

Diversion rate for pump

From Pump Curves:

75 hp pump
64 feet head / stageyields $\rightarrow$ 700 gpm100 hp pump
64 feet head / stageyields $\rightarrow$ 1180 gpm

Pump 1 = 700 gpm

Pump 2 = 1180 gpm

Pump 3 = 1180 gpm

Total = 3060 gpm

$$\frac{3060 \text{ gal}}{\text{min}}$$

$$\frac{1 \text{ cf}}{7.4805 \text{ gal}}$$

$$\frac{1 \text{ min}}{60 \text{ s}}$$

$$= \underline{\underline{6.82 \text{ cfs}}}$$

Sufficient pressure check

64 feet head / stage * 5 stages = 320 feet

Topographic map shows elevation change = 85 feet

$$320 - 85 = 235 \text{ ft}$$

$$235 \text{ ft} \cdot \frac{\text{ft}^2}{144 \text{ in}^2} \cdot \frac{62.4 \text{ lb}}{\text{ft}^3} = \underline{\underline{101.8 \text{ psi}}}$$