

HW 2.3

ch 15

15. $T_{\text{air}} = 80^{\circ}\text{F}$ $h = 0.24 \text{ in}$

$$V_1 = \sqrt{2gh(\gamma_g - \gamma) / \gamma}$$

$$\gamma = 0.0736 \text{ lb/ft}^3$$

$$\gamma_g = 62.4 \text{ lb/ft}^3$$

$$1 \text{ in} = 0.083 \text{ ft} \text{ so } h = 0.24 \text{ in} = 0.02 \text{ ft}$$

$$V_1 = \sqrt{2(32.2)(0.02)(62.4 - 0.0736) / 0.0736}$$

$$V_1 = 33.03 \text{ ft/s}$$