DISCUSSION OF SURFACE WATER AND GROUNDWATER INTERACTION IN THE UPPER CROCODILE RIVER BASIN, JOHANNESBURG, SOUTH AFRICA: ENVIRONMENTAL ISOTOPE APPROACH BY ABIYE ET AL.

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Abstract

The water resources downstream of the West Rand Gold Field (a.k.a. the Western Basin) have been the subject of considerable interest and discussion in both the media (e.g. Béga, 2010; 2012a; 2012b; 2013; Groenewald, 2010; Jordan, 2015; Kings, 2015) and scientific literature. At the root hereof is concern for the impact of acid mine drainage (AMD) on the receiving water resources environment shared in part by the Cradle of Humankind World Heritage Site (COH WHS), South Africa. Attention that is so acutely focussed on a sensitive environment of outstanding universal value (OUV) such as the COH property requires scientific reporting that is rigorous and devoid of sentiment and emotion. The contribution by Abiye et al. (2015) to this discourse suffers from similar flaws as have plagued earlier scientific literature (e.g. Abiye, 2011; Abiye et al., 2011; Abiye, 2014; Durand, 2012; Durand and Peinke, 2010; Durand et al., 2010) on the topic. Perhaps the most understandable (and excusable) of these is sentiment and emotion. Scientific contributions to the topic, however, can and must attract keen scrutiny from peers. Such scrutiny will necessarily extend to previous similar publications by the author(s). Against this background, serious misgivings are raised regarding various elements of the material presented by Abiye et al. (2015). These are set out and argued in this discussion.