PROBLEM 1.38

See Fig. P1.38.

The pressure acting on the vehicle at a depth $L = 1000\,ft$ is

$$p = p_{atm} + \rho g L$$

$$= 1\,atm + \left(62.4\,\frac{lb}{ft^3}\right)\left(32.2\,\frac{ft}{s^2}\right)(1000\,ft)\left|\frac{1\,atm}{14.696\,lbf/in^2}\right|\left|\frac{1\,ft^2}{144\,in^2}\right|\left|\frac{1\,lbf}{32.2\,lb\cdot ft/s^2}\right|$$

(rounded)

$$= 1\,atm + 29.49\,atm = 30.49\,atm$$