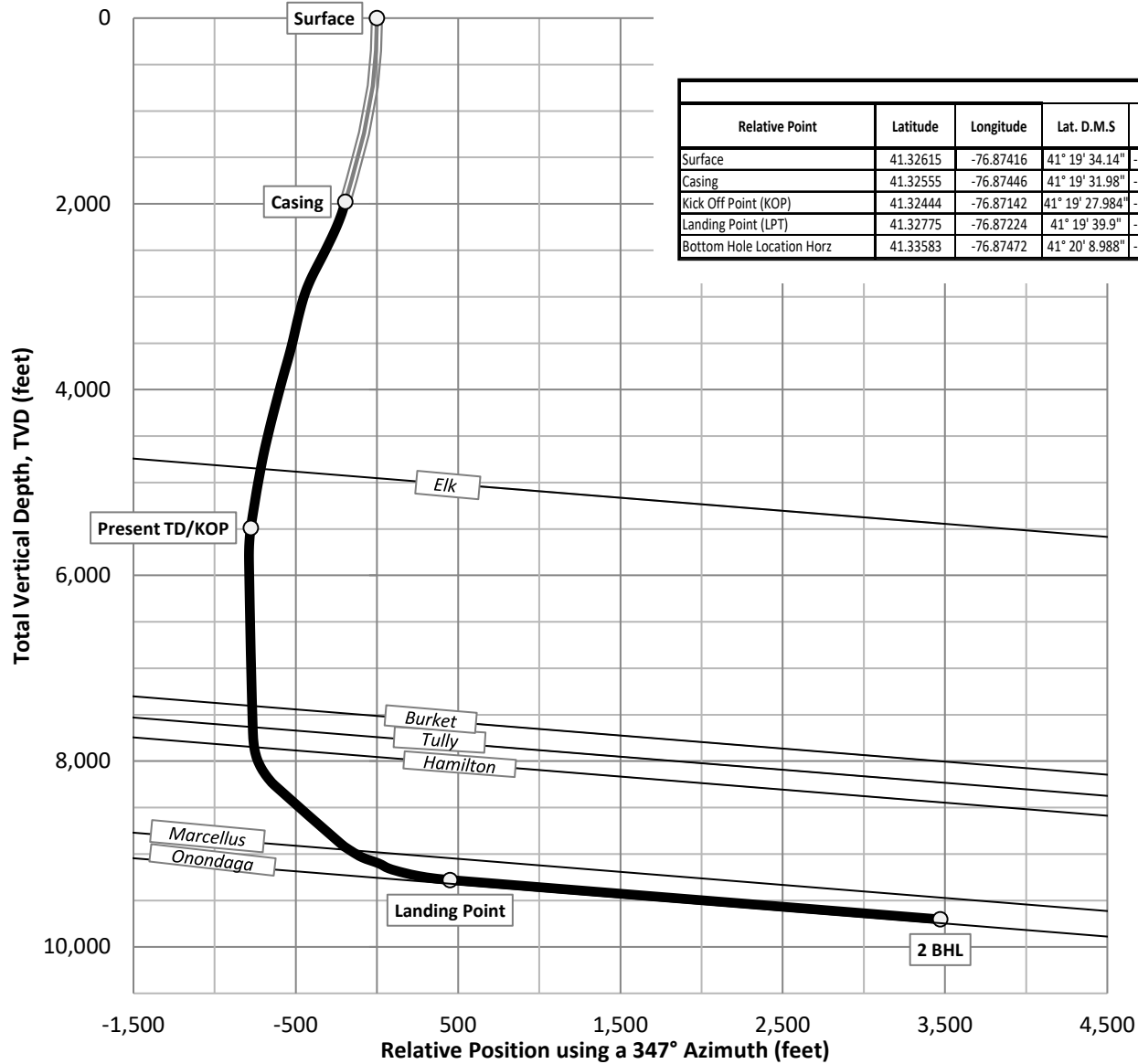


Directional Drilling Plan

Hillegas 2 Marcellus Horizontal



NAD83 - Pennsylvania North												
Relative Point	Latitude	Longitude	Lat. D.M.S	Long D.M.S	Northing	Easting	MD (ft)	TVD (ft)	Inclination (deg)	Azimuth (deg)	N/S (ft)	E/W (ft)
Surface	41.32615	-76.87416	41° 19' 34.14"	-76° 52' 26.976"	423672.30	2209051.40	0	0	0	0	0.00	0.00
Casing	41.32555	-76.87446	41° 19' 31.98"	-76° 52' 28.056"	423452.90	2208971.20	1995	1976.76	11.32	199.9	-218.60	-83.23
Kick Off Point (KOP)	41.32444	-76.87142	41° 19' 27.984"	-76° 52' 17.112"	423056.90	2209810.20	5652	5487.71	10.63	105.01	-624.34	752.03
Landing Point (LPT)	41.32775	-76.87224	41° 19' 39.9"	-76° 52' 20.064"	424260.60	2209572.80	10000	9279.54	82	347	583.97	526.92
Bottom Hole Location Horz	41.33583	-76.87472	41° 20' 8.988"	-76° 52' 28.992"	427197.60	2208861.90	13050	9704.02	82	347	3526.87	-152.50

Surface Casing
Production Casing