UNCERTAINTY OF FLOW-THROUGHBAILER AND LOW-FLOW PURGINGGROUNDWATER SAMPLING METHODS

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Abstract - Groundwater sampling aims to collect samples representative of in situ aquifer conditions. Several methods exist for groundwater sampling.Flow-through bailers and low-flow purging are some ofthe most common groundwater sampling methods. Several studies have compared the performance of these two groundwater sampling methods. However theuncertainties of theflow-through bailersand low-flow purging are yet to receive attention.This studyestimate and compare the uncertainty of the flow-through bailers and low-flow purging ground water sampling methods for inorganic chemistry and microbial parameters. The study makes use of boreholes ina typical Karoo sandstone aquifer at the University of the Free Campus Aquifer Test Site in South Africa. Understanding the uncertainty of groundwater sampling methods is important for analysing ofgroundwater chemistry data and compliance decision making.

Keywords - Aquifers; Bailers; Hydrogeology; Groundwater sampling; Low-flow purging