

Recharge of low-arsenic aquifers tapped by community wells in Araihasar, Bangladesh, inferred from environmental isotopes

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Additional Supporting Information (File uploaded separately)

Captions for Table S1

Introduction

Two figures and one table are provided as part of the the Supporting Information:

- Figure S1 provides additional correlation plots referred to in the Results and Discussion sections. Correlations are shown between the concentrations of various groundwater analytes and their molar ratios, as well as the measured

isotopic ratios. Data used to create the plots are presented in Tables 1 and 2 of the main text and Table S1 attached herein.

- Figure S2 presents box plots of the ^{14}C age data calculated from two groups of samples (shallow aquifer vs. pooled intermediate and deep aquifer) using three different methods (UC, C_1 , and C_2 age) described in Section 3.2.1 of the main text. Data used to create the plots are presented in Table 2 of the main text.
- Table S1 (file uploaded separately) presents the complete suite of groundwater chemical and physicochemical parameters that were used to discuss the data and to create Figures 6, 9, 11 in the main text and Figure S1 presented herein. As described in Section 2.2, 2.3, and 2.6 of the main text, these parameters include:
 - Parameters measured in the field: EC, pH, temperature, and alkalinity
 - DIC and DOC concentrations measured in the laboratory by NOSAMS
 - Cations and trace elements measured in the laboratory by ICP-MS
 - Anions measured in the laboratory by ion chromatography.

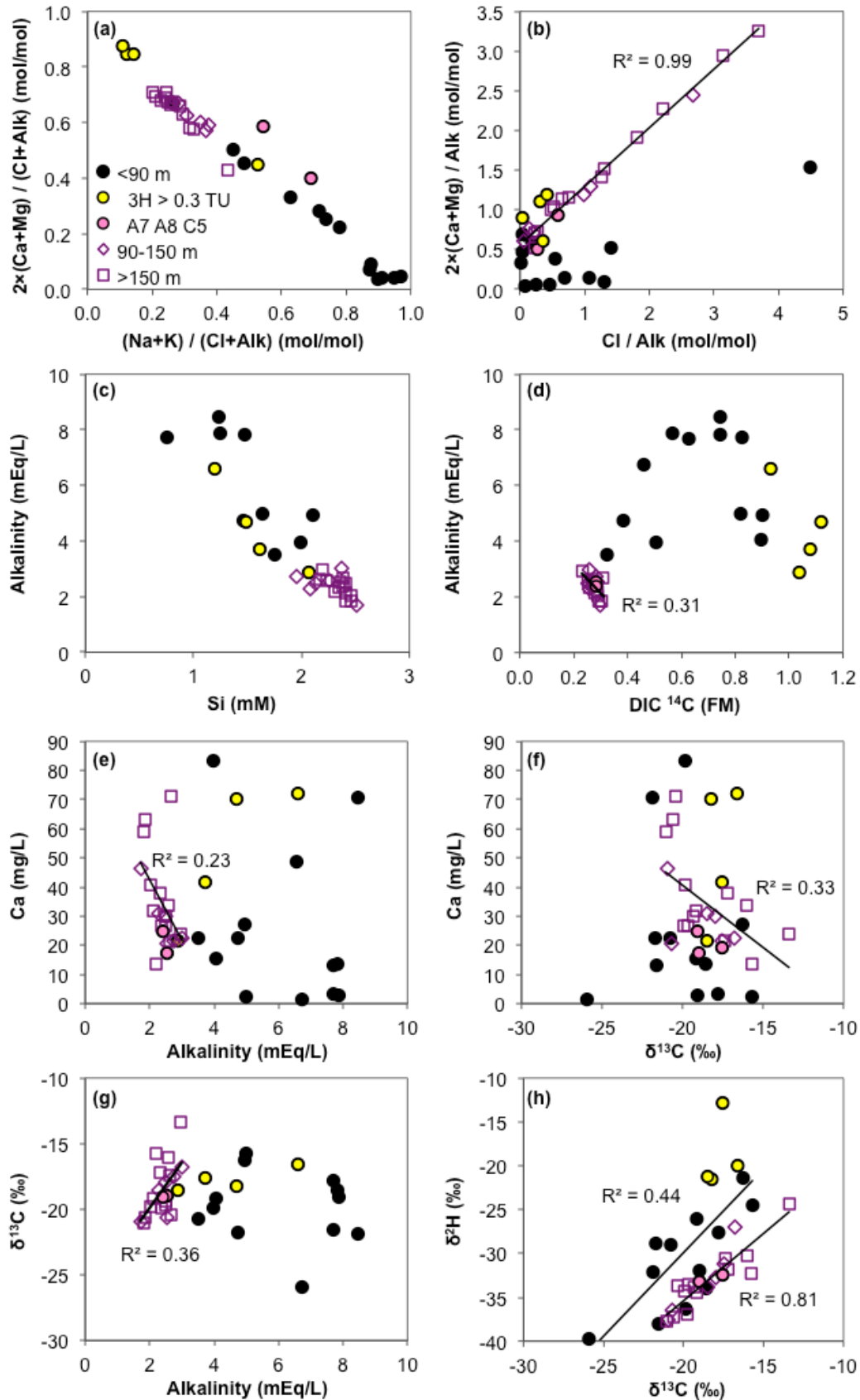


Figure S1. Correlation plots of select analytes describing the geochemical properties of shallow, intermediate, and deep groundwater. The trendlines and R^2 values shown are for the pooled intermediate (90-150 m bgl) and deep aquifer (>150 m bgl) samples, except in (h) where they are also shown for the shallow low-As aquifer samples. Similar trends as in (h) are observed with $\delta^{18}\text{O}$ vs. $\delta^{13}\text{C}$ (not shown), with respective R^2 values of 0.35 for the shallow aquifer and 0.81 for the pooled intermediate and deep aquifer samples. The fill in black circles denotes the shallow low-As samples (<90 m bgl) with consistent deeper groundwater properties (pink fill) or with $^3\text{H} > 0.3$ TU (yellow fill).

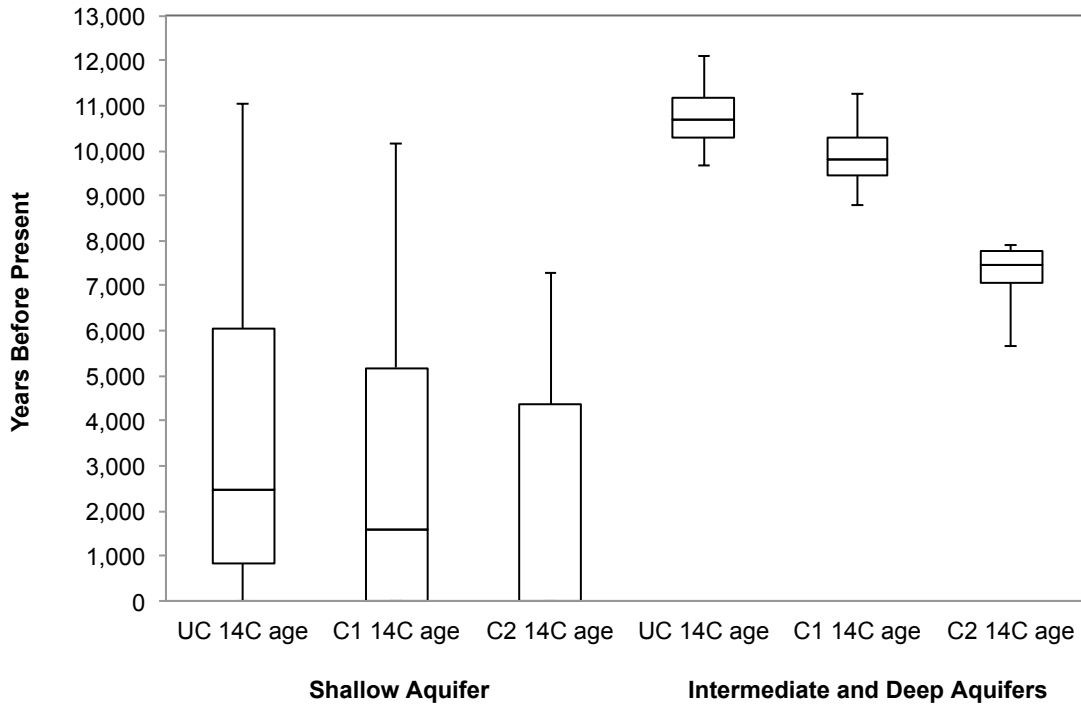


Figure S2. Box plot of calculated ^{14}C ages for the shallow aquifer and pooled intermediate and deep aquifer samples. Boxes indicate the 1st quartile (bottom of the box), median (middle line), and the 3rd quartile (top of the box) of the sample pool. The bars indicate maximum and minimum values. In the shallow aquifer, the first quartile and the minimum value of the C_1 ^{14}C ages, as well as the median value of the C_2 ^{14}C ages, fall on the zero. Modern ^{14}C ages in the shallow aquifer have been assigned the values of 0 and included in the statistics.

Table S1. Groundwater chemistry and physicochemical parameters.