

EXTRA PROBLEM 6A

$$x_F = 3200 \text{ mg/L}$$

$$a) \quad x_N = (0.03)(3200) = 96 \text{ mg/L}$$

$$F = 1200 \text{ L/h}$$

PLOT EQUILIBRIUM DATA.

DRAW "MINIMUM" SO THAT IT INTERSECTS EQUILIBRIA CURVE AT $x = 3200 \text{ mg/L}$

$$\text{SLOPE} = \frac{13400 - 0}{3200 - 96} = 4.32$$

$$\frac{F}{S_{\min}} = 4.32 = \frac{1200}{S_{\min}}$$

$$S_{\min} = \underline{\underline{277.8 \text{ L/h}}}$$

$$b) \quad x_N = (0.05)(3200) = 160 \text{ mg/L}$$

$$F = 1200 \text{ L/h}$$

$$S = 330 \text{ L/h}$$

$$\text{OPERATING LINE} \quad y = \frac{1200}{330} (x - 160) = 3.64x - 582$$

DRAW "OPERATING LINE"
[PASSES (160, 0) AND (3200, 11254)]

$$c) \quad \text{ABOUT } 4.5 \text{ STAGES}$$

