

## ***Interactive comment on “Efficiency and adaptability of the benthic methane filter at Quepos Slide cold seeps, offshore Costa Rica” by P. Steeb et al.***

**P. Steeb et al.**

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We could like to thank all four reviewers for their critical comments, which we think tremendously helped to improve the quality and clarity of this manuscript. We hope our responses and adaptations are adequate to accept this manuscript for publication in Biogeosciences. Please find our detailed responses below.

Anonymous Referee #3 Received and published: 17 March 2015 In this manuscript, the authors first measure anaerobic methane oxidation in sediments at the Quepos Slide site, and then conduct laboratory experiments to study how anaerobic methane oxidation changes in response to changes in fluid flow. I find this approach quite in-

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teresting, and it addresses important questions about how sediment microbes adjust to changing methane fluxes. I appreciate the technical difficulties with setting up these types of experiments with intact sediment cores, and while the approach here may not have perfectly replicated field conditions (lower methane concentrations, lack of oxic surface sediment, pore water removal for sampling, etc.), it's an excellent start. I agree with the other reviewers that it would be helpful to better describe the issue of pore water removal during the experiment, but otherwise I feel that the authors have sufficiently addressed the methodological issues.

Other minor issues: Page 16036, line 1-2: is it 160 m or many hundreds of m?

Author Reply: Changed to several hundreds of meters

Page 16039, line 20-24: what size vial? And I assume the GC had a FID?

Author Reply: Information (30 mL, FID) was added to 2.2

Page 16059, line 20: slow or abrupt, which one?

Author Reply: You are right, it must be abrupt, since the changes in our system are immediate.

Figures 3 and 4: These are pretty hard to read. A bit more space between the panels would help make it easier to tell what's being plotted in which figure. It might also help if the two shapes were more distinct. Until I zoom way in, the circles and diamonds are hard to distinguish.

Author Reply: We are sorry, but we can't technically accommodate this request at the moment.

Figure 5: I think the subpanel labels don't properly match the caption

Author Reply: We corrected the labels.

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Interactive comment on Biogeosciences Discuss., 11, 16033, 2014.

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