



Project: Mesa County, CO
 Site: Gunderson 29-09 Pad
 Well: Piceance Federal 29-18E
 Wellbore: Wellbore #1
 Design: Design #2
 Latitude: 39.248492
 Longitude: -107.788303
 Ground Level: 7531.0
 well @ 7561.0usft (H&P #522)



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

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Piceance Federal 29-18E, True North
 Vertical (TVD) Reference: well @ 7561.0usft (H&P #522)
 Section (VS) Reference: Slot - (0.0N, 0.0E)
 Measured Depth Reference: well @ 7561.0usft (H&P #522)
 Calculation Method: Minimum Curvature

WELL DETAILS: Piceance Federal 29-18E

+N-S	+E-W	Northing	Ground Level: Easting	7531.0 Latitude	Longitude
0.0	0.0	1523558.56	2352037.65	39.248492	-107.788303

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
PBHL - Piceance Federal 29-18E	7691.0	-1788.9	-15.1	1521770.61	2351977.53	39.243580	-107.788356

ANNOTATIONS

MD	Inc	Azi	TVD	+N-S	+E-W	VSect	Departure	Annotation
112.0	0.50	65.90	112.0	0.2	0.4	-0.2	0.5	First MWD Survey @ 112.0' MD / TVD
7995.0	2.90	233.10	7701.3	-1787.7	-47.1	1788.1	1806.9	Projection to TD @ 7995.0' MD / 7701.3' TVD

FORMATION TOP DETAILS

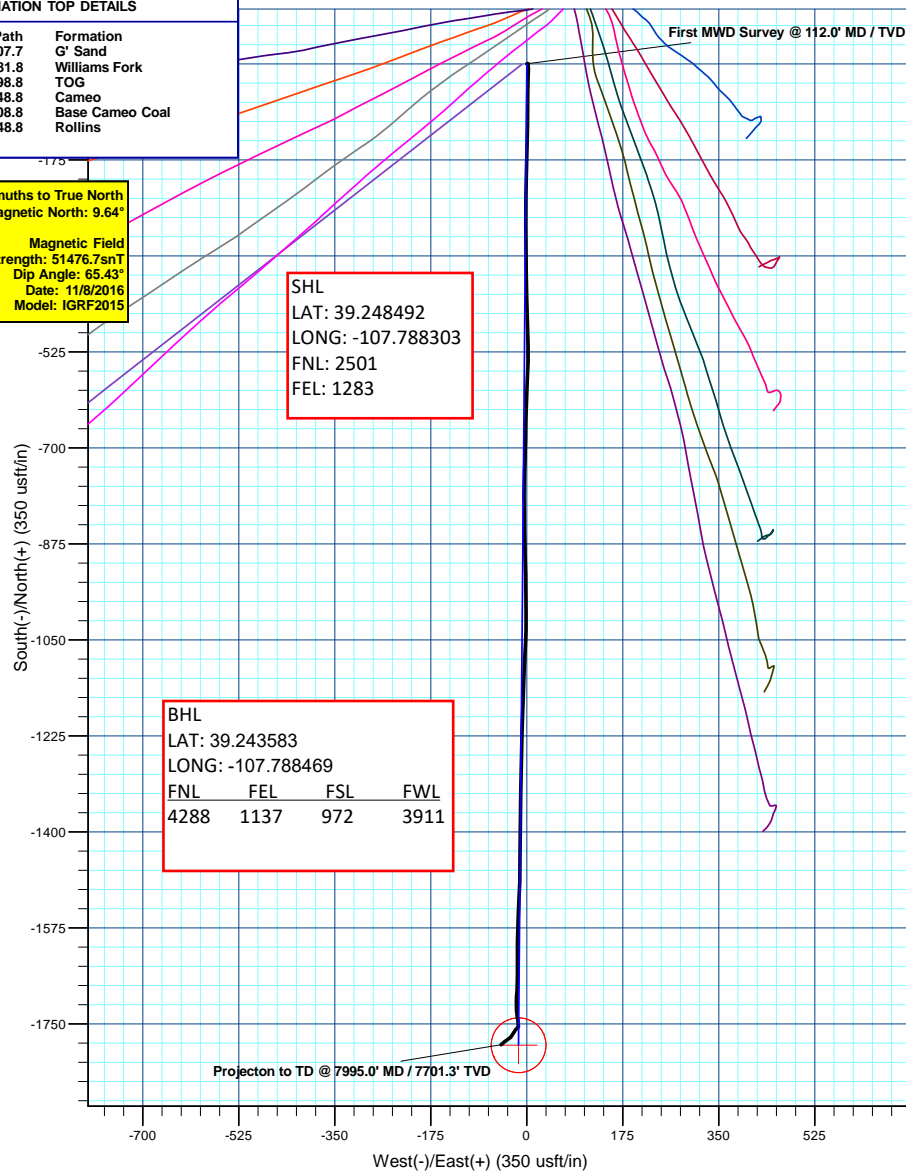
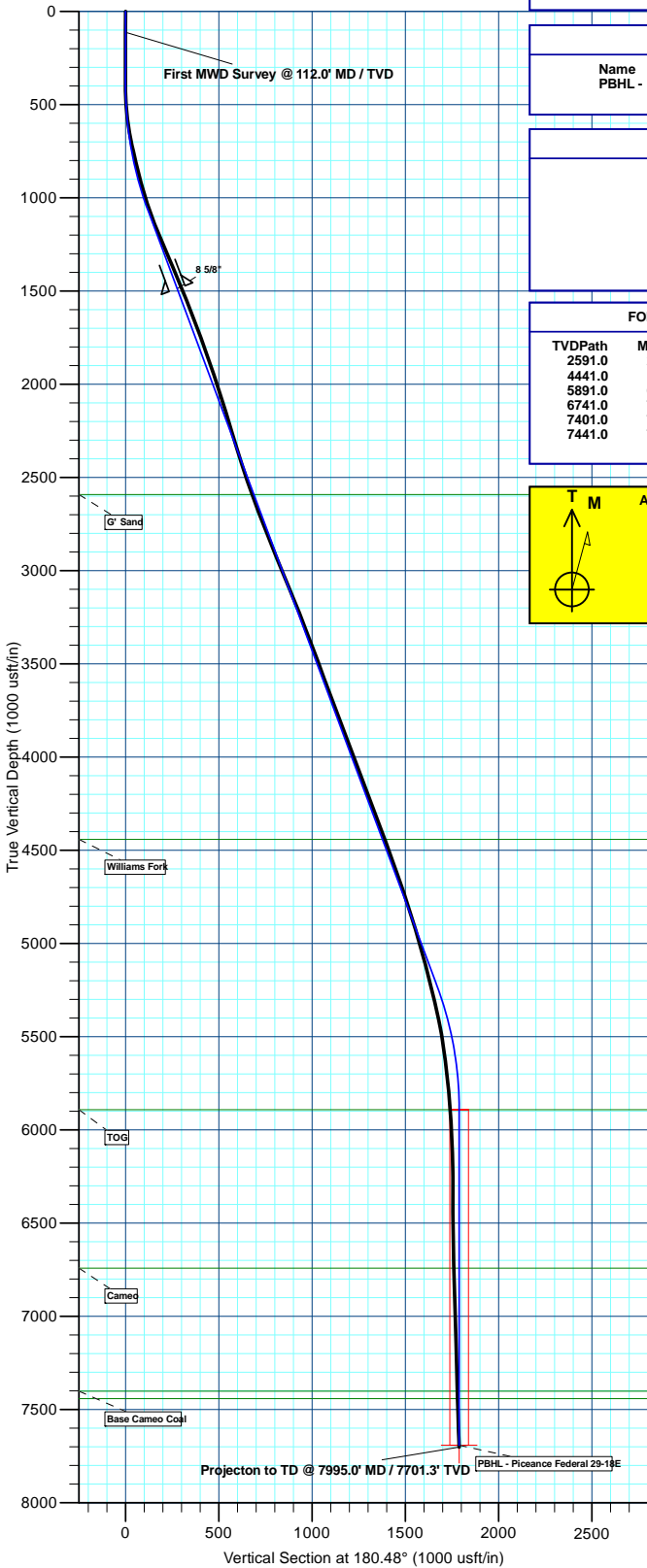
TVDPath	MDPath	Formation
2591.0	2707.7	G' Sand
4441.0	4681.8	Williams Fork
5891.0	6198.8	TOG
6741.0	7048.8	Cameo
7401.0	7708.8	Base Cameo Coal
7441.0	7748.8	Rollins

Azimuths to True North
 Magnetic North: 9.64°
 Magnetic Field
 Strength: 51476.7snT
 Dip Angle: 65.43°
 Date: 11/8/2016
 Model: IGRF2015

SHL
 LAT: 39.248492
 LONG: -107.788303
 FNL: 2501
 FEL: 1283

BHL
 LAT: 39.243583
 LONG: -107.788469

FNL	FEL	FSL	FWL
4288	1137	972	3911



Plan: Design #2 (Piceance Federal 29-18E/Wellbore #1)

Created By: Will Jircik Date: 0:39, May 11 2017