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

Anonymous Referee #3

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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 interesting, 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

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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? Page 16039, line 20-24: what size vial? And I assume the GC had a FID? Page 16059, line 20: slow or abrupt, which one? 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. Figure 5: I think the subpanel labels don't properly match the caption

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

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