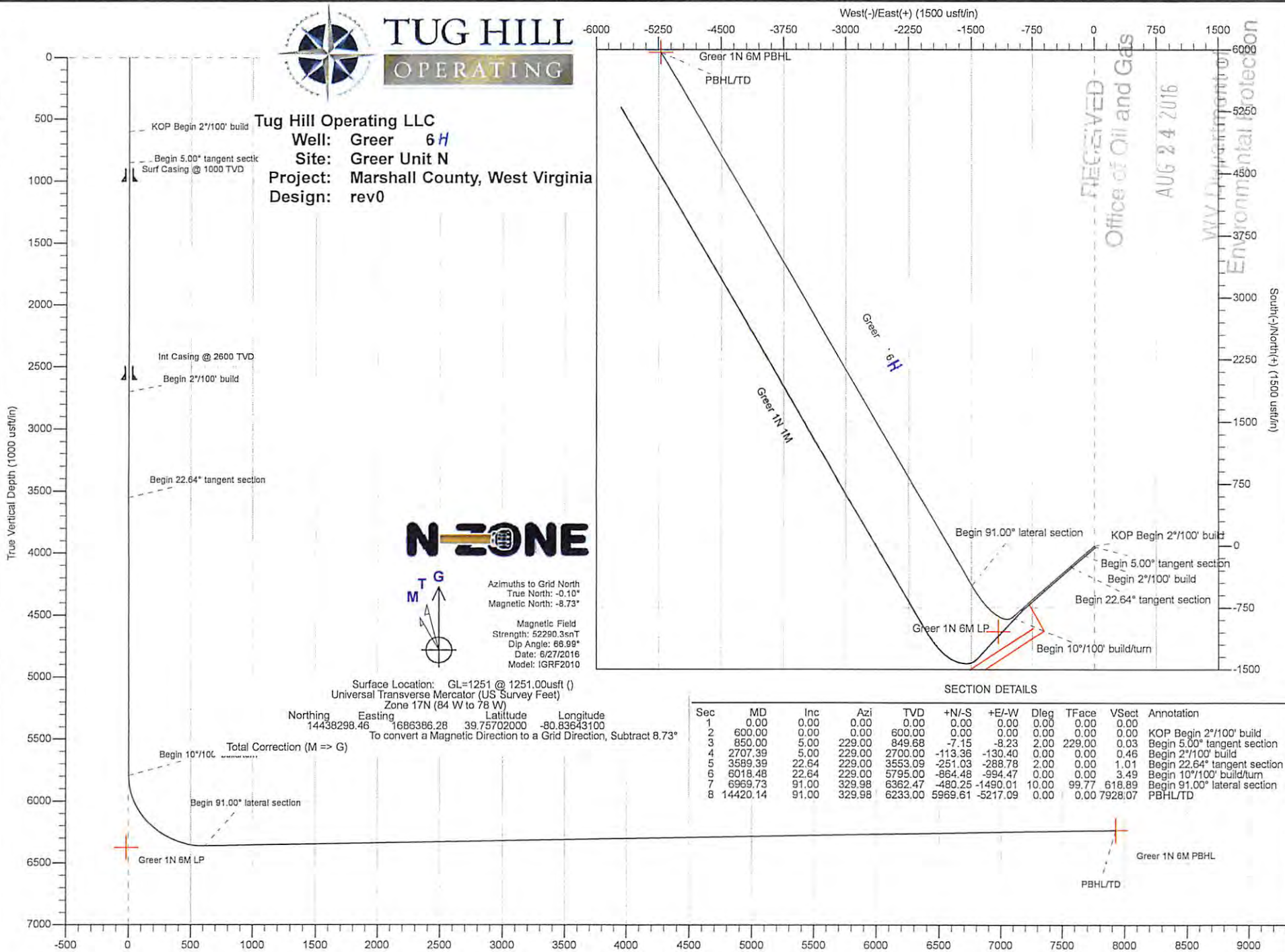


51-0175 & Mod



TUG HILL OPERATING

Tug Hill Operating LLC
Well: Greer 6H
Site: Greer Unit N
Project: Marshall County, West Virginia
Design: rev0



N-ZONE

Azimuths to Grid North
 True North: -0.10°
 Magnetic North: -8.73°

Magnetic Field
 Strength: 52290.3snT
 Dip Angle: 68.99°
 Date: 6/27/2016
 Model: IGRF2010

Surface Location: GL=1251 @ 1251.00usft ()
 Universal Transverse Mercator (US Survey Feet)
 Zone 17N (84 W to 78 W)

Northing	Easting	Latitude	Longitude
14438298.46	1686386.28	39.75702000	-80.83643100

To convert a Magnetic Direction to a Grid Direction, Subtract 8.73°

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 2"/100' build
3	850.00	5.00	229.00	849.68	-7.15	-8.23	2.00	229.00	0.03	Begin 5.00° tangent section
4	2707.39	5.00	229.00	2700.00	-113.36	-130.40	0.00	0.00	0.46	Begin 2"/100' build
5	3589.39	22.64	229.00	3553.09	-251.03	-288.78	2.00	0.00	1.01	Begin 22.64° tangent section
6	6018.48	22.64	229.00	5795.00	-864.48	-994.47	0.00	0.00	3.49	Begin 10"/100' build/turn
7	6969.73	91.00	329.98	6362.47	-480.25	-1490.01	10.00	99.77	618.89	Begin 91.00° lateral section
8	14420.14	91.00	329.98	6233.00	5969.61	-5217.09	0.00	0.00	7928.07	PBHL/TD

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 Office of Oil and Gas
 AUG 24 2016
 WV Department of Environmental Protection

Vertical Section at 318.85° (1000 usft/in)