Fei Wang* (fwang256@umd.edu), College Park, MD 20740, Peoples Rep of China, and Igor Kukavica and Vlad Vicol. The van Dommelen and Shen singularity in the Prandtl equations. In 1980, van Dommelen and Shen provided a numerical simulation that predicted the spontaneous generation of a singularity in the Prandtl boundary layer equations from a smooth initial datum, for a nontrivial Euler background. In this paper we prove this numerical conjecture by rigorously establishing the finite time blowup of the boundary layer thickness. (Received August 15, 2018)