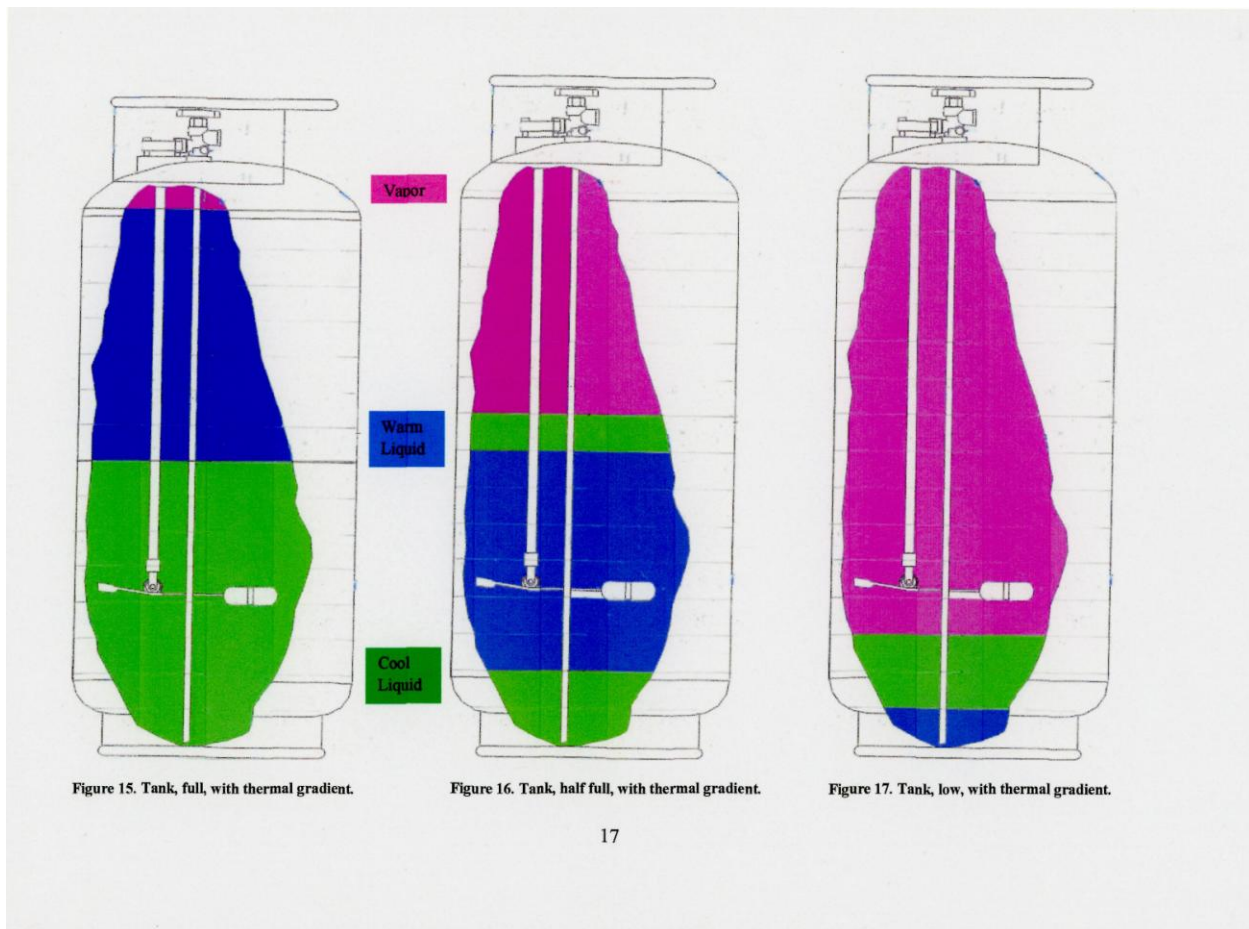


*Frank Bacon hypothesis:* As propane is used to heat the balloon, evaporation takes place in the tank to replace the quantity of liquid used, which causes the temperature and pressure of the liquid propane to decrease. As the liquid propane volume decreases during the operation of the burner(s), the amount of heat to evaporate the liquid is pulled from that smaller volume, causing a more significant impact on the temperature of the liquid and on the pressure in the tank. A pilot light running off tank vapor will also contribute to propane evaporation.

*Findings:* The balloon pilot should be aware that when the propane in the tank is down to the last ten or 15 percent, that propane will be cooler than the original full tank, and the pressure can drop off precipitously during the last few flight minutes, if the tank being used is down to 10 or 15 %. The balloon performance could change rapidly in the last few minutes of such a flight, especially if the mixing of the thermal layers were not interrupted by such maneuvers and Atouch and goes, or Acrash and drags.

***Decreases in propane pressure during the course of a balloon flight can be over 20%, indicating a corresponding reduction in propane flow rate through the burner(s).***



Synopsized and slightly paraphrased from Frank Bacon's research in the spring and summer of 2014.

Tom McConnell