

## Correction

### **Numerical simulation of a managed aquifer recharge system designed to supply drinking water to the city of Amsterdam, The Netherlands**

Pokhrel, Pranisha; Zhou, Yangxiao; Smits, Frank; Kamps, Pierre; Olsthoorn, Theo

#### DOI

[10.1007/s10040-024-02789-9](https://doi.org/10.1007/s10040-024-02789-9)

#### Publication date

2024

#### Document Version

Final published version

#### Published in

Hydrogeology Journal

#### Citation (APA)

Pokhrel, P., Zhou, Y., Smits, F., Kamps, P., & Olsthoorn, T. (2024). Correction: Numerical simulation of a managed aquifer recharge system designed to supply drinking water to the city of Amsterdam, The Netherlands. *Hydrogeology Journal*, 32(5), 1557-1558. <https://doi.org/10.1007/s10040-024-02789-9>

#### Important note

To cite this publication, please use the final published version (if applicable).  
Please check the document version above.

#### Copyright

Other than for strictly personal use, it is not permitted to download, forward or distribute the text or part of it, without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license such as Creative Commons.

#### Takedown policy

Please contact us and provide details if you believe this document breaches copyrights.  
We will remove access to the work immediately and investigate your claim.



CORRECTION

# Correction: Numerical simulation of a managed aquifer recharge system designed to supply drinking water to the city of Amsterdam, The Netherlands

Pranisha Pokhrel<sup>1,2</sup> · Yangxiao Zhou<sup>1,3</sup> · Frank Smits<sup>4,5</sup> · Pierre Kamps<sup>4</sup> · Theo Olsthoorn<sup>4</sup>

© The Author(s) 2024

Correction: *Hydrogeology Journal* (2023) 31:1291–1309  
<https://doi.org/10.1007/s10040-023-02659-w>

An error was made in the definition of the density parameter  $\rho$  in Equations 7, 8 and 9 of the original article. It was defined as the bulk density of the aquifer, whereas it should have been the density of pore water. Additionally the density of the aquifer solid matrix  $\rho_s$ , used in equation 11 to compute the retardation factor, was not defined in the original article.

The misuse of the bulk density instead of water density resulted in incorrect values of the computed thermal distribution coefficient, i.e. the bulk thermal diffusivity, and the retardation factor in Table 5. Some of the units were also incorrect. The corrected table is given here.

**Table 5** Parameters for heat transport simulation (corrected).

Parameter <sup>a</sup>	Units	Layers							
		1	2	3	4	5	6	7	8
$\theta$	-	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
$\rho$	kg/m <sup>3</sup>	1000	1000	1000	1000	1000	1000	1000	1000
$\rho_s$	kg/m <sup>3</sup>	2643	2643	2643	2643	2643	2643	1571	2643
$K_{T \text{ fluid}}$	W/(m °C)	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
$K_{T \text{ solid}}$	W/(m °C)	0.40	1.30	2.40	2.40	1.80	2.40	1.70	2.40
$K_{T \text{ bulk}}$	W/(m °C)	0.45	1.08	1.85	1.85	1.43	1.85	1.36	1.85
$C_{p \text{ fluid}}$	J/(kg °C)	4186	4186	4186	4186	4186	4186	4186	4186
$C_{p \text{ solid}}$	J/(kg °C)	1255.8	1255.8	1255.8	1255.8	1255.8	1255.8	1255.8	1255.8
$D_{m \text{ temp}}$	m <sup>2</sup> /d	0.031	0.075	0.128	0.128	0.099	0.128	0.094	0.128
$K_{d \text{ temp}}$	m <sup>3</sup> /kg	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
$R_d$	-	2.85	2.85	2.85	2.85	2.85	2.85	2.10	2.85

<sup>a</sup> $\rho$  is the density of pore water;  $\rho_s$  is the density of the aquifer solid matrix

The original article can be found online at <https://doi.org/10.1007/s10040-023-02659-w>.

✉ Pranisha Pokhrel  
pokhrel.pranisha11@gmail.com

<sup>1</sup> IHE Delft Institute for Water Education, Westvest 7, 2611 AX Delft, The Netherlands

<sup>2</sup> Copernicus Institute of Sustainable Development, Faculty of Geoscience, Utrecht University, Utrecht, The Netherlands

<sup>3</sup> Hebei University of Geosciences, Shijiazhuang City, China

<sup>4</sup> Waternet, Vogelenzangseweg 21, 2114 BA Vogelenzang, The Netherlands

<sup>5</sup> Water Resources Section, Faculty of Civil Engineering and Geosciences, Delft University of Technology, Delft, The Netherlands

As a result, the sub-section '*Temperature variations in the recovered water in wells*' should be corrected through stating the following: With a corrected retardation factor of 2.85, the average residence time of sources of water contributing to the wells is 74 days, which is sufficiently long to improve the water quality.

**Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source,

provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.