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**THE PHYSICOCHEMICAL CHARACTERISTICS OF
THE RED WATER OF STA. BARBARA, ILOILO: ITS
IMPLICATIONS TO THE ENVIRONMENT**

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Abstract

Water is life. We cannot live without water. Clean fresh water is important for personal hygiene, recreation, irrigation and industrial processes that's why, the access to safe drinking water is not only essential for the promotion and protection of public health but a basic human right.

Water quality is important in evaluating water resources because its utilization should be suitable to its quality or classification. According to the World Health Organization and US EPA, (2007), physicochemical properties are part of the assessment of the quality of water. Excess of these elements by 40-200 fold that of required for correct nutritional response results to toxicity. (Haman and Bottcher, (1986), University of Florida.

Provision of safe water supply prevents the transmission of waterborne pathogens and reduces the exposure of individual to chemical and physical hazards that could be ingested through contaminated drinking water.

Having this premise that physicochemical properties of water should be assessed to determine the quality of the water, we the researchers conducted this study.

To answer the objectives of the study, the descriptive method of research was employed. Both quantitative and qualitative methods were utilized. The respondents were the thirty (30) residents living near the area. They were purposively chosen for this study. They were asked by the researchers questions on the effects of the red waters of Sta. Barbara to the environment.

This research made use of site visitation, interview, and utilization of the checklists for the respondents to answer as the main source of data collection.

The researchers conducted the interview among the selected respondents who were available in the area at the time of the site visitation. Their responses were transcribed, encoded, analyzed and interpreted.

Pictures were also taken for documentary purposes.

Results of the study showed that there are no significant differences in the implications of the red water of Sta. Barbara to the environment.

The physical priority parameters of the red water of Sta. Barbara has an apparent color of >280 which is too high to its permissible limit. The chemical priority parameters are above the standard permissible limits like Total Hardness, pH, Total Solids and Sulfate. The red waters of Sta. Barbara contains Calcium (Ca), Magnesium and Silica. The discoloration of the water of Sta. Barbara maybe due to high levels of Total Dissolve Solids.

For the benefit of the residents, the following are recommended:

1. Further studies should be conducted to investigate the beneficial effects of the red water to the health of the residents as well as the environment.

2. Observational studies should be conducted to assess the health conditions of the residents and correlate with the drinking water.

3. Correlational studies should be conducted among the different sources of the red water of Sta. Barbara.

4. A study to profile the health conditions among the red water drinkers and non-drinkers should also be conducted.

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