Comments on:

"Gold tailings as a source of waterborne uranium contamination of streams – The Koekemoerspruit as a case study" published in *Water SA* 30 (2) 219-240

1 **Paper title**. The title suggests that this series of papers deals with the effect of tailings dams on the Koekemoerspruit. A more appropriate title would be "Mine dewatering as a……..".

2 **Study area**. The declared study area is the lower reaches of the Koekemoerspruit. In fact the study area actually described consists of only two small, widely separated sites in the area, viz. Margaret shaft with its associated trench discharging to the Koekemoerspruit, and the gauging weir several kms downstream.

It does not include the discharge of treated sewage water into the Koekemoerspruit at a point approximately midway between the two study points. Because this discharge is largely based on drinking water drawn from the Vaal River, it can be expected to have a significant effect on the stream chemistry.

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Response to comments

1 With the focus of all three papers being on U originating from tailings deposits of gold mines (slimes dams) and its transport along the aqueous pathway into and within an adjacent stream (in this case the Koekemoerspruit) the chosen main title describes accurately the intention and main contents of the research presented. Sub-titles further specify which aspects of the waterborne transport are dealt with in each paper. Although dewatering of a defunct gold mine affects some aspects of the processes investigated it is not the focus of any of the three papers.

2 When assessing surface water systems such as the Koekemoerspruit, it is a sound and well-established practice in hydrological science to give an overview of the totality of the associated catchment concerned, even though the research foci are on selected sites within that catchment only. This, however, does not imply that all features of the catchment – which in the case of the Koekemoerspruit comprises a surface area of more than 800 km^2 - are to be described in detail. Apart from diverting attention from the actual core findings this would also exceed any reasonable format of scientific articles.

The same applies to effluents from a sewage plant mentioned in the above comments, which form only a part of a whole range of factors impacting on the chemical constitution of stream water including farming, storm water runoff, and even impacts of an abounded gold-mining site area upstream of the focal area - all of them considered in the design of the research methodology.

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