

## ***Interactive comment on “Vivianite formation in ferruginous sediments from Lake Towuti, Indonesia” by Aurèle Vuillemin et al.***

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We thank the reviewer for his/her careful review of our manuscript, which highly helped us improving the new version of the manuscript to be submitted. We have addressed all of the Reviewer's concerns with new additional data, namely:

- Pore water  $\text{SO}_4^{2-}$ ,  $\text{Ca}^{2+}$ ,  $\text{Mg}^{2+}$  and  $\text{Mn}^{2+}$  concentrations were added to Figure 2a and are discussed in the revised manuscript. - Based on geochemical modeling of pore water major ions, we calculated saturation indices for specific minerals. The revised manuscript contains a new table listing saturation indices for diagenetic minerals relevant of the present system (e.g. vivianite, siderite, calcite). - The description of the methods and results ( $\text{SO}_4^{2-}$ ,  $\text{PO}_4^{3-}$ ,  $\text{Fe}^{2+}$ ,  $\text{Mn}^{2+}$ ,  $\text{Ca}^{2+}$ ,  $\text{Mg}^{2+}$ ) has been carefully

C1

reviewed and corrected.

We did our best to fulfill all the remarks and suggestions brought by the Reviewer. Each comment has been addressed in separate answers, and all the corresponding changes in the text are listed after them. Please, find our point by point answers to Reviewer 1 in the pdf uploaded as supplement. Following Copernicus guidelines, the revised manuscript with changes highlighted in red will be uploaded as a later stage.

Yours sincerely,

Aurèle Vuillemin First/corresponding author

Please also note the supplement to this comment:

<https://www.biogeosciences-discuss.net/bg-2019-426/bg-2019-426-AC1-supplement.pdf>

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Interactive comment on Biogeosciences Discuss., <https://doi.org/10.5194/bg-2019-426, 2019>.

C2