Errata
Tunnelling and Tunnel Mechanics

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page	where?	correction
1	title	Tun**n**elling
8	bottom of page	2. evaluate $\cos\delta = \dfrac{b}{2r_1}$
33	table head	MA**C**
49f		**illumination density** needs to be replaced with **luminance**
73	last paragraph	last paragraph belongs to point 4
138	Figure 5.8 (left)	forces: $G \cdot \cos\beta$ and $G \cdot \cos\beta \tan\phi$
141	first bullet point	Grouting into the annu**lar** gap between rebar and drillhole wall.
166	point "Thermoplastic materials", 2nd line from bottom	flow even **if** they are grouted with a discharge rate of only 1 % of the …
188	2nd paragraph, 3rd line	… write $z = h_1 - r + 2\xi r$ **with** $0 \le \xi \le 1$. Thus for the …
	2nd formula	$h(x,z) = c\log\left(1 + 4\dfrac{h_1^2}{r^2} + 4(2\xi - 1)\dfrac{h_1}{r}\right) + H$
189	formula (8.5)	$q = \dfrac{\pi K(H - h_a)}{\log\left(\dfrac{r}{h_1 - \sqrt{h_1^2 - r^2}}\right)}$
218	first paragraph	… a concentration of 320-530 ppm can be lethal. …
285	*insertion* after formula (14.26)	Setting $r_e = r_0$ we obtain now $p^* = \sigma_\infty(1 - \sin\varphi) - c\cos\varphi$
286	formula (14.27)	$u_e = r_e\dfrac{\sigma_\infty}{2\mathbf{G}}\left(1 - \dfrac{\sigma_e}{\sigma_\infty}\right) = \dfrac{C}{r_e^{\frac{1}{1-b}}}$.
288	first line	With (14.28) we obtain for $p < p^* = \sigma_\infty - \mathbf{c}$:
298	bottom of the page	Index of s and F must be l: $\Delta L = \left[(2\pi r - ml_s)\cdot\dfrac{1}{d\cdot E_s} + \dfrac{1}{n}\dfrac{s_l}{F_l}\right] N$ for $N/n < F_l$. With $w = \Delta L/(2\pi)$ and $p = N/r$ we obtain the support reaction line $p = p(w)$ (Fig. 14.33) as $p = w\dfrac{2\pi}{r[(2\pi r - ml_s)/(d\cdot E_s) + s_l/(n\cdot F_l)]}$ for $p < nF_l/r$.
352	first paragraph	load p_{cr} is obtained (GRASHOF, 1859) from (20.**9**) for $k = 2$ as …

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	first paragraph of 20.2.2	... According to NICOLAI[3] the buckling load is ... [3]E.L. Nicolai, Stabilitätsprobleme der Elastizitätstheorie, *Zeitschrift für Angewandte Mathematik und Mechanik*, **3**, 1923, 227-229
389	formula (C.7)	$$\frac{\partial^2 T_b}{\partial r^2} = (T_1 - T_0)\mu(\mu-2)\left(\frac{r-r_0}{R-r_0}\right)^{\mu-1}\left(\frac{1}{R-r_0}\right)^2$$
395	whole page	all lower case k must be replaced with K
	4th formula	$$\begin{aligned} q &= \frac{2K\Delta h}{\log(R/r)} \tan^{-1} \frac{2b\cos\varphi/2 - (1+b^2)\sin\varphi/2}{\cos\varphi/2\cdot(1-b^2)}\Bigg|_{-\pi/2}^{\pi/2} \\ &= \frac{2K\Delta h}{\log(R/r)}\left(\frac{\pi}{2} - \frac{-\pi}{2}\right) \end{aligned}$$
	formula (D.1)	$$q = \frac{2\pi K\Delta h}{\log(R/r)} = \frac{2\pi K(H-h_a)}{\log\left(\frac{r}{h-\sqrt{h^2-r^2}}\right)}$$
401	formula (F.3)	$$\frac{d\sigma_r}{dr} + \frac{\sigma_r - \sigma_\theta}{r} = -\frac{\pi d\tau_0 r_0}{ab}\cdot\frac{1}{r}$$
	3rd line from bottom	The solution (14.3**1**) will be valid if we replace c by $\hat{c}$, where ...