

**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



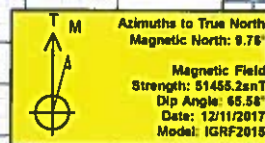
Project: Garfield County, CO  
 Site: CC 604-12-13 Pad  
 Well: CC Federal 0697-04-05W  
 Wellbore: A-6  
 Design: Design #2  
 Latitude: 39.553287  
 Longitude: -108.233383  
 Ground Level: 8529.0  
 WELL @ 8559.0ustf (H&P #522)



SECTION DETAILS									
MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
408.0	0.00	0.00	408.0	0.0	0.0	0.00	0.00	0.0	KOP/ (Build 3.00"/100")
733.3	10.00	0.00	731.6	29.0	0.0	3.00	0.00	26.2	EOB @ 10.00" Inc / 0.00" Azm
1133.3	10.00	0.00	1125.6	99.6	0.0	0.00	0.00	89.0	Build 3.00"/100"
1812.0	28.80	26.99	1763.8	385.2	75.0	3.00	38.93	307.9	EOB @ 28.80" Inc / 26.99" Azm
6005.6	28.80	26.99	5438.9	2105.7	991.8	0.00	0.00	2327.6	Drop @ 3.00"/100"
6965.9	0.00	0.00	6359.0	2316.3	1099.0	3.00	180.00	2563.8	EOD @ Vertical
9965.9	0.00	0.00	9359.0	2316.3	1099.0	0.00	0.00	2563.8	TD @ 9965.9" MD / 9359.0" TVD

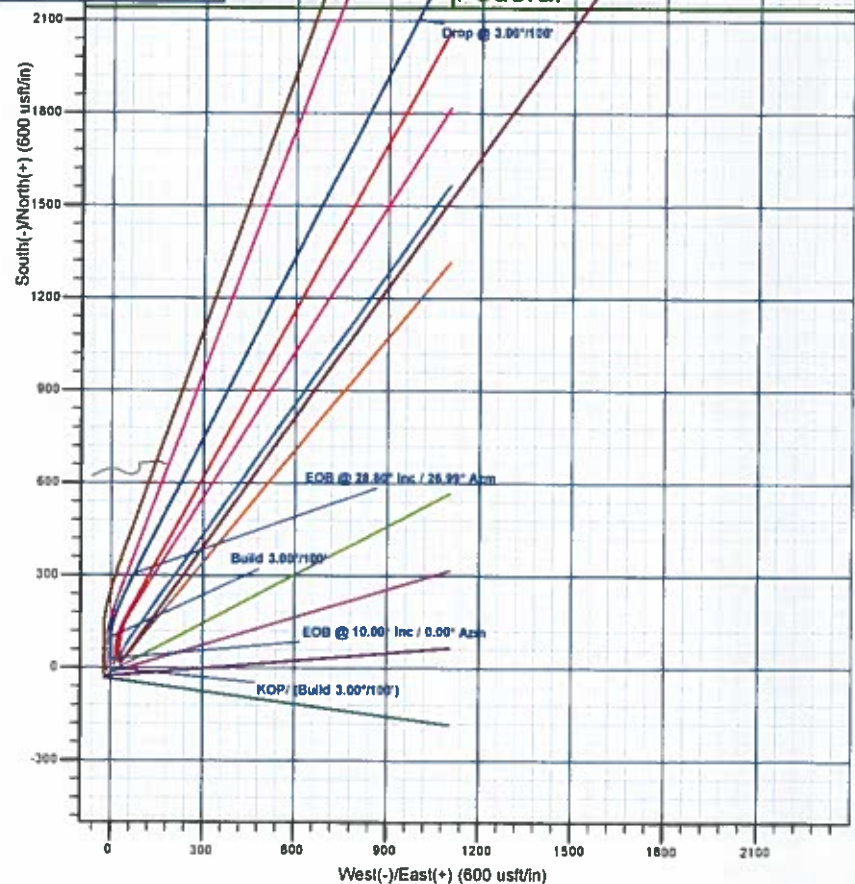
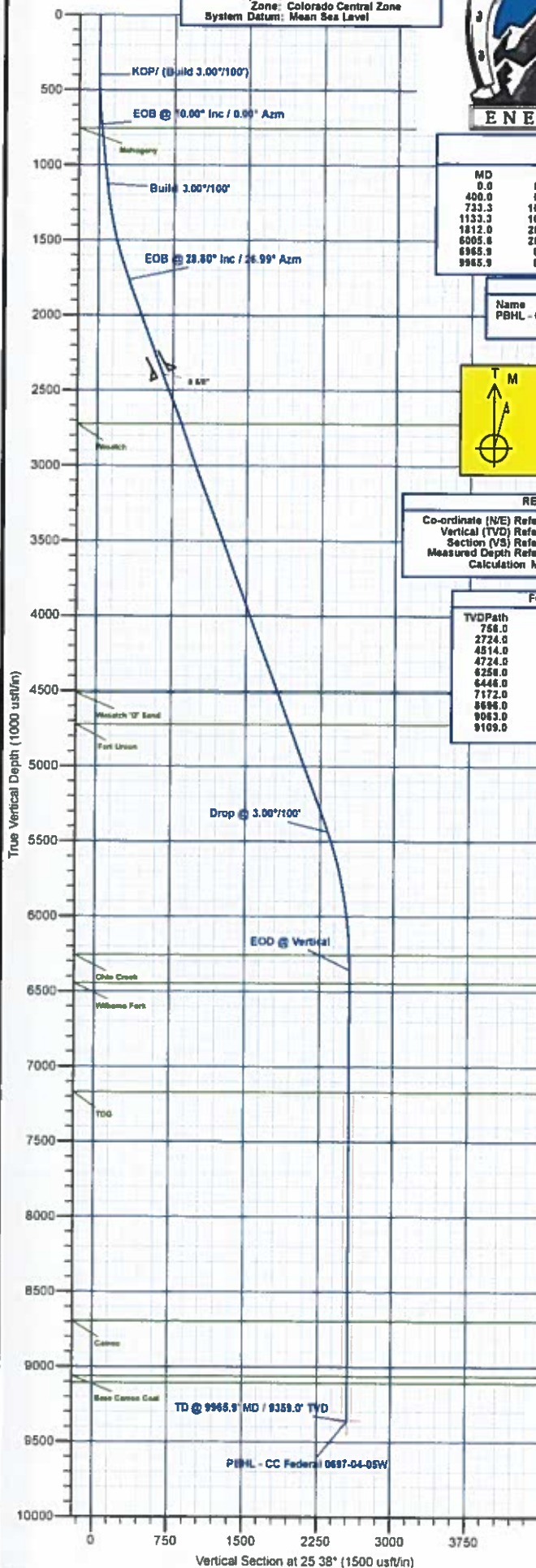
DESIGN TARGET DETAILS									
Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude		
PBHL - CC Federal 0697-04-05W	9359.0	2316.3	1099.0	1640269.42	2230550.35	39.559646	-108.229485		

WELL DETAILS: CC Federal 0697-04-05W									
+N-S	+E-W	Northing	GL: 8529.0	Easting	Latitude	Longitude			
0.0	0.0	1638007.36	2229382.14		39.553287	-108.233383			



**REFERENCE INFORMATION**  
 Co-ordinate (N/E) Reference: Well CC Federal 0697-04-05W, True North  
 Vertical (TVD) Reference: WELL @ 8559.0ustf (H&P #522)  
 Section (VS) Reference: Slot - (0.0N, 0.0E)  
 Measured Depth Reference: WELL @ 8559.0ustf (H&P #522)  
 Calculation Method: Minimum Curvature

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
758.0	758.1	Mahogany
2724.0	2907.7	Wasatch
4514.0	4950.4	Wasatch "G" Sand
4724.0	5190.0	Fort Union
6258.0	6864.3	Ohio Creek
6446.0	7052.9	Williams Fork
7172.0	7778.9	TDG
8696.0	9302.9	Cameo
9063.0	9669.9	Base Cameo Coal
9109.0	9719.9	Rollings



Plan: Design #2 (CC Federal 0697-04-05W/A-6)  
 Created By: Will Jircik Date: 10:31, June 24 2018



# **Laramie Energy, LLC**

**Garfield County, CO**

**CC 604-12-13 Pad**

**CC Federal 0697-04-05W**

**A-6**

**Plan: Design #2**

## **QES Well Planning Report**

**23 June, 2018**





## Well Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CC Federal 0697-04-05W
<b>Company:</b>	Laramie Energy, LLC	<b>TVD Reference:</b>	WELL @ 8559 0usft (H&P #522)
<b>Project:</b>	Garfield County, CO	<b>MD Reference:</b>	WELL @ 8559 0usft (H&P #522)
<b>Site:</b>	CC 604-12-13 Pad	<b>North Reference:</b>	True
<b>Well:</b>	CC Federal 0697-04-05W	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	A-6		
<b>Design:</b>	Design #2		

<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 604-12-13 Pad			
<b>Site Position:</b>		<b>Northing:</b>	1,638,031.56 usft	<b>Latitude:</b> 39 553356
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,229,410.52 usft	<b>Longitude:</b> -108 233285
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16"	<b>Grid Convergence:</b> -1.72°

<b>Well</b>	CC Federal 0697-04-05W			
<b>Well Position</b>	<b>+N/-S</b>	-25.1 usft	<b>Northing:</b>	1,638,007.26 usft
	<b>+E/-W</b>	-27.8 usft	<b>Easting:</b>	2,229,382.14 usft
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>	<b>Ground Level:</b> 8,529.0 usft

<b>Wellbore</b>	A-6				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	12/11/2017	9.76	65.58	51,455.21751017

<b>Design</b>	Design #2			
<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) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	25.38

<b>Plan Sections</b>										
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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
733.3	10.00	0.00	731.6	29.0	0.0	3.00	3.00	0.00	0.00	
1,133.3	10.00	0.00	1,125.6	98.5	0.0	0.00	0.00	0.00	0.00	
1,812.0	28.80	26.99	1,763.8	305.2	75.0	3.00	2.77	3.98	38.93	
6,005.8	28.80	26.99	5,438.9	2,105.7	991.8	0.00	0.00	0.00	0.00	
6,965.9	0.00	0.00	6,359.0	2,316.3	1,099.0	3.00	-3.00	0.00	180.00	
9,965.9	0.00	0.00	9,359.0	2,316.3	1,099.0	0.00	0.00	0.00	0.00	PBHL - CC Federal 06





## Well Planning Report



Database: EDM 5000.1 Single User Db  
 Company: Laramie Energy, LLC  
 Project: Garfield County, CO  
 Site: CC 604-12-13 Pad  
 Well: CC Federal 0697-04-05W  
 Wellbore: A-6  
 Design: Design #2

Local Co-ordinate Reference: Well CC Federal 0697-04-05W  
 TVD Reference: WELL @ 8559 0usft (H&P #522)  
 MD Reference: WELL @ 8559 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	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP/ (Build 3.00°/100°)									
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	3.00	0.00	500.0	2.6	0.0	2.4	3.00	3.00	0.00
600.0	6.00	0.00	599.6	10.5	0.0	9.5	3.00	3.00	0.00
700.0	9.00	0.00	698.8	23.5	0.0	21.2	3.00	3.00	0.00
EOB @ 10.00° Inc / 0.00° Azm									
733.3	10.00	0.00	731.6	29.0	0.0	26.2	3.00	3.00	0.00
Mahogany									
758.1	10.00	0.00	756.0	33.3	0.0	30.1	0.00	0.00	0.00
800.0	10.00	0.00	797.3	40.6	0.0	36.7	0.00	0.00	0.00
900.0	10.00	0.00	895.8	58.0	0.0	52.4	0.00	0.00	0.00
1,000.0	10.00	0.00	994.3	75.3	0.0	68.0	0.00	0.00	0.00
1,100.0	10.00	0.00	1,092.7	92.7	0.0	83.7	0.00	0.00	0.00
Build 3.00°/100°									
1,133.3	10.00	0.00	1,125.6	98.5	0.0	89.0	0.00	0.00	0.00
1,200.0	11.62	6.25	1,191.1	110.9	0.7	100.5	3.00	2.43	9.37
1,300.0	14.24	12.87	1,288.5	132.9	4.6	122.1	3.00	2.61	6.62
1,400.0	16.98	17.43	1,384.8	158.9	11.7	148.5	3.00	2.74	4.56
1,500.0	19.79	20.74	1,479.7	188.8	22.1	179.9	3.00	2.81	3.31
1,600.0	22.65	23.25	1,572.9	222.2	35.6	216.0	3.00	2.86	2.51
1,700.0	25.54	25.22	1,664.2	259.4	52.4	256.8	3.00	2.89	1.97
1,800.0	28.45	26.82	1,753.3	300.1	72.4	302.2	3.00	2.91	1.59
EOB @ 28.80° Inc / 26.99° Azm									
1,812.0	28.80	26.99	1,763.8	305.2	75.0	307.9	3.00	2.92	1.43
1,900.0	28.80	26.99	1,840.9	343.0	94.2	350.3	0.00	0.00	0.00
2,000.0	28.80	26.99	1,928.6	386.0	116.1	398.5	0.00	0.00	0.00
2,100.0	28.80	26.99	2,016.2	428.9	137.9	446.6	0.00	0.00	0.00
2,200.0	28.80	26.99	2,103.8	471.8	159.8	494.8	0.00	0.00	0.00
2,300.0	28.80	26.99	2,191.5	514.8	181.7	542.9	0.00	0.00	0.00
2,400.0	28.80	26.99	2,279.1	557.7	203.5	591.1	0.00	0.00	0.00
2,500.0	28.80	26.99	2,368.7	600.6	225.4	639.3	0.00	0.00	0.00
9 5/8"									
2,530.0	28.80	26.99	2,393.0	613.5	231.9	653.7	0.00	0.00	0.00
2,600.0	28.80	26.99	2,454.4	643.6	247.2	687.4	0.00	0.00	0.00
2,700.0	28.80	26.99	2,542.0	686.5	269.1	735.6	0.00	0.00	0.00
2,800.0	28.80	26.99	2,629.6	729.4	291.0	783.7	0.00	0.00	0.00
2,900.0	28.80	26.99	2,717.2	772.4	312.8	831.9	0.00	0.00	0.00
Wasatch									
2,907.7	28.80	26.99	2,724.0	775.7	314.5	835.6	0.00	0.00	0.00
3,000.0	28.80	26.99	2,804.9	815.3	334.7	880.1	0.00	0.00	0.00
3,100.0	28.80	26.99	2,892.5	858.2	356.6	928.2	0.00	0.00	0.00
3,200.0	28.80	26.99	2,980.1	901.2	378.4	976.4	0.00	0.00	0.00
3,300.0	28.80	26.99	3,067.8	944.1	400.3	1,024.5	0.00	0.00	0.00
3,400.0	28.80	26.99	3,155.4	987.0	422.1	1,072.7	0.00	0.00	0.00
3,500.0	28.80	26.99	3,243.0	1,029.9	444.0	1,120.8	0.00	0.00	0.00
3,600.0	28.80	26.99	3,330.6	1,072.9	465.9	1,169.0	0.00	0.00	0.00
3,700.0	28.80	26.99	3,418.3	1,115.8	487.7	1,217.2	0.00	0.00	0.00
3,800.0	28.80	26.99	3,505.9	1,158.7	509.6	1,265.3	0.00	0.00	0.00
3,900.0	28.80	26.99	3,593.5	1,201.7	531.4	1,313.5	0.00	0.00	0.00



## Well Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CC Federal 0697-04-05W
Company:	Laramie Energy, LLC	TVD Reference:	WELL @ 8559.0usft (H&P #522)
Project:	Garfield County, CO	MD Reference:	WELL @ 8559.0usft (H&P #522)
Site:	CC 604-12-13 Pad	North Reference:	True
Well:	CC Federal 0697-04-05W	Survey Calculation Method:	Minimum Curvature
Wellbore:	A-8		
Design:	Design #2		

## 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)
4,000.0	28.80	26.99	3,681.2	1,244.6	553.3	1,361.8	0.00	0.00	0.00
4,100.0	28.80	26.99	3,768.8	1,287.5	575.2	1,409.8	0.00	0.00	0.00
4,200.0	28.80	26.99	3,856.4	1,330.5	597.0	1,458.0	0.00	0.00	0.00
4,300.0	28.80	26.99	3,944.1	1,373.4	618.9	1,506.1	0.00	0.00	0.00
4,400.0	28.80	26.99	4,031.7	1,416.3	640.8	1,554.3	0.00	0.00	0.00
4,500.0	28.80	26.99	4,119.3	1,459.3	662.6	1,602.4	0.00	0.00	0.00
4,600.0	28.80	26.99	4,206.9	1,502.2	684.5	1,650.6	0.00	0.00	0.00
4,700.0	28.80	26.99	4,294.6	1,545.1	706.3	1,698.7	0.00	0.00	0.00
4,800.0	28.80	26.99	4,382.2	1,588.1	728.2	1,746.9	0.00	0.00	0.00
4,900.0	28.80	26.99	4,469.8	1,631.0	750.1	1,795.1	0.00	0.00	0.00
Wasatch 'G' Sand									
4,950.4	28.80	26.99	4,514.0	1,652.6	761.1	1,819.3	0.00	0.00	0.00
5,000.0	28.80	26.99	4,557.5	1,673.9	771.9	1,843.2	0.00	0.00	0.00
5,100.0	28.80	26.99	4,645.1	1,716.9	793.8	1,891.4	0.00	0.00	0.00
Fort Union									
5,190.0	28.80	26.99	4,724.0	1,755.5	813.5	1,934.7	0.00	0.00	0.00
5,200.0	28.80	26.99	4,732.7	1,759.8	815.6	1,939.5	0.00	0.00	0.00
5,300.0	28.80	26.99	4,820.4	1,802.7	837.5	1,987.7	0.00	0.00	0.00
5,400.0	28.80	26.99	4,908.0	1,845.6	859.4	2,035.9	0.00	0.00	0.00
5,500.0	28.80	26.99	4,995.6	1,888.6	881.2	2,084.0	0.00	0.00	0.00
5,600.0	28.80	26.99	5,083.2	1,931.5	903.1	2,132.2	0.00	0.00	0.00
5,700.0	28.80	26.99	5,170.9	1,974.4	925.0	2,180.3	0.00	0.00	0.00
5,800.0	28.80	26.99	5,258.5	2,017.4	946.8	2,228.5	0.00	0.00	0.00
5,900.0	28.80	26.99	5,346.1	2,060.3	968.7	2,276.6	0.00	0.00	0.00
Drop @ 3.00°/100'									
6,005.8	28.80	26.99	5,438.9	2,105.7	991.8	2,327.6	0.00	0.00	0.00
6,100.0	25.98	26.99	5,522.5	2,144.3	1,011.5	2,370.9	3.00	-3.00	0.00
6,200.0	22.98	26.99	5,613.5	2,181.3	1,030.3	2,412.3	3.00	-3.00	0.00
6,300.0	19.98	26.99	5,706.5	2,213.9	1,046.9	2,448.9	3.00	-3.00	0.00
6,400.0	16.98	26.99	5,801.4	2,242.1	1,061.3	2,480.6	3.00	-3.00	0.00
6,500.0	13.98	26.99	5,897.7	2,265.9	1,073.4	2,507.3	3.00	-3.00	0.00
6,600.0	10.98	26.99	5,995.3	2,285.1	1,083.2	2,528.9	3.00	-3.00	0.00
6,700.0	7.98	26.99	6,094.0	2,299.8	1,090.6	2,545.3	3.00	-3.00	0.00
6,800.0	4.98	26.99	6,193.3	2,309.9	1,095.8	2,556.6	3.00	-3.00	0.00
Ohio Creek									
6,864.8	3.03	26.99	6,258.0	2,313.9	1,097.8	2,561.1	3.00	-3.00	0.00
6,900.0	1.98	26.99	6,293.1	2,315.3	1,098.5	2,562.6	3.00	-3.00	0.00
EOD @ Vertical									
6,965.9	0.00	0.00	6,359.0	2,316.3	1,099.0	2,563.8	3.00	-3.00	0.00
7,000.0	0.00	0.00	6,393.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
Williams Fork									
7,052.9	0.00	0.00	6,446.0	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
7,100.0	0.00	0.00	6,493.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
7,200.0	0.00	0.00	6,593.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
7,300.0	0.00	0.00	6,693.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
7,400.0	0.00	0.00	6,793.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
7,500.0	0.00	0.00	6,893.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
7,600.0	0.00	0.00	6,993.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
7,700.0	0.00	0.00	7,093.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
TOG									
7,778.9	0.00	0.00	7,172.0	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
7,800.0	0.00	0.00	7,193.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
7,900.0	0.00	0.00	7,293.1	2,316.3	1,099.0	2,563.8	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 604-12-13 Pad  
 Well: CC Federal 0697-04-05W  
 Wellbore: A-6  
 Design: Design #2

Local Co-ordinate Reference:  
 TVD Reference:  
 MD Reference:  
 North Reference:  
 Survey Calculation Method:

Well CC Federal 0697-04-05W  
 WELL @ 8559 0usft (H&P #522)  
 WELL @ 8559 0usft (H&P #522)  
 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)
8,000.0	0.00	0.00	7,393.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
8,100.0	0.00	0.00	7,493.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
8,200.0	0.00	0.00	7,593.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
8,300.0	0.00	0.00	7,693.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
8,400.0	0.00	0.00	7,793.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
8,500.0	0.00	0.00	7,893.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
8,600.0	0.00	0.00	7,993.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
8,700.0	0.00	0.00	8,093.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
8,800.0	0.00	0.00	8,193.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
8,900.0	0.00	0.00	8,293.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
9,000.0	0.00	0.00	8,393.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
9,100.0	0.00	0.00	8,493.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
9,200.0	0.00	0.00	8,593.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
9,300.0	0.00	0.00	8,693.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
Cameo									
9,302.9	0.00	0.00	8,696.0	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
9,400.0	0.00	0.00	8,793.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
9,500.0	0.00	0.00	8,893.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
9,600.0	0.00	0.00	8,993.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
Base Cameo Coal									
9,669.9	0.00	0.00	9,063.0	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
9,700.0	0.00	0.00	9,093.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
Rollings									
9,715.9	0.00	0.00	9,109.0	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
9,800.0	0.00	0.00	9,193.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
9,900.0	0.00	0.00	9,293.1	2,316.3	1,099.0	2,563.8	0.00	0.00	0.00
TD @ 9965.9' MD / 9359.0' TVD									
9,965.9	0.00	0.00	9,359.0	2,316.3	1,099.0	2,563.8	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
- hit/miss target									
- Shape									
PBHL - CC Federal 0697	0.00	0.00	9,359.0	2,316.3	1,099.0	1,640,289.42	2,230,550.35	39.559646	-108.229485
- plan hits target center									
- Circle (radius 50.0)									

## Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
2,530.0	2,393.0	9 5/8"	9-5/8	14-1/2



# Well Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CC Federal 0697-04-05W
<b>Company:</b>	Laramie Energy, LLC	<b>TVD Reference:</b>	WELL @ 8559 0usft (H&P #522)
<b>Project:</b>	Garfield County, CO	<b>MD Reference:</b>	WELL @ 8559 0usft (H&P #522)
<b>Site:</b>	CC 604-12-13 Pad	<b>North Reference:</b>	True
<b>Well:</b>	CC Federal 0697-04-05W	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	A-6		
<b>Design:</b>	Design #2		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
758.1	756.0	Mahogany				
2,907.7	2,724.0	Wasatch				
4,950.4	4,514.0	Wasatch 'G' Sand				
5,190.0	4,724.0	Fort Union				
6,864.8	6,258.0	Ohio Creek				
7,052.9	6,446.0	Williams Fork				
7,778.9	7,172.0	TOG				
9,302.9	8,696.0	Cameo				
9,869.9	9,063.0	Base Cameo Coal				
9,715.9	9,109.0	Rollings				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N-S (usft)	+E-W (usft)	Comment	
400.0	400.0	0.0	0.0	KOP/ (Build 3.00"/100')	
733.3	731.6	29.0	0.0	EOB @ 10.00° Inc / 0.00° Azm	
1,133.3	1,125.6	98.5	0.0	Build 3.00"/100'	
1,812.0	1,763.8	305.2	75.0	EOB @ 28.80° Inc / 26.99° Azm	
6,005.8	5,438.9	2,105.7	991.8	Drop @ 3.00"/100'	
6,965.9	6,359.0	2,316.3	1,099.0	EOD @ Vertical	
9,965.9	9,359.0	2,316.3	1,099.0	TD @ 9965.9' MD / 9359.0' TVD	