Nichols 0994-24-19W
Mesa County, CO
Q180548 & RM-180472
Design #3

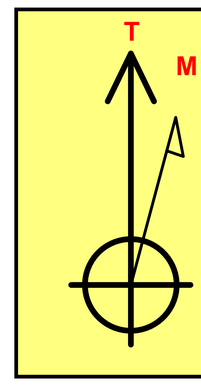
Company Name: Laramie Energy, LLC
Nichols 0994-24-19W
Mesa County, CO
Rig: H&P #290
Created By: Will Jircik
Date: 5/11/2018

DIRECTIONAL DRILLING

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

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2308.0	2411.6	G' Sand
4058.0	4523.9	Williams Fork
5458.0	6134.9	TOG
6358.0	7035.3	Cameo
7018.0	7695.3	Base Cameo Coal
7058.0	7735.3	Rollins



Azimuths to True North
Magnetic North: 9.44°

Strength: 51298.8snT
Dip Angle: 65.40°
Date: 5/2/2018
Model: USER DEFINED

DESIGN TARGET DETAILS

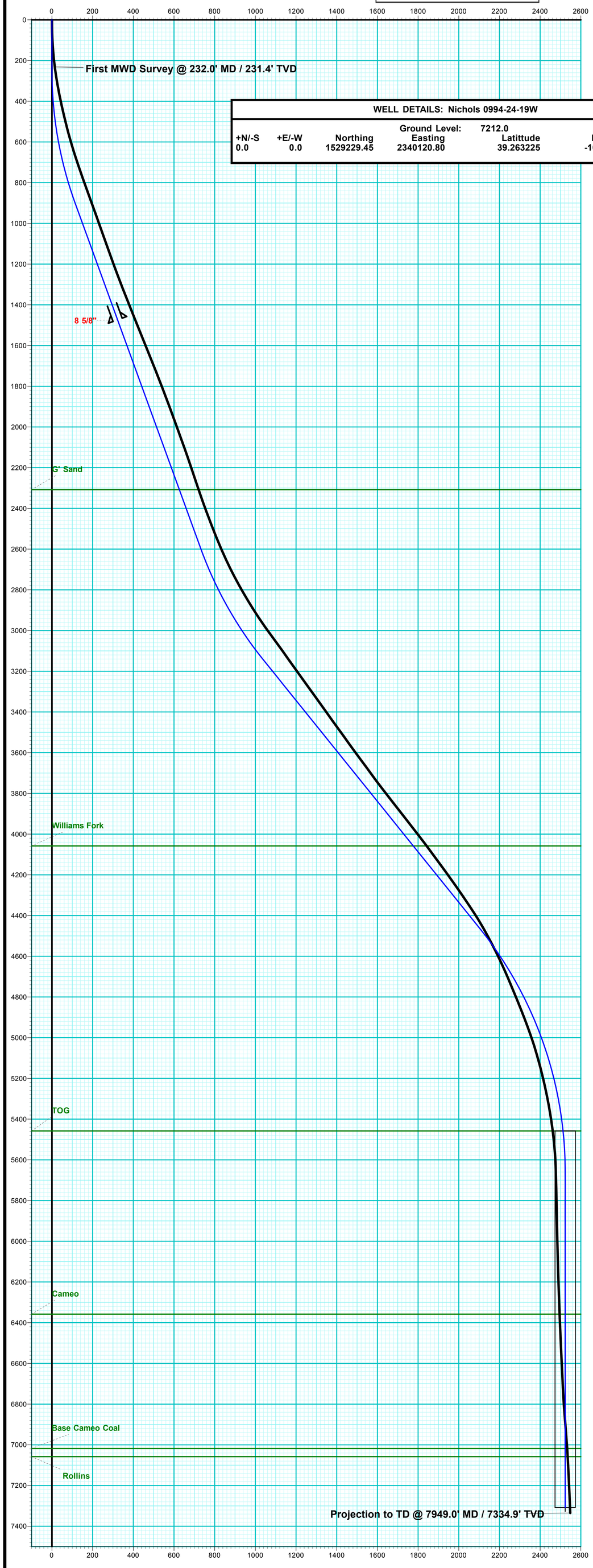
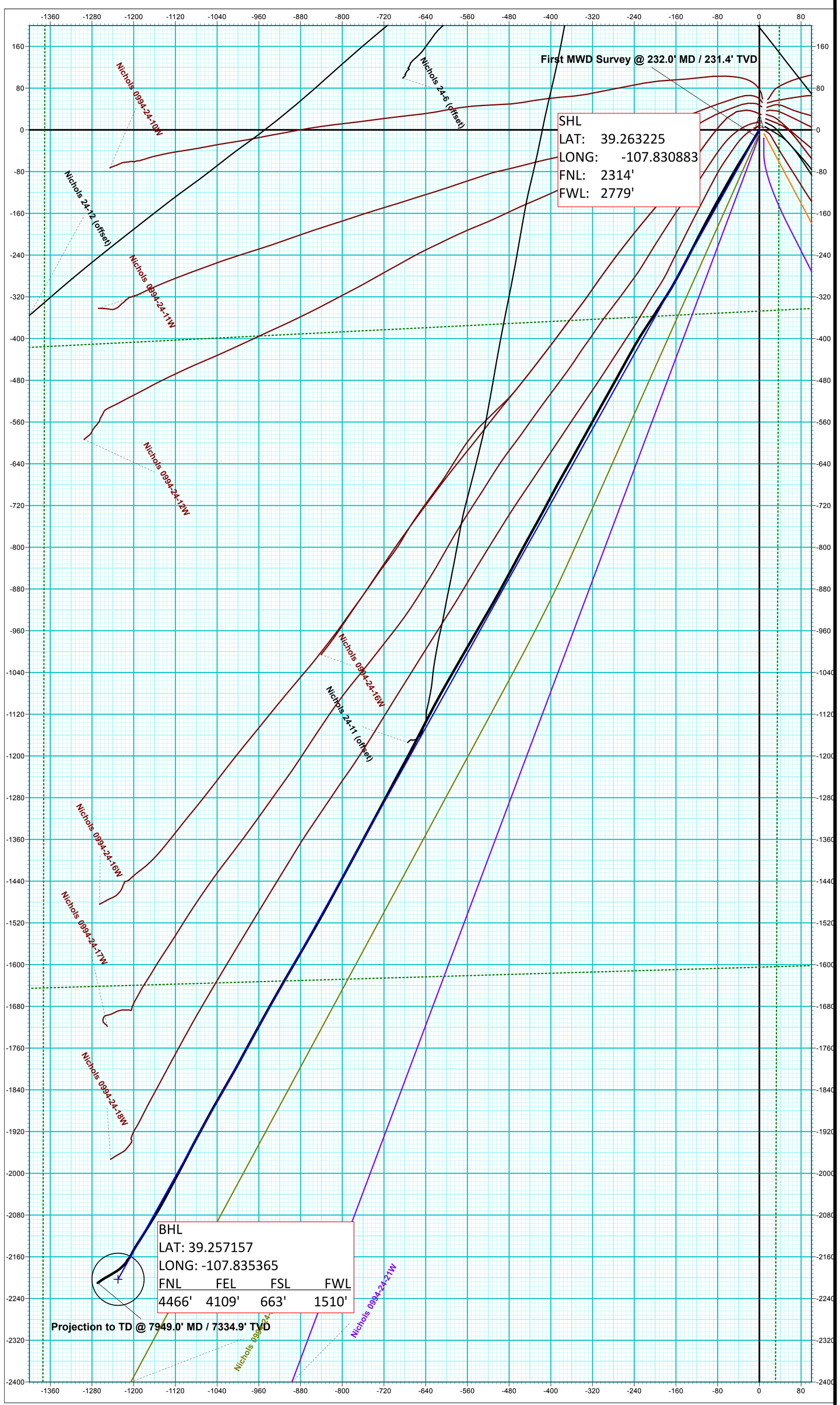
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL - Nichols 0994-24-19W	7308.0	-2203.1	-1230.0	1527058.63	2338834.65	39.257176	-107.835227	Circle (Radius: 50.0)

DESIGN #3 ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
250.0	0.00	0.00	250.0	0.0	0.0	0.0	0.0	KOP (Build 3° / 100')
916.7	20.00	209.18	903.2	-100.6	-56.2	115.2	115.2	EOB @ 20.00° Inc. / 209.18° Azm
2722.4	20.00	209.18	2600.0	-639.8	-357.3	732.8	732.8	Build 3° / 100'
3351.9	38.89	209.17	3145.8	-908.7	-507.4	1040.8	1040.8	EOB @ 38.89° Inc.
5039.1	38.89	209.17	4459.0	-1833.6	-1023.7	2100.0	2100.0	Drop 3° / 100'
6335.3	0.00	0.00	5658.0	-2203.1	-1230.0	2523.2	2523.2	EOD @ Vertical
7985.3	0.00	0.00	7308.0	-2203.1	-1230.0	2523.2	2523.2	TD @ 7985.3' MD / 7308.0' TVD

WELL DETAILS: Nichols 0994-24-19W

+N/-S	+E/-W	Northing	Ground Level: 7212.0 Easting	Latittude	Longitude
0.0	0.0	1529229.45	2340120.80	39.263225	-107.830883

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
232.0	7.00	211.10	231.4	-12.1	-7.3	14.1	14.2	First MWD Survey @ 232.0' MD / 231.4' TVD
7949.0	2.59	237.96	7334.9	-2209.9	-1269.0	2548.1	2556.1	Projection to TD @ 7949.0' MD / 7334.9' TVD