

## ***Interactive comment on “The Ability of Froth Formed without Chemicals to Hold Bacteria” by Ghanim Hassan and Robert G. J. Edyvean***

**Anonymous Referee #2**

Received and published: 30 January 2019

In this paper froth flotation, without the use of chemicals, is presented. The froth flotation is intended to work as a (pre-) treatment step in drinking water production. Major part of the paper is dedicated to the relation between froth turbidity and operational parameters. This information could also be given as part of the submitted paper “bio-purification of drinking water by froth flotation”. Making both papers stronger. The paper has, as it is now, little link with water treatment. General comments: - A clear explanation of the difference between froth flotation and DAF should be included in the introduction - At the end of the introduction it should be explained what is the innovative part in the paper, also in relation to other work. - The results chapters lacks explanation of the figures (given in discussion chapter) - The results section has too many figures and compilations should be made for better understanding. - It is rec-

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ommended to merge the results and discussion chapter to avoid the above - A more extensive discussion on the results in the light of literature and competing technologies should be included Specific comments: - Line 18, mention velocities instead of flows, since flow depends on surface area. - Line 29, “behaviour” = “characteristics”; “. and subsequently promote flotation” - Line 31, delete “using hydrophobicity”; “trial” = “trial”; is 2012 recent? - Line 35 “reducing” = “reduce” - Line 36-37, not clear what is meant. - Line 38, avoid “believed” - Line 39, is 2012 recent? - Line 46 (and onwards), “length” = “height”; “sparger of”; “above the column base”. - Line 48, explain the purpose of the side streams. - Line 50, “capacity of the column - Line 45-51, give also the water velocities.. - Line 106 (and onwards), use passive tense: “was started”, “was added” etc. - Line 72, what is meant by “certain” amount?; the experiment “was started and the repeated” - Line 75, what is meant with “suitable amount”? - Line 76, what where the “run demands” - Line 82, what where the “air flow rates”? - Line 90, explain why this procedure was followed. - Line 91, it is not clear from the previous what is the relevance of “froth turbidity” - Line 114-124, is not a discussion, but more a type of introduction. - Line 125-128, is more for Materials and Methods chapter. - Line 136, avoid “general trend” - Line 139-140, it is not clear what the relation between “(tank) turbidity” and “attachment of bacteria” is. - Line 160, is “froth turbidity” measured over the entire height of the column of only in the upperpart. What is the then the height of the froth layer? - Line 172-176, apparently there is an optimal turbidity/bacteria concentration for the removal by froth and then the relation is made to practice. However, in practice turbidity is not (only) caused by bacteria, but by other colloidal and suspended solids. - Line 180-185, these conclusions cannot be drawn based on the presented work.

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Interactive comment on Drink. Water Eng. Sci. Discuss., https://doi.org/10.5194/dwes-2018-27, 2019.

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