

$$\text{vertical} = \rho g V$$

$$\text{aft} = C_{x2} \rho V^{\frac{2}{3}} \left(KV_{s_0} \right)^2$$

$$\text{side} = C_{y2} \rho V^{\frac{2}{3}} \left(KV_{s_0} \right)^2$$