

Interactive comment on “Froth Production in Potable Water without Chemicals” by Ghanim Hassan and Robert G. J. Edyvean

Anonymous Referee #2

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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 dissolution of air in water and on the effect of air flow rate and water level on froth height. 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 (as is now given in line 180-189) - The results chapters lacks explanation of the figures (given in discussion chapter) - It is recommended 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

C1

should be included Specific comments: - what is meant by “tailing” - Line 40-41, it is questionable if chlorine enhances biofilm formation (nowadays chlorine is also used to control biofilms in drinking water distribution) - Line 46, delete caption “hypothesis”, the following is just par to the introduction. - Line 51-57, try shortening the description. Does this mean that froths can only be produced in relatively small (in diameter) columns? - Line 58, “air doses of” - Line 59, what is meant by “certain level”. “interring” = “entering” - Line 61, air is for 80% N₂, which will not be “consumed”. - Line 65, finalize the introduction with a clear objective. - Line 65-93, should be part of the Materials and Methods chapter. - Line 89-93, not clear what is exactly meant. Rephrase or delete. - Line 96, “long” = “high” - Line 98, “joined” = “connected”. - Line 99-100, not relevant here, so delete. - Line 116, explain why this procedure was followed. - Line 146, “leads” = “led” “to an increase in dissolved. . .” - Line 147-149, not relevant here - Line 163, give reference to this statement on “bubble crowd”. - Line 177, “air flow rate” - Line 178-179, it is more relevant to give velocities than flows (since they depend on surface area). - Line 186, DAF is in fact rather effective in removing bacteria, using coagulation in front (about 90% removal) - Line 190-195, more for introduction.. - Line 202, apparently the “optimum” height of the water level is 45 cm above the sparger, why this height is not used in the paper “bio-purification of drinking water by froth flotation”?

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C2