

1. (a) –
 (b) –
 (c) (i) –
 (ii) –
 (iii) $\tau_{peak} = 183 \text{ kPa}$, $\tau_{crit} = 145 \text{ kPa}$, $e_{crit} = 0.791$
 (iv) $\tau_u = 98 \text{ kPa}$, $\Delta u = 15 \text{ kPa}$

2. (a) (i) $q_f = 126 \text{ kPa}$, $\varepsilon_v = 7.4\%$
 (ii) $q_f = 127 \text{ kPa}$, $\varepsilon_v = 9.4\%$
 (b) (i) $q_f = 94.3 \text{ kPa}$, $\Delta u = 25.5 \text{ kPa}$
 (ii) $q_y = 97.8 \text{ kPa}$
 (iii) $p = 196 \text{ kPa}$

3. (a) 25 mm
 (b) –
 (c) 2.9 m
 (d) 165 kPa

4. (a) (i) $\sigma_v = 600 \text{ kPa}$, $\sigma_h = 474 \text{ kPa}$, $\sigma'_v = 300 \text{ kPa}$, $\sigma'_h = 174 \text{ kPa}$
 (ii) $OCR = 2.73$, $\sigma_v = 200 \text{ kPa}$, $\sigma_h = 189 \text{ kPa}$, $\sigma'_v = 110 \text{ kPa}$, $\sigma'_h = 99 \text{ kPa}$
 (iii) –
 (b) -34.5 kPa
 (c) 9.5 kPa