

The research was conducted in the Akantansu stream of Tutuka in Kenyasi in the Brong Ahafo Region of Ghana from October 2010 to January 2011. The objectives of the study were to find out the contamination levels of pH, BOD5, Lead, Chromium, and Arsenic in the Akantansu stream of Tutuka to promote public health safety of people patronizing the stream for bathing and cooking. Determination of pH was achieved using Etech instrument (PC 300 series where as BOD5 level was assessed by means of empirical standard laboratory test which determined the relative oxygen requirements of waste water, effluents and polluted water using the standard procedure as per America Public Health Association (2006). An AAS 220 atomic absorption spectrometer was used for the analyses of heavy metals (lead, chromium and arsenic). The Research revealed that, the geometric mean levels of (0.01- 0.02, 0.03 – 0.26, 0 - 0.01, 3.99 – 7.06) mg/L and 5.64 – 6.40 for Arsenic, Lead, Chromium, BOD5 and pH compared to the EPA Maximum Permissible Limits of (0.5, 0.1, 0.1, 50) mg/L and 6-9 were respectively within the acceptable standards. However, due to slightly higher concentration of chromium (0.26 mg/L) up the stream, the people of Tutuka may develop health effects such as nausea, vomiting, diarrhea, hallucinations, headaches, depression, sleeping disorders, skin cancers, tumours in lungs, bladder, kidney and liver if they continue to use water from the stream for bathing and cooking. Keywords: Arsenic, Lead, Chromium, pH, Concentration, Upstream, Mid-stream, Downstream