

Errata
for
Analytic Element Modeling of Groundwater Flow

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inside front cover

The table on the inside front cover contains two incorrect (inaccurate) conversion factors for gal/day/ft². The correct conversions are:
multiply gal/day/ft² by 0.1337 to obtain ft/day
multiply gal/day/ft² by 0.04075 to obtain m/day
A complete and corrected table is printed at the end of this document to be glued over the original one in the inside cover of the book.

page 47

The second integral in equation (3.85) at the bottom of page 47 must have the symbol dr added. The correct equations is:

$$\Phi = \int \frac{d\Phi}{dr} dr = \int \frac{Q}{2\pi} \frac{1}{r} dr = \frac{Q}{2\pi} \ln r + C_w$$

page 86

Exercise 3.13 part (d) should get "right-hand" replaced by "left-hand." The correct text is:

What is the largest value $(\phi_1)_{max}$ of the water table in the *left-hand* stream for which there is still a water divide in the aquifer?

page 147

The partial derivatives in equation (3.316) must be regular derivatives. The correct equation should read:

$$Q_x = -\frac{d\Phi}{dx} = Nx - \frac{NL}{2} + \frac{\Phi_1 - \Phi_2}{L}$$

page 155

The term between the two "=" signs in equation (3.341) must have a minus sign. The correct equation reads:

$$\frac{\partial E_1(u)}{\partial r} = \frac{-e^{-u}}{u} \frac{2S_s r}{4k(t-t_0)} = -2 \frac{e^{-u}}{r}$$

page 181

The vectors x_i and p_i in figure 4.1 are reversed.

page 197

Line 10 from the bottom should read:
solutions can also be written in terms of the *specific* discharge potential (4.3)
which

page 212

Midway the page, before equation (5.4) the line should read:
and $\Delta l \rightarrow 0$, the sum in (5.3) is replaced by an integral
The symbol Δ in equation (5.5) should be replaced by the symbol d , the correct equations reads:

$$d\zeta = dl e^{i\alpha}$$

page 213

Third line from the top should refer to Section 3.1.8

page 217

In the paragraph above "Using Line Doublets..." all Figure references should be to 5.7, rather than 5.6.

page 220

Fourth line above section 5.1.4 should read:
this text. The interested reader is referred to *Strack and Haitjema* (1981b)

page 221

At the bottom of the page the symbol $\Phi^{(0)}$ must be $\Phi^{(o)}$.

page 222

At the end of the first paragraph a "]" is missing after [Strack (1989).

page 228

The seventh line of text from the bottom should read:
of unconfined flow the saturated aquifer thickness *is* replaced by the

page 236

Second sentence from the top: strike the word "is."

page 237

In equation 5.65 the second " ϕ " in the numerator is mislabelled. The correct equation is:

$$\frac{1}{2}k\phi_a^2 - \frac{1}{2}k\phi_s^2 = \frac{k\frac{\phi_a+\phi_s}{2}c}{w}\sigma$$

page 238

The term σ_i must be removed from equation (5.69). The correct equation reads:

$$A_{ii} = F_{ii} - \frac{k\frac{\phi_a+\phi_s}{2}c}{w} \quad (i \text{ no sum})$$

page 329

The second line in Table 6.1 last column should read "slightly longer and *narrower*"

359

At the end of the first paragraph (line 10 from the top) the sentence should read:

Consequently, the ratio of $N/k = \frac{15 \text{ inches/year}}{150 \text{ ft/day}}$ seems most realistic.

Some Frequently Used Conversions

multiply	by	to obtain
acre-feet	43,560	ft ³
acre-feet	1233.49	m ³
acre-feet	325,851	gallons
atmosphere	33.90	feet of water
atmosphere	10.33	meters of water
atmosphere	29.92	inches of mercury
cm/s	2,834.784	ft/day
cm/s	864.0	m/day
cubic feet	0.02832	m ³
cubic feet	7.48052	gallons
cubic meters	35.31	ft ³
cubic meters	264.2	gallons
degrees	0.01745	radians
feet	0.3048	meters
ft/day	0.3048	m/day
gallons	0.1337	ft ³
gallons	3.785×10^{-3}	m ³
gal/day/ft ²	0.1337	ft/day
gal/day/ft ²	0.04075	m/day
GPD	0.1337	ft ³ /day
GPD	0.0037864	m ³ /day
GPM	192.528	ft ³ /day
GPM	5.452393	m ³ /day
inches of mercury	0.03342	atmospheres
inches/year	0.00022831	ft/day
inches/year	0.000069589	m/day
miles	5280	feet
miles	1609	meters
radians	57.30	degrees