

## Accepted Manuscript

Influence of geology on groundwater-sediment interactions in varied arsenic enriched tectono-morphic aquifers of the Brahmaputra River Basin

Swati Verma, Abhijit Mukherjee, Chandan Mahanta, Runti Choudhury, Kaushik Mitra

PII: S0022-1694(16)30308-0

DOI: <http://dx.doi.org/10.1016/j.jhydrol.2016.05.041>

Reference: HYDROL 21285

To appear in: *Journal of Hydrology*

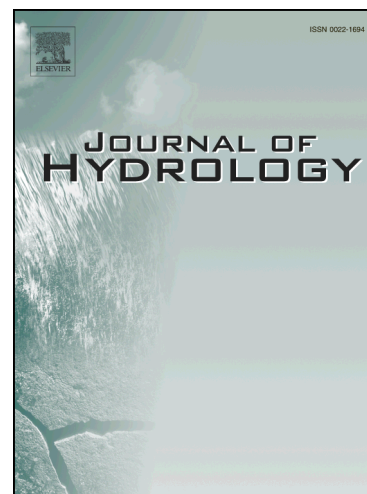
Received Date: 9 March 2016

Revised Date: 20 May 2016

Accepted Date: 21 May 2016

Please cite this article as: Verma, S., Mukherjee, A., Mahanta, C., Choudhury, R., Mitra, K., Influence of geology on groundwater-sediment interactions in varied arsenic enriched tectono-morphic aquifers of the Brahmaputra River Basin, *Journal of Hydrology* (2016), doi: <http://dx.doi.org/10.1016/j.jhydrol.2016.05.041>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



**Influence of geology on groundwater-sediment interactions in varied arsenic enriched tectono-morphic aquifers of the Brahmaputra River Basin**

Swati Verma<sup>1\*</sup>, Abhijit Mukherjee<sup>1,2</sup>, Chandan Mahanta<sup>3</sup>, Runti Choudhury<sup>3</sup>, Kaushik Mitra<sup>1</sup>

<sup>1</sup>Department of Geology and Geophysics, Indian Institute of Technology (IIT) – Kharagpur, W.B., 721302, India

<sup>2</sup>School of Environmental Science and Engineering, Indian Institute of Technology (IIT) – Kharagpur, W.B., 721302, India

<sup>3</sup>Department of Civil Engineering, Indian Institute of Technology (IIT) – Guwahati, Assam, 781039, India

\*Corresponding Author, email: [swati.geo09@gmail.com](mailto:swati.geo09@gmail.com)

Keywords: Tectonics, Arsenic, Brahmaputra, Himalaya, India, Hydrogeochemistry

**Abstract**

The present study interprets the groundwater solute chemistry, hydrogeochemical evolution, arsenic (As) enrichment and aquifer characterization in Brahmaputra river basin (BRB) concerning three geologically and tectono-morphically varied distinct regions in northeastern India. These study regions consist the northwestern (NW) and the northern (N) region, both located along the western and eastern parts of Eastern Himalayas and southern (S) region (near Indo-Burmese Range and Naga hills) of the Brahmaputra basin which shows distinct tectonic settings and sediments provinces in the Himalayas orogenic belt. Stable isotopic composition ( $\delta^2\text{H}$  and  $\delta^{18}\text{O}$ ) in groundwater suggest that some evaporation may have taken place through recharging water in the study areas. The major-ion composition shows that groundwater

Download English Version:

<https://daneshyari.com/en/article/6409525>

Download Persian Version:

<https://daneshyari.com/article/6409525>

[Daneshyari.com](https://daneshyari.com)