

## ***Interactive comment on* “Successional patterns of (trace) metals and microorganisms in the Rainbow hydrothermal vent plume at the Mid-Atlantic Ridge” by Sabine Haalboom et al.**

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I was quite enthusiastic to accept this review as I have been working at the Rainbow vent site. Considering the interest of mining companies to exploit the deep-sea hydrothermal deposit, I thought that the submitted paper will provide key information on the close interaction between microbial diversity and the environmental conditions. The topic of this paper can be very useful for the scientific community.

Unfortunately, I had a hard time to review the paper as it lacks general informations, some references are missing and the geochemical data are missing. Therefore, I cannot provide an appropriate review of this paper considering that half of the paper is deal-

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ing with the environmental changes along the missing gradient between hydrothermal fluid and seawater. I am a geochemist with limited expertise with microbiology. So I leave this section to other review. I stopped the review at mid-way as I cannot see their data and how they have been acquired (the methodology is poorly described). I cannot provide an objective report.

As such, I cannot accept this paper. The topic is still valuable to the scientific community but the authors need to improve significantly their manuscript.

Most of my comments are directly indicated on the manuscript pdf.

Sincerely yours, Valérie Chavagnac

Please also note the supplement to this comment:

<https://www.biogeosciences-discuss.net/bg-2019-189/bg-2019-189-RC1-supplement.pdf>

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