$$C_{pa} = 1.0014 + (-.000003485 \text{ X } (TI_{avg} + TF_{avg})/2), \text{ Btu/lb-}^{o}\text{F} \qquad \text{Eq. 10}$$

$$V_{fi} = (V_i - V_{i-1})/(t_i - t_{i-1}), \text{ gal/min} \qquad \text{Eq. 11}$$