

Reply to Comment on “Numerical simulation of a managed aquifer recharge system designed to supply drinking water to the city of Amsterdam, The Netherlands”

paper published in Hydrogeology Journal (2023) 31:1291–1309, by Pranisha Pokhrel, Yangxiao Zhou, Frank Smits, Pierre Kamps and Theo Olsthoorn

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The responding authors very much appreciate the Comment made by Neville and Wang on the subject article “Numerical simulation of a managed aquifer recharge system designed to supply drinking water to the city of Amsterdam, The Netherlands” (Pokhrel et al. 2023), as it has provided an opportunity to correct errors that were made in the computation of the thermal distribution coefficient and retardation factor.

In the original article, bulk aquifer density was used to calculate the thermal distribution factor (Eq. 7) and the retardation factor (Eq. 8), as opposed to pore water density, which resulted in the overestimation of groundwater residence times.

The error has been resolved through the publication of a Correction article (Pokhrel et al. 2024). This provides the corrected values for thermal retardation factors and groundwater residence times, with higher and lower values, respectively.

In the context of the research objectives, the corrected average groundwater residence time determined for wells within the study area continues to exceed the minimum 60-day threshold to meet the legal environmental impact

requirements (Olsthoorn and Mosch 2020). Therefore, the Correction does not change the principal conclusions of Pokhrel et al. (2023).

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