

# ***Interactive comment on “De-chlorination of drinking water by forced aeration” by Ghanim Hassan and Robert G. J. Edyvean***

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All the comments were taken into consideration. Please see the attached file.

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Discussion paper



### De-chlorination of drinking water by forced aeration

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#### Abstract

Shock chlorination is a well-known practice in swimming pools and domestic wells. One of the limitations for using this technique in drinking water purification facilities is the difficulty of quickly removing high chlorine concentrations in water distribution systems or production facilities. Forced air bubbling is a possible technique for de-chlorination but there is lack of data supporting such a process.

A 20 cm diameter, 1-meter height column provided with air sparger was designed to collect the desired data were used.

Shock de-chlorination by aeration is found to be a promising method that opens up the horizon to drinking water industry to produce microorganism and disinfectant free drinking water.

#### 1. Introduction

Chlorination of drinking water has been used as a disinfection technique for more than a century or so to produce water that is safe from waterborne diseases. This method is preferred due to low cost, abundance, ease of use and less need of high technology equipment. On the other hand, during the last forty years disinfectants by-products "DBPs" as an emerged branch of reality in the water industry has developed first by discovering the presence of Chloroform (Rook, 1974) and trihalomethanes "THMs" (Singer, 1994) in drinking water. To date some 700 or more DBPs have been identified but understanding their effect on humans and the environment still needs more work (Brown et al., 2011;Gonsior et al., 2014;Richardson and Postigo, 2015).

Fig. 1.