

Water Quality at a Ventilated Improved Pit Latrine Sludge Entrenchment Site

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Abstract : Groundwater quality was evaluated at a site for three years after the site was used for entrenchment of Ventilated Improved Pit (VIP) latrine sludge. Analysis performed on the soil characteristics at the entrenchment site indicated that, the soils at the entrenchment site are predominantly sandy. Depth of the water table at the entrenchment site was found to be approximately five meters. Five monitoring boreholes were dug along the perimeter of the sludge trenches and water samples taken from these monitoring boreholes were analyzed for pH, conductivity, sodium ions, chloride ions, phosphate, nitrate, ammonia, and bacteriological analysis. The results obtained from the analysis conducted were compared with the South African Bureau of Standards for drinking water and it was found that the parameters analyzed falls below the specified range. The data obtained from this study indicate that, given the relatively high sludge loading rates, poor soil quality, and the duration of the groundwater quality monitoring, it is unlikely that contamination of groundwater at the entrenchment site will be a major concern. However, caution is advised in extrapolating these results to other locations.

Keywords : boreholes, contamination, entrenchment, groundwater quality, VIP latrines

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