0.00	0.00	0.00	0.00	PBHL - CC Federal 01



# Well Planning Report



<b>Database:</b>	EDM 5000 1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CC Federal 0697-04-01E
<b>Company:</b>	Laramie Energy, LLC	<b>TVD Reference:</b>	Well @ 8639 Dusst (RKB 30')
<b>Project:</b>	Garfield County, CO	<b>MD Reference:</b>	Well @ 8639 Dusst (RKB 30')
<b>Site:</b>	CC 604-41-32 Pad	<b>North Reference:</b>	True
<b>Well:</b>	CC Federal 0697-04-01E	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #3		

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	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
<b>KOP/ (Build 3.00°/100')</b>										
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
300.0	3.00	347.42	300.0	2.6	-0.6	2.6	3.00	3.00	0.00	0.00
400.0	6.00	347.42	399.6	10.2	-2.3	10.5	3.00	3.00	0.00	0.00
500.0	9.00	347.42	498.8	22.9	-5.1	23.5	3.00	3.00	0.00	0.00
600.0	12.00	347.42	597.1	40.7	-9.1	41.7	3.00	3.00	0.00	0.00
<b>Mahogany</b>										
609.1	12.27	347.42	606.0	42.6	-9.5	43.7	3.00	3.00	0.00	0.00
<b>EOB @ 14.66° Inc / 347.42° Azm</b>										
688.2	14.65	347.42	682.9	60.6	-13.5	62.1	3.00	3.00	0.00	0.00
700.0	14.65	347.42	694.3	63.5	-14.2	65.0	0.00	0.00	0.00	0.00
800.0	14.65	347.42	791.1	88.2	-19.7	90.3	0.00	0.00	0.00	0.00
900.0	14.65	347.42	887.8	112.8	-25.2	115.6	0.00	0.00	0.00	0.00
1,000.0	14.65	347.42	984.6	137.5	-30.7	140.9	0.00	0.00	0.00	0.00
1,100.0	14.65	347.42	1,081.3	162.2	-36.2	166.2	0.00	0.00	0.00	0.00
1,200.0	14.65	347.42	1,178.1	186.9	-41.7	191.5	0.00	0.00	0.00	0.00
1,300.0	14.65	347.42	1,274.8	211.6	-47.2	216.8	0.00	0.00	0.00	0.00
1,400.0	14.65	347.42	1,371.6	236.2	-52.7	242.0	0.00	0.00	0.00	0.00
1,500.0	14.65	347.42	1,468.3	260.9	-58.2	267.3	0.00	0.00	0.00	0.00
1,600.0	14.65	347.42	1,565.1	285.6	-63.8	292.6	0.00	0.00	0.00	0.00
1,700.0	14.65	347.42	1,661.8	310.3	-69.3	317.9	0.00	0.00	0.00	0.00
1,800.0	14.65	347.42	1,758.6	334.9	-74.8	343.2	0.00	0.00	0.00	0.00
1,900.0	14.65	347.42	1,855.3	359.6	-80.3	368.5	0.00	0.00	0.00	0.00
2,000.0	14.65	347.42	1,952.1	384.3	-85.8	393.8	0.00	0.00	0.00	0.00
2,100.0	14.65	347.42	2,048.8	409.0	-91.3	419.0	0.00	0.00	0.00	0.00
2,200.0	14.65	347.42	2,145.6	433.7	-96.8	444.3	0.00	0.00	0.00	0.00
2,300.0	14.65	347.42	2,242.3	458.3	-102.3	469.6	0.00	0.00	0.00	0.00
2,400.0	14.65	347.42	2,339.1	483.0	-107.8	494.9	0.00	0.00	0.00	0.00
2,500.0	14.65	347.42	2,435.8	507.7	-113.3	520.2	0.00	0.00	0.00	0.00
2,600.0	14.65	347.42	2,532.6	532.4	-118.8	545.5	0.00	0.00	0.00	0.00
2,700.0	14.65	347.42	2,629.3	557.0	-124.4	570.8	0.00	0.00	0.00	0.00
2,800.0	14.65	347.42	2,726.1	581.7	-129.9	596.0	0.00	0.00	0.00	0.00
2,900.0	14.65	347.42	2,822.8	606.4	-135.4	621.3	0.00	0.00	0.00	0.00
3,000.0	14.65	347.42	2,919.6	631.1	-140.9	646.6	0.00	0.00	0.00	0.00
3,100.0	14.65	347.42	3,016.3	655.8	-146.4	671.9	0.00	0.00	0.00	0.00
3,200.0	14.65	347.42	3,113.1	680.4	-151.9	697.2	0.00	0.00	0.00	0.00
3,300.0	14.65	347.42	3,209.8	705.1	-157.4	722.5	0.00	0.00	0.00	0.00
3,400.0	14.65	347.42	3,306.6	729.8	-162.9	747.8	0.00	0.00	0.00	0.00
3,500.0	14.65	347.42	3,403.3	754.5	-168.4	773.0	0.00	0.00	0.00	0.00
3,600.0	14.65	347.42	3,500.1	779.2	-173.9	798.3	0.00	0.00	0.00	0.00
3,700.0	14.65	347.42	3,596.8	803.8	-179.5	823.6	0.00	0.00	0.00	0.00
3,800.0	14.65	347.42	3,693.6	828.5	-185.0	848.9	0.00	0.00	0.00	0.00
3,900.0	14.65	347.42	3,790.3	853.2	-190.5	874.2	0.00	0.00	0.00	0.00
4,000.0	14.65	347.42	3,887.1	877.9	-196.0	899.5	0.00	0.00	0.00	0.00
4,100.0	14.65	347.42	3,983.8	902.5	-201.5	924.8	0.00	0.00	0.00	0.00
4,200.0	14.65	347.42	4,080.6	927.2	-207.0	950.1	0.00	0.00	0.00	0.00
4,300.0	14.65	347.42	4,177.3	951.9	-212.5	975.3	0.00	0.00	0.00	0.00
4,400.0	14.65	347.42	4,274.1	976.6	-218.0	1,000.6	0.00	0.00	0.00	0.00
4,500.0	14.65	347.42	4,370.8	1,001.3	-223.5	1,025.9	0.00	0.00	0.00	0.00
4,600.0	14.65	347.42	4,467.6	1,025.9	-229.0	1,051.2	0.00	0.00	0.00	0.00
4,700.0	14.65	347.42	4,564.3	1,050.6	-234.5	1,076.5	0.00	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 Federal 0697-04-01E
<b>Company:</b>	Laramie Energy, LLC	<b>TVD Reference:</b>	Well @ 8639.0usft (RKB 30')
<b>Project:</b>	Garfield County, CO	<b>MD Reference:</b>	Well @ 8639.0usft (RKB 30')
<b>Site:</b>	CC 604-41-32 Pad	<b>North Reference:</b>	True
<b>Well:</b>	CC Federal 0697-04-01E	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #3		

## 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	14.65	347.42	4,661.1	1,075.3	-240.1	1,101.8	0.00	0.00	0.00
4,900.0	14.65	347.42	4,757.8	1,100.0	-245.6	1,127.1	0.00	0.00	0.00
<b>Wasatch 'G' Sand</b>									
4,958.1	14.65	347.42	4,814.0	1,114.3	-248.8	1,141.7	0.00	0.00	0.00
5,000.0	14.65	347.42	4,854.6	1,124.7	-251.1	1,152.3	0.00	0.00	0.00
5,100.0	14.65	347.42	4,951.3	1,149.3	-256.6	1,177.6	0.00	0.00	0.00
5,200.0	14.65	347.42	5,048.1	1,174.0	-262.1	1,202.9	0.00	0.00	0.00
5,300.0	14.65	347.42	5,144.8	1,198.7	-267.6	1,228.2	0.00	0.00	0.00
5,400.0	14.65	347.42	5,241.6	1,223.4	-273.1	1,253.5	0.00	0.00	0.00
5,500.0	14.65	347.42	5,338.3	1,248.0	-278.6	1,278.8	0.00	0.00	0.00
5,600.0	14.65	347.42	5,435.1	1,272.7	-284.1	1,304.1	0.00	0.00	0.00
5,700.0	14.65	347.42	5,531.8	1,297.4	-289.6	1,329.3	0.00	0.00	0.00
5,800.0	14.65	347.42	5,628.6	1,322.1	-295.1	1,354.6	0.00	0.00	0.00
5,900.0	14.65	347.42	5,725.3	1,346.8	-300.7	1,379.9	0.00	0.00	0.00
6,000.0	14.65	347.42	5,822.1	1,371.4	-306.2	1,405.2	0.00	0.00	0.00
6,100.0	14.65	347.42	5,918.8	1,396.1	-311.7	1,430.5	0.00	0.00	0.00
6,200.0	14.65	347.42	6,015.6	1,420.8	-317.2	1,455.8	0.00	0.00	0.00
6,300.0	14.65	347.42	6,112.3	1,445.5	-322.7	1,481.1	0.00	0.00	0.00
6,400.0	14.65	347.42	6,209.1	1,470.2	-328.2	1,506.3	0.00	0.00	0.00
6,500.0	14.65	347.42	6,305.8	1,494.8	-333.7	1,531.6	0.00	0.00	0.00
6,600.0	14.65	347.42	6,402.6	1,519.5	-339.2	1,556.9	0.00	0.00	0.00
6,700.0	14.65	347.42	6,499.3	1,544.2	-344.7	1,582.2	0.00	0.00	0.00
<b>Ohio Creek</b>									
6,715.2	14.65	347.42	6,514.0	1,547.9	-345.6	1,586.0	0.00	0.00	0.00
6,800.0	14.65	347.42	6,596.1	1,568.9	-350.2	1,607.5	0.00	0.00	0.00
<b>Williams Fork</b>									
6,870.2	14.65	347.42	6,664.0	1,586.2	-354.1	1,625.2	0.00	0.00	0.00
6,900.0	14.65	347.42	6,692.8	1,593.5	-355.7	1,632.8	0.00	0.00	0.00
7,000.0	14.65	347.42	6,789.6	1,618.2	-361.3	1,658.1	0.00	0.00	0.00
7,100.0	14.65	347.42	6,886.3	1,642.9	-366.8	1,683.3	0.00	0.00	0.00
<b>Drop @ 3.00*/100'</b>									
7,197.9	14.65	347.42	6,981.1	1,667.1	-372.2	1,708.1	0.00	0.00	0.00
7,200.0	14.58	347.42	6,983.1	1,667.6	-372.3	1,708.6	3.00	-3.00	0.00
7,300.0	11.58	347.42	7,080.5	1,689.7	-377.2	1,731.3	3.00	-3.00	0.00
7,400.0	8.58	347.42	7,178.9	1,706.8	-381.0	1,748.8	3.00	-3.00	0.00
7,500.0	5.58	347.42	7,278.1	1,718.8	-383.7	1,761.1	3.00	-3.00	0.00
7,600.0	2.58	347.42	7,377.9	1,725.7	-385.3	1,768.2	3.00	-3.00	0.00
<b>EOD @ Vertical - TOG</b>									
7,686.1	0.00	0.00	7,464.0	1,727.6	-385.7	1,770.2	3.00	-3.00	0.00
7,700.0	0.00	0.00	7,477.9	1,727.6	-385.7	1,770.2	0.00	0.00	0.00
7,800.0	0.00	0.00	7,577.9	1,727.6	-385.7	1,770.2	0.00	0.00	0.00
7,900.0	0.00	0.00	7,677.9	1,727.6	-385.7	1,770.2	0.00	0.00	0.00
8,000.0	0.00	0.00	7,777.9	1,727.6	-385.7	1,770.2	0.00	0.00	0.00
8,100.0	0.00	0.00	7,877.9	1,727.6	-385.7	1,770.2	0.00	0.00	0.00
8,200.0	0.00	0.00	7,977.9	1,727.6	-385.7	1,770.2	0.00	0.00	0.00
8,300.0	0.00	0.00	8,077.9	1,727.6	-385.7	1,770.2	0.00	0.00	0.00
8,400.0	0.00	0.00	8,177.9	1,727.6	-385.7	1,770.2	0.00	0.00	0.00
8,500.0	0.00	0.00	8,277.9	1,727.6	-385.7	1,770.2	0.00	0.00	0.00
8,600.0	0.00	0.00	8,377.9	1,727.6	-385.7	1,770.2	0.00	0.00	0.00
8,700.0	0.00	0.00	8,477.9	1,727.6	-385.7	1,770.2	0.00	0.00	0.00
8,800.0	0.00	0.00	8,577.9	1,727.6	-385.7	1,770.2	0.00	0.00	0.00
8,900.0	0.00	0.00	8,677.9	1,727.6	-385.7	1,770.2	0.00	0.00	0.00
9,000.0	0.00	0.00	8,777.9	1,727.6	-385.7	1,770.2	0.00	0.00	0.00
9,100.0	0.00	0.00	8,877.9	1,727.6	-385.7	1,770.2	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 Federal 0697-04-01E
<b>Company:</b>	Laramie Energy, LLC	<b>TVD Reference:</b>	Well @ 8639.0usft (RKB 30')
<b>Project:</b>	Garfield County, CO	<b>MD Reference:</b>	Well @ 8639.0usft (RKB 30')
<b>Site:</b>	CC 604-41-32 Pad	<b>North Reference:</b>	True
<b>Well:</b>	CC Federal 0697-04-01E	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #3		

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	8,977.9	1,727.6	-385.7	1,770.2	0.00	0.00	0.00	
9,300.0	0.00	0.00	9,077.9	1,727.6	-385.7	1,770.2	0.00	0.00	0.00	
<b>Cameo</b>										
9,336.1	0.00	0.00	9,114.0	1,727.6	-385.7	1,770.2	0.00	0.00	0.00	
9,400.0	0.00	0.00	9,177.9	1,727.6	-385.7	1,770.2	0.00	0.00	0.00	
9,500.0	0.00	0.00	9,277.9	1,727.6	-385.7	1,770.2	0.00	0.00	0.00	
<b>Base Cameo Coal</b>										
9,566.1	0.00	0.00	9,344.0	1,727.6	-385.7	1,770.2	0.00	0.00	0.00	
<b>Rollins</b>										
9,586.1	0.00	0.00	9,364.0	1,727.6	-385.7	1,770.2	0.00	0.00	0.00	
9,600.0	0.00	0.00	9,377.9	1,727.6	-385.7	1,770.2	0.00	0.00	0.00	
9,700.0	0.00	0.00	9,477.9	1,727.6	-385.7	1,770.2	0.00	0.00	0.00	
9,800.0	0.00	0.00	9,577.9	1,727.6	-385.7	1,770.2	0.00	0.00	0.00	
<b>TD @ 9836.1' MD / 9614.0' TVD</b>										
9,836.1	0.00	0.00	9,614.0	1,727.6	-385.7	1,770.2	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
PBHL - CC Federal 069; - hit/miss target - Shape	0.00	0.00	9,614.0	1,727.6	-385.7	1,641,210.09	2,233,216.99	39.562392	-108.220129
- Ellipse (radii L50.0 W75.0 on 150.00 azi)									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
2,530.0	2,464.8	9 5/8"	9-5/8	14-3/4	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
609.1	606.0	Mahogany				
4,958.1	4,814.0	Wasatch 'G' Sand				
6,715.2	6,514.0	Ohio Creek				
6,870.2	6,664.0	Williams Fork				
7,686.1	7,464.0	TOG				
9,336.1	9,114.0	Cameo				
9,566.1	9,344.0	Base Cameo Coal				
9,586.1	9,364.0	Rollins				



# Well Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CC Federal 0697-04-01E
<b>Company:</b>	Laramie Energy, LLC	<b>TVD Reference:</b>	Well @ 8639.0usft (RKB 30')
<b>Project:</b>	Garfield County, CO	<b>MD Reference:</b>	Well @ 8639.0usft (RKB 30')
<b>Site:</b>	CC 604-41-32 Pad	<b>North Reference:</b>	True
<b>Well:</b>	CC Federal 0697-04-01E	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #3		

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 3.00"/100')
688.2	682.9	60.6	-13.5	EOB @ 14.65° Inc / 347.42° Azm
7,197.9	6,981.1	1,667.1	-372.2	Drop @ 3.00"/100'
7,686.1	7,464.0	1,727.6	-385.7	EOD @ Vertical
9,836.1	9,614.0	1,727.6	-385.7	TD @ 9836.1' MD / 9614.0' TVD