

Bengal II: Ascent to the Top of the Atmosphere

A Collaboration between Atmospheric Science (GEG 384), and University Physics I and II (PHY 111 & 112)

Department of Geography & Planning, and Department of Physics, SUNY Buffalo State



BUFFALO STATE
The State University of New York

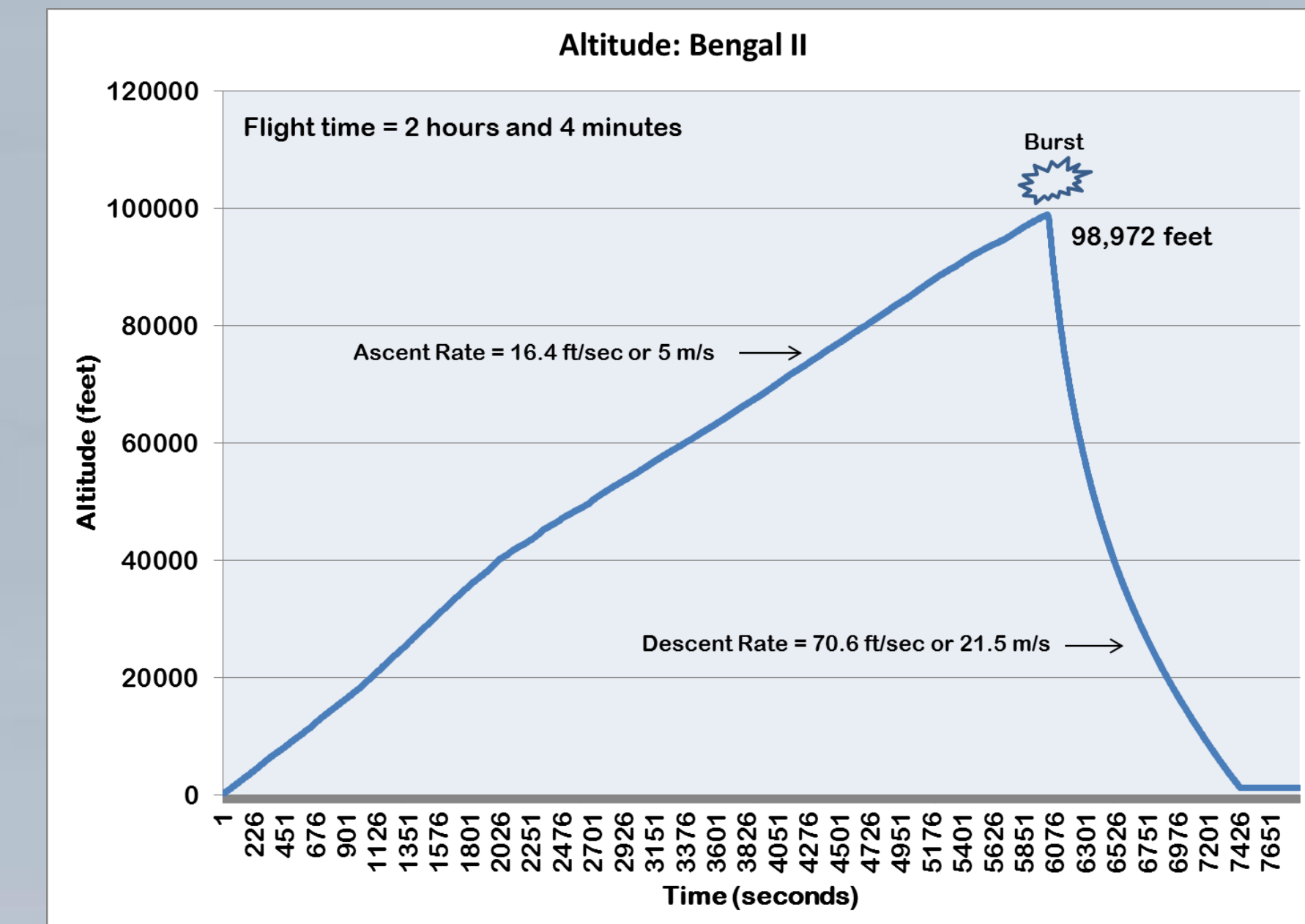
As a final project for all three courses, this was the second balloon launch by Edward Bryant and Mike Zoubi of SUNY Buffalo State Physics. On this second attempt, students in the Geography course GEG 384 (Atmospheric Science) became involved. Edward Bryant came to the class a few times to describe the project. Students in GEG 384 assisted with the launch of the balloon and recovery of the payload. In addition, students helped forecast surface launch conditions and the balloon's likely trajectory based on upper air winds (landed near Dansville, NY), as well as conducting a few measurements and experiments: including sound transmission, UV radiation, UV disinfection of polluted water, pressure, and even an attempt at space art.



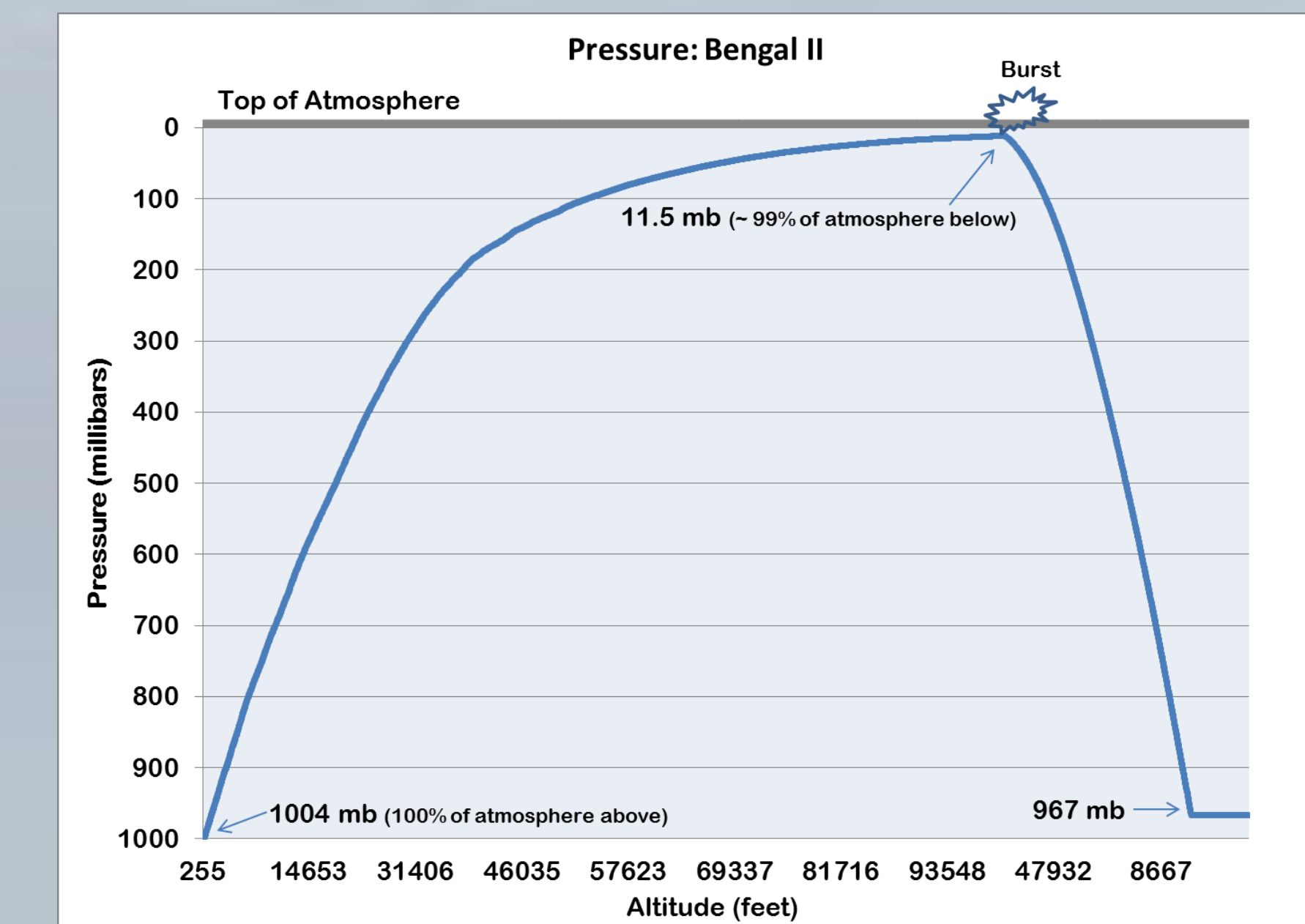
Mike and Edward are holding the payload, along with Dr. Vermette and students. Person on the right is the land owner.



Sam, Jeremy and Eleanor were first to find the payload.



The balloon reached a height of 98,972 feet before bursting. The flight lasted a little over two hours.

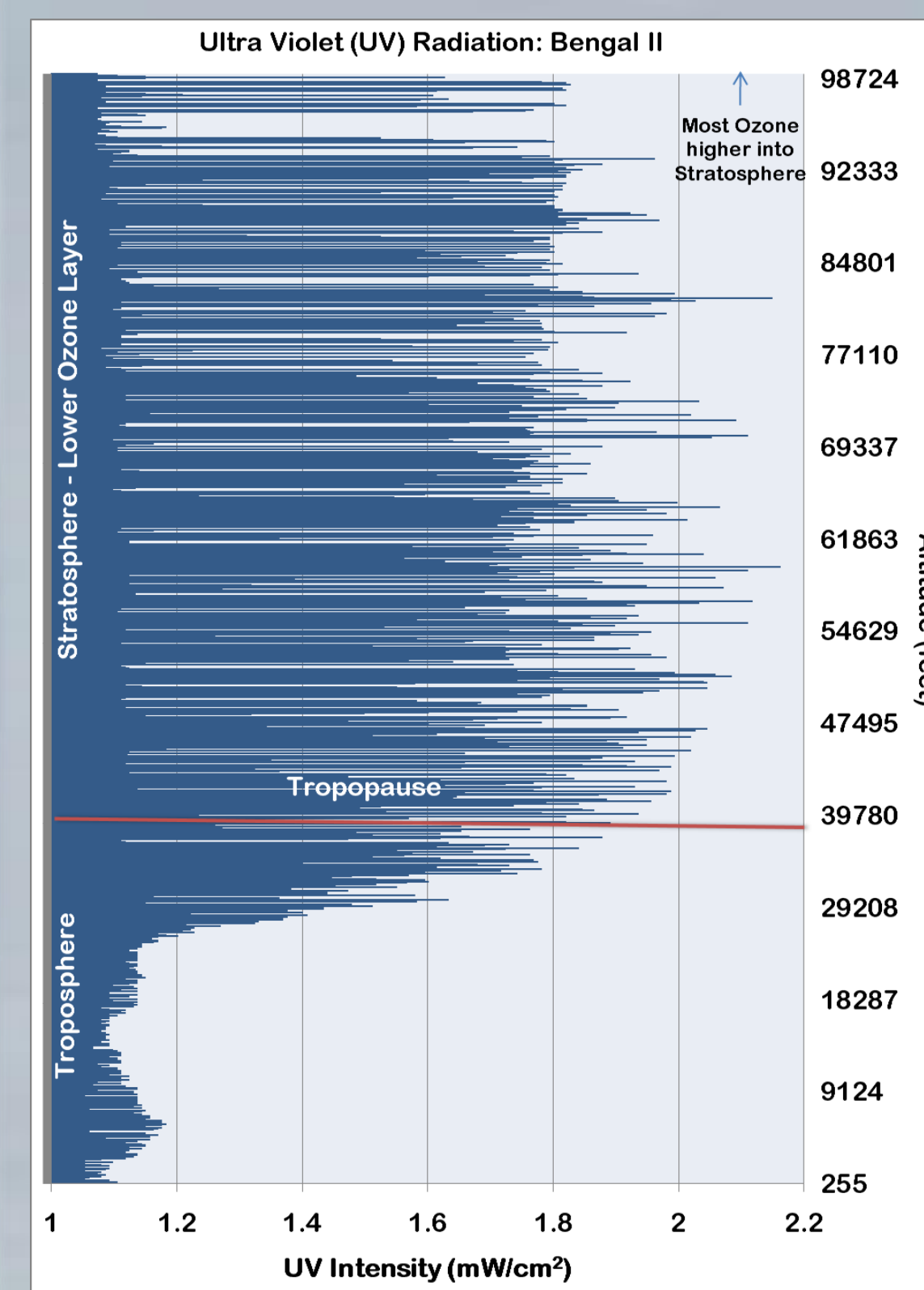


The lowest pressure recorded was 11.5 mb or 99% of the atmosphere was below the balloons altitude.

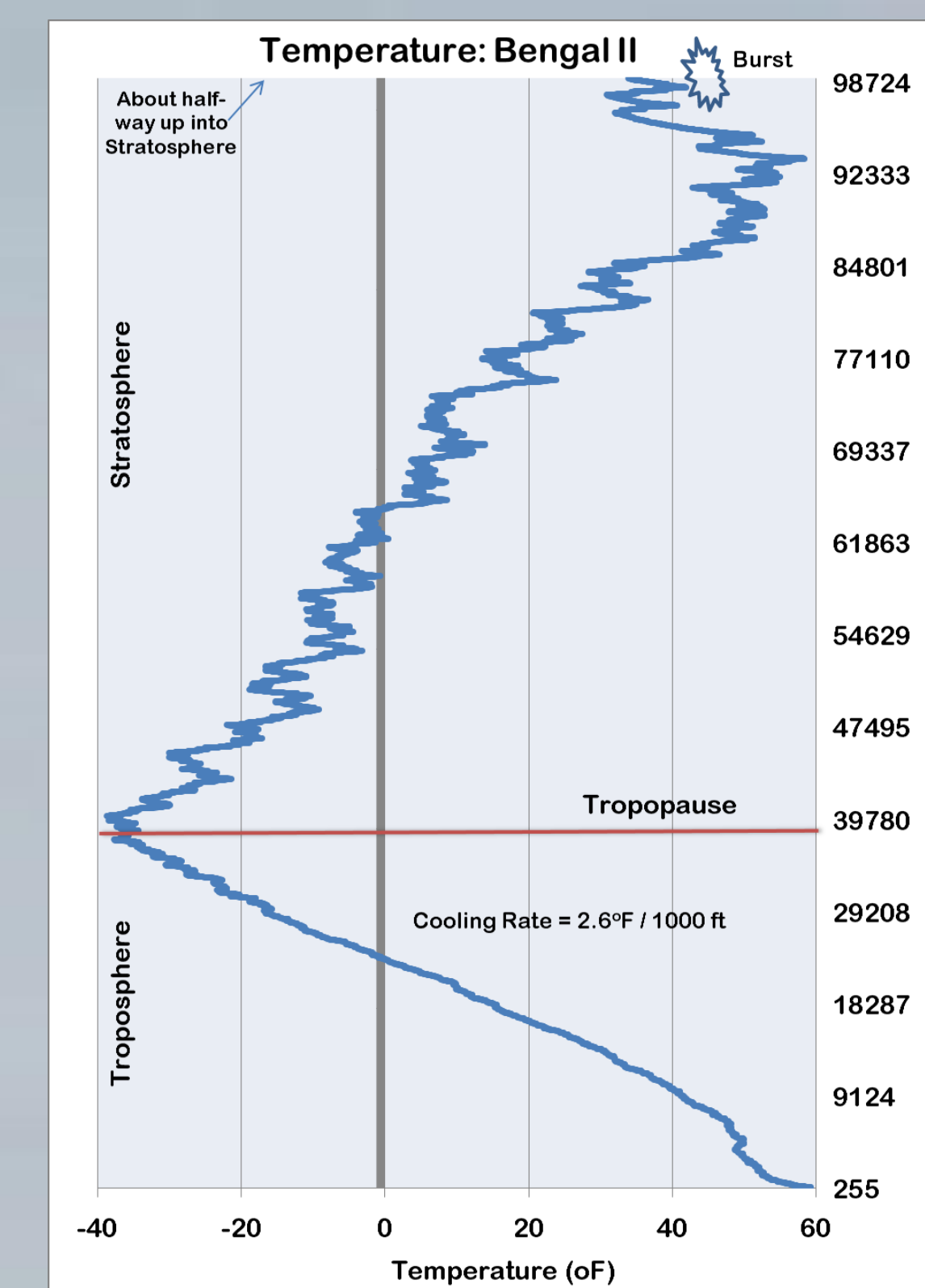
May 7, 2014



A water sample taken from the Scajaquada Creek was sent into the stratosphere. Bacteria was sanitized by UV radiation, as compared to the bacteria in the two controls.



Ultraviolet (UV) radiation was lowest in the troposphere as it was protected by ozone in the stratosphere.



Temperature decreased with height until reaching the tropopause, then warmed (due to ozone / UV chemistry) as the balloon sailed into the stratosphere.



View from the balloon