

Gunderson 20-05W
Mesa County, CO
Q170757 & RM-170633
Design #4

Company Name: Laramie Energy, LLC
Gunderson 20-05W
Mesa County, CO
Rig: H&P #522
Created By: Will Jircik
Date: 6/26/2017

| | |
|------------------|---------------------------|
| 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 |



Azimuths to True North
Magnetic North: 9.58°

Strength: 51424.6snT
Dip Angle: 65.44°
Date: 6/7/2017
Model: IGRF2015

| FORMATION TOP DETAILS | | |
|-----------------------|--------|-----------------|
| TVDPath | MDPath | Formation |
| 2444.0 | 2462.8 | G' Sand |
| 4294.0 | 4331.0 | Williams Fork |
| 5594.0 | 5642.0 | TOG |
| 6594.0 | 6642.0 | Cameo |
| 7254.0 | 7302.0 | Base Cameo Coal |
| 7294.0 | 7342.0 | Rollins |

| WELL DETAILS: Gunderson 20-05W | | | | | | |
|--------------------------------|-------|---------------|------------|-----------|-------------|--|
| +N/-S | +E/-W | Ground Level: | 7146.0 | Latitude | Longitude | |
| 0.0 | 0.0 | Northing | 2350221.46 | 39.266919 | -107.795317 | |

| DESIGN TARGET DETAILS | | | | | | | | |
|---------------------------|--------|--------|--------|------------|------------|-----------|-------------|-----------------------|
| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Shape |
| PBHL - Gunderson 20-05W | 7544.0 | -160.2 | -680.6 | 1530175.09 | 2349537.01 | 39.266479 | -107.797721 | Circle (Radius: 50.0) |
| - plan hits target center | | | | | | | | |

| ANNOTATIONS | | | | | | | | | |
|-------------|------|--------|--------|--------|--------|-------|-----------|--|--|
| MD | Inc | Azi | TVD | +N/-S | +E/-W | VSect | Departure | Annotation | |
| 111.0 | 2.10 | 242.80 | 111.0 | -0.9 | -1.8 | 2.0 | 2.0 | First MWD Survey @ 111.0' MD / TVD | |
| 7605.0 | 0.40 | 247.90 | 7558.0 | -137.9 | -697.0 | 709.1 | 736.2 | Projection to Bit @ 7605.0' MD / 7558.0' TVD | |

