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$$a = v \frac{dv}{ds} = 3.22 - 0.004v^2$$

$$\int_0^{v_B} \frac{v dv}{3.22 - 0.004v^2} = \int_0^{600} ds$$

$$\frac{1}{2(-0.004)} \ln(3.22 - 0.004v^2) \Big|_0^{v_B} = 600$$

$$\ln \left[\frac{3.22 - 0.004v_B^2}{3.22} \right] = 600(2)(-0.004)$$

$$\frac{3.22 - 0.004v_B^2}{3.22} = 0.00823$$

$$\underline{v_B = 28.3 \text{ ft/sec}}$$