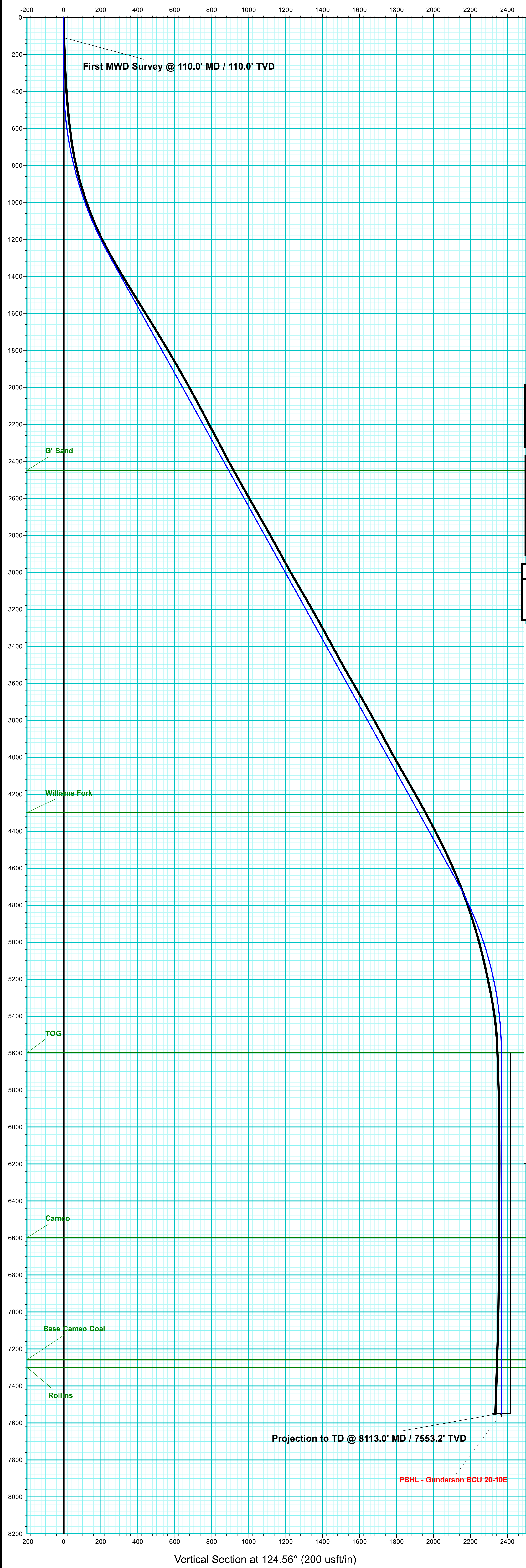


Gunderson BCU 20-10E  
Mesa County, CO  
Q170975 & RM-170826  
Design #4

Company Name: Laramie Energy, LLC  
Gunderson BCU 20-10E  
Mesa County, CO  
Rig: H&P #522  
Created By: Will Jircik  
Date: 8/5/2017

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



T

M

Azimuths to True North

Magnetic North: 9.57°

Strength: 51409.6snT

Dip Angle: 65.43°

Date: 7/26/2017

Model: IGRF2015

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
2449.0	2658.7	G' Sand
4299.0	4775.2	Williams Fork
5599.0	6169.9	TOG
6599.0	7169.9	Cameo
7259.0	7829.9	Base Cameo Coal
7299.0	7869.9	Rollins

WELL DETAILS: Gunderson BCU 20-10E						
			Ground Level:	7146.0		
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.0	0.0	1530268.31	2350230.40	39.266783	-107.795281	

DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL - Gunderson BCU 20-10E	7549.0	-1342.8	1949.1	1528876.71	2352144.95	39.263096	-107.788397	Circle (Radius: 50.0)
- plan hits target center								

Design #4									
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSecDeparture		Annotation	
350.0	0.00	0.00	350.0	0.0	0.0	0.0	0.0	KOP / Build 3° / 100'	
1318.8	29.06	124.56	1277.8	-136.4	198.0	240.5	240.5	EOB @ 29.06° Inc. / 124.56° Azm	
5201.1	29.06	124.56	4671.2	-1206.4	1751.1	2126.4	2126.4	Drop 3° / 100'	
6169.9	0.00	0.00	5599.0	-1342.8	1949.1	2366.9	2366.9	EOD @ Vertical	
8119.9	0.00	0.00	7549.0	-1342.8	1949.1	2366.9	2366.9	TD @ 8119.9' MD / 7549.0' TVD	

ANNOTATIONS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSecDeparture		Annotation	
110.0	1.70	138.30	110.0	-1.2	1.1	1.6	1.6	First MWD Survey @ 110.0' MD / 110.0' TVD	
8113.0	2.00	275.80	7553.2	-1335.6	1915.0	2334.7	2386.3	Projection to TD @ 8113.0' MD / 7553.2' TVD	

