

**ANTIOXIDANT PROPERTY, TOTAL PHENOLICS,  
MANGANESE AND IRON CONTENT OF HUMIC  
ACID OBTAINED FROM STA. BARBARA,  
ILOILO ARTESIAN WELL WATER**

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## ABSTRACT

The town of Santa Barbara in Iloilo is famous for its reddish brown-colored well water due to the presence of humic acid which makes up most of the water's natural organic matter content. Because the well water is used by the local townsfolk for drinking and other domestic activities, it is imperative that a study must be made to assess its potential health benefits and risks. In this study, the DPPH radical scavenging activity of the extracted humic acid was investigated. It was determined that the sample contains antioxidants capable of reducing DPPH with an  $IC_{50}$  of  $51.552 \pm 0.652$  ppm. Prussian Blue Assay for total phenolic content also showed that a 76.5 ppm humic acid sample has  $14.169 \pm 1.151$  ppm in GAE. Flame-AAS analysis showed that the humic acid sample contains iron ( $0.8376 \pm 0.0581$  ppm). The manganese content of the sample was below the detection limit of the instrument. The results suggest that the humic acid extracted from the well water contains potential antioxidants which can be exploited for various commercial and medical applications.