Appendices for:

Effect of undercut on the lower bound stability of vertical rock escarpment using finite element and power cone programming

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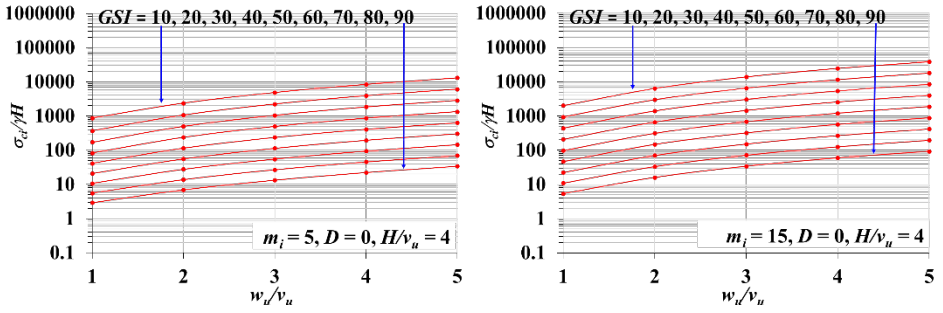
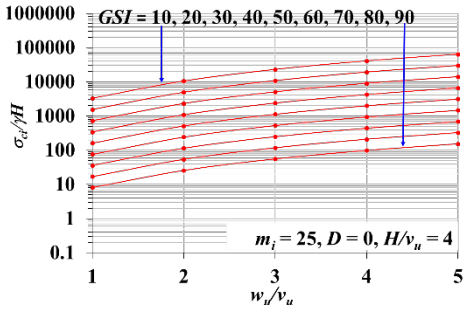
Appendix

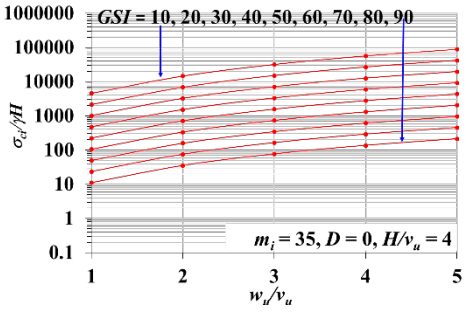


(a)

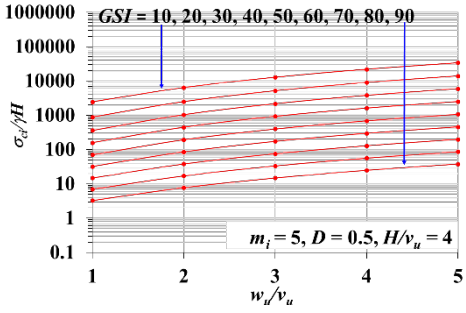
(b)



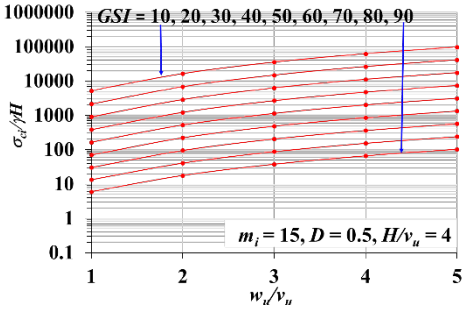
(c)



(d)



(e)



(f)

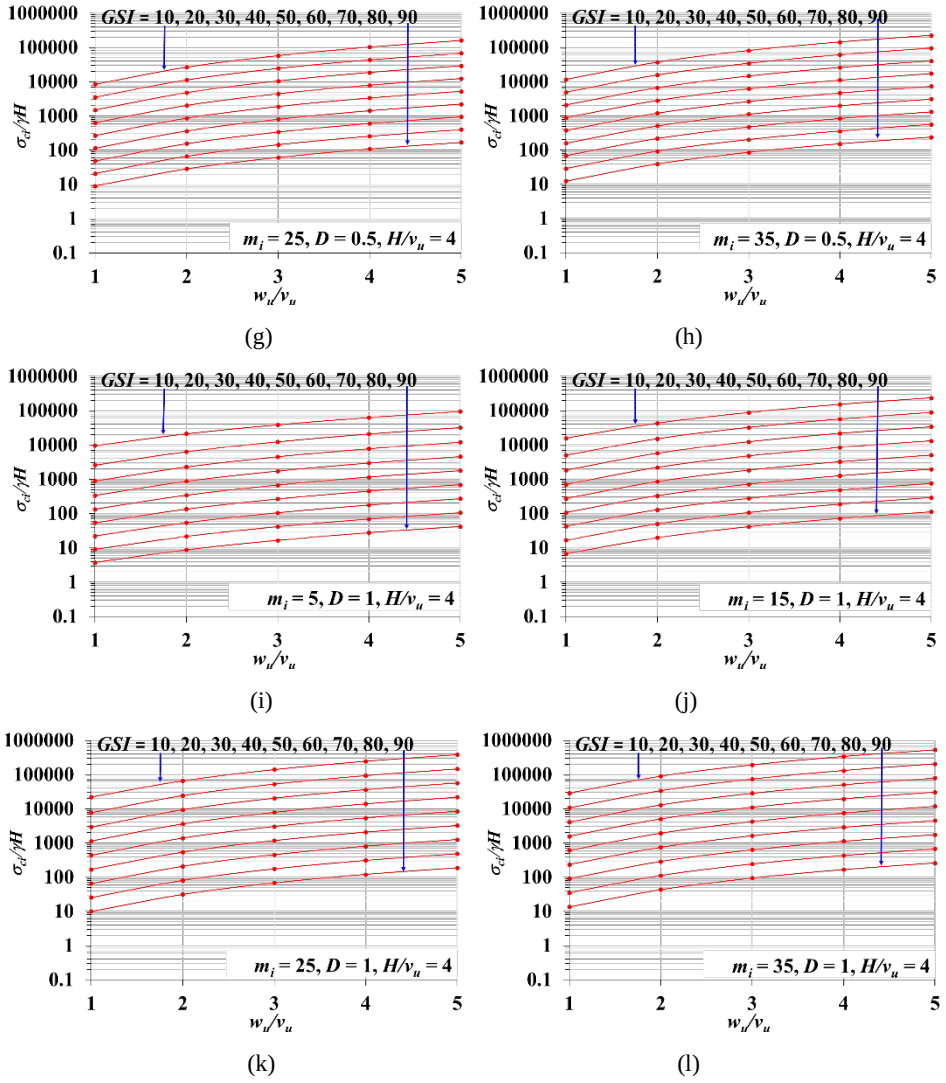
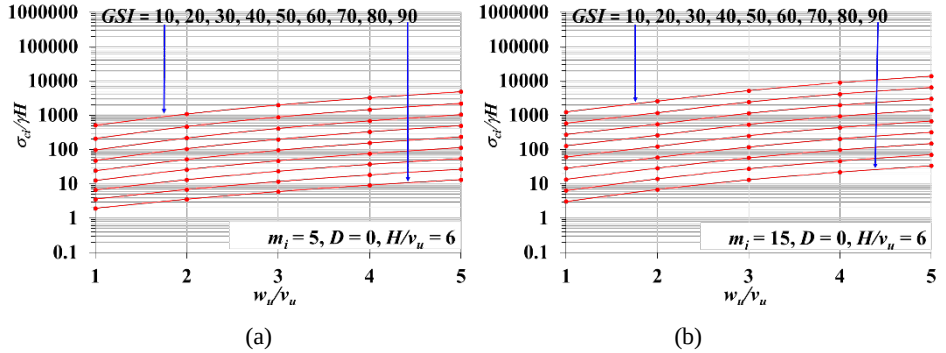
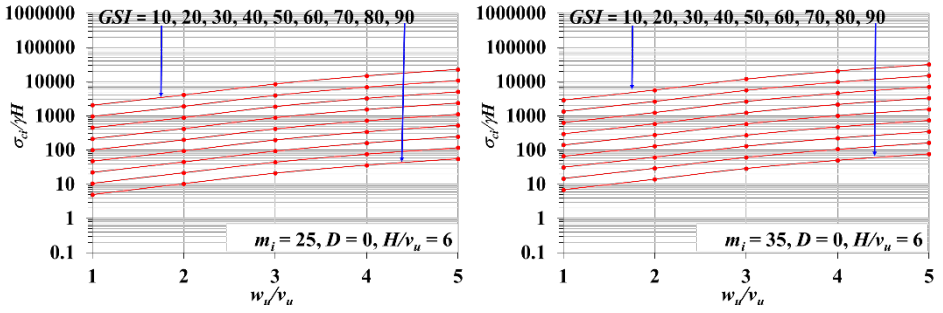


Fig. S1 Variation of stability number ($\sigma_{ci}/\gamma H$) with w_u/v_u and *GSI* for H/v_u = 4, (a) m_i = 5, D = 0; (b) m_i = 15, D = 0; (c) m_i = 25, D = 0; (d) m_i = 35, D = 0; (e) m_i = 5, D = 0.5; (f) m_i = 15, D = 0.5; (g) m_i = 25, D = 0.5; (h) m_i = 35, D = 0.5; (i) m_i = 5, D = 1; (j) m_i = 15, D = 1; (k) m_i = 25, D = 1; (l) m_i = 35, D = 1.

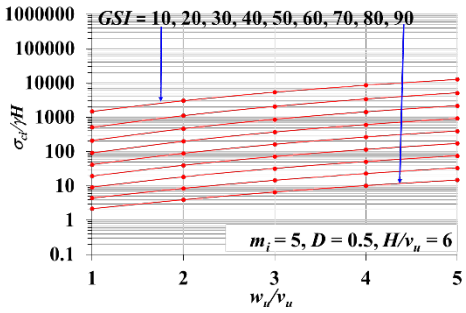



GSI = 10, 20, 30, 40, 50, 60, 70, 80, 90
m_i = 25, D = 0, H/v_u = 6
σ_d/H
w_u/v_u

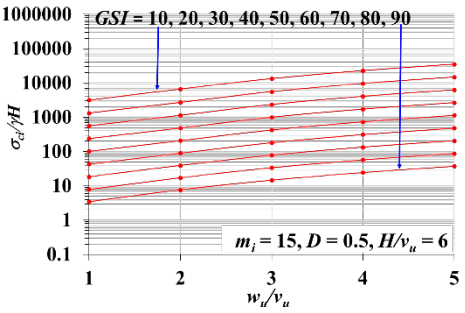
(c)

GSI = 10, 20, 30, 40, 50, 60, 70, 80, 90
m_i = 35, D = 0, H/v_u = 6
σ_d/H
w_u/v_u

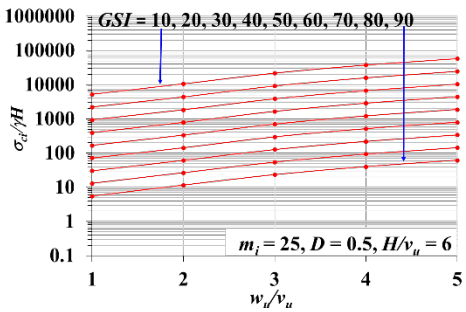
(d)


GSI = 10, 20, 30, 40, 50, 60, 70, 80, 90
m_i = 5, D = 0.5, H/v_u = 6
σ_d/H
w_u/v_u

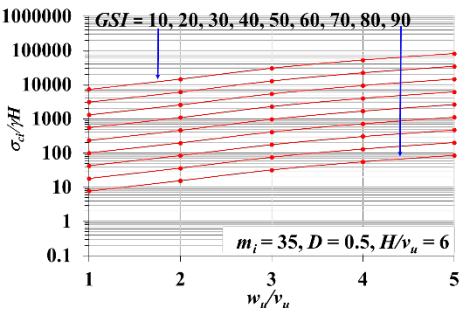
(e)


GSI = 10, 20, 30, 40, 50, 60, 70, 80, 90
m_i = 15, D = 0.5, H/v_u = 6
σ_d/H
w_u/v_u

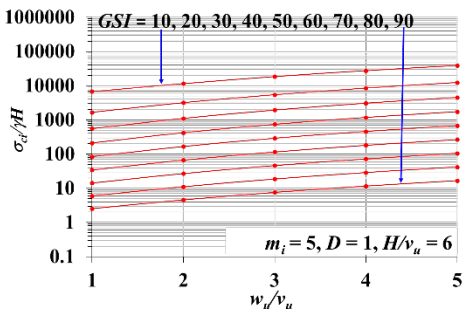
(f)


GSI = 10, 20, 30, 40, 50, 60, 70, 80, 90
m_i = 25, D = 0.5, H/v_u = 6
σ_d/H
w_u/v_u

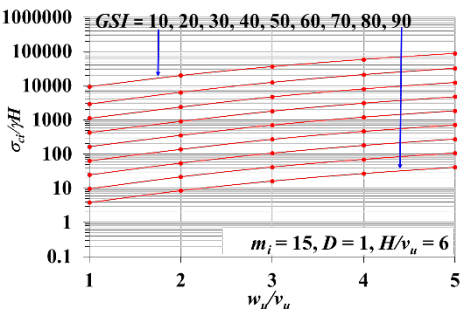
(g)


GSI = 10, 20, 30, 40, 50, 60, 70, 80, 90
m_i = 35, D = 0.5, H/v_u = 6
σ_d/H
w_u/v_u

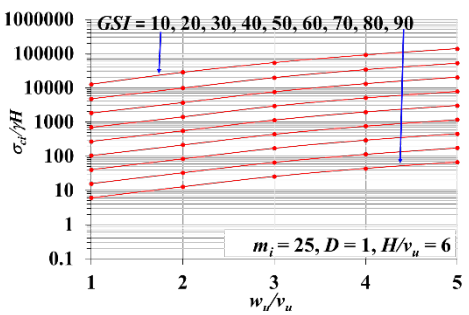
(h)


GSI = 10, 20, 30, 40, 50, 60, 70, 80, 90
m_i = 5, D = 1, H/v_u = 6
σ_d/H
w_u/v_u

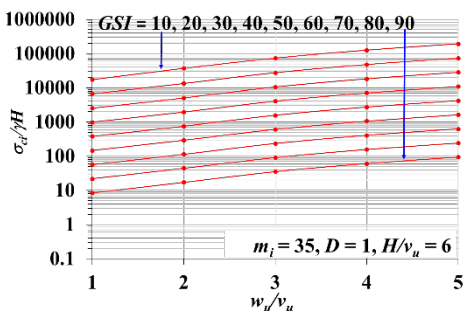
(i)


GSI = 10, 20, 30, 40, 50, 60, 70, 80, 90
m_i = 15, D = 1, H/v_u = 6
σ_d/H
w_u/v_u

(j)

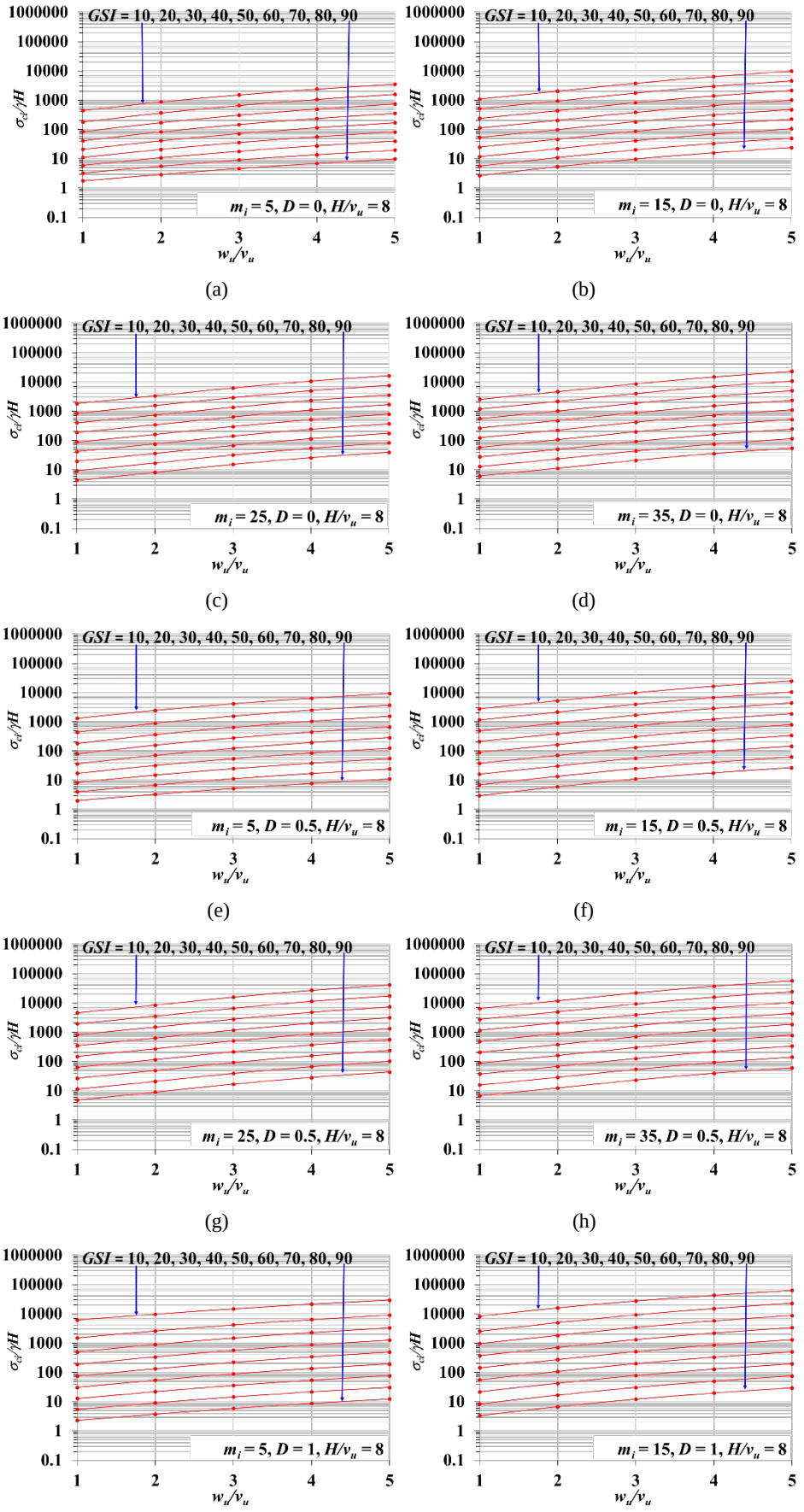

GSI = 10, 20, 30, 40, 50, 60, 70, 80, 90
m_i = 25, D = 1, H/v_u = 6
σ_d/H
w_u/v_u

(k)


GSI = 10, 20, 30, 40, 50, 60, 70, 80, 90
m_i = 35, D = 1, H/v_u = 6
σ_d/H
w_u/v_u

(l)

Fig. S2 Variation of stability number ($\sigma_{ci}/\gamma H$) with w_u/v_u and *GSI* for $H/v_u = 6$, (a) $m_i = 5$, $D = 0$; (b) $m_i = 15$, $D = 0$; (c) $m_i = 25$, $D = 0$; (d) $m_i = 35$, $D = 0$; (e) $m_i = 5$, $D = 0.5$; (f) $m_i = 15$, $D = 0.5$; (g) $m_i = 25$, $D = 0.5$; (h) $m_i = 35$, $D = 0.5$; (i) $m_i = 5$, $D = 1$; (j) $m_i = 15$, $D = 1$; (k) $m_i = 25$, $D = 1$; (l) $m_i = 35$, $D = 1$.



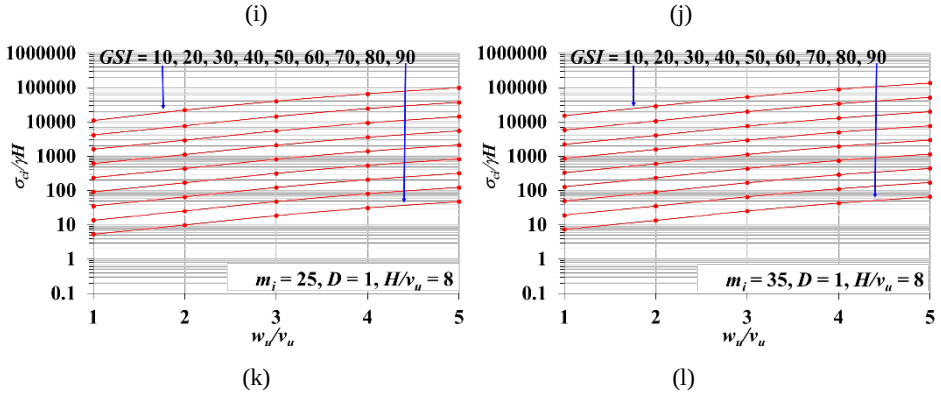


Fig. S3 Variation of stability number ($\sigma_{ci}/\gamma H$) with w_u/v_u and *GSI* for H/v_u = 8, (a) m_i = 5, D = 0; (b) m_i = 15, D = 0; (c) m_i = 25, D = 0; (d) m_i = 35, D = 0; (e) m_i = 5, D = 0.5; (f) m_i = 15, D = 0.5; (g) m_i = 25, D = 0.5; (h) m_i = 35, D = 0.5; (i) m_i = 5, D = 1; (j) m_i = 15, D = 1; (k) m_i = 25, D = 1; (l) m_i = 35, D = 1.