Title: MICROBIOLOGICAL QUALITY OF GROUNDWATER FOR HUMAN CONSUMPTION IN THE CITY OF DOURADOS-MS

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Abstract:

Water is a natural resource essential for life and it is considered an irreplaceable element. The increased consumption of groundwater has become a viable alternative to the population because of its abundance and low cost of funds. At the time of well drilling, it is not so often to search for guidance and care to ensure the quality of the water consumed. The water's contamination can occur at the origin point, during the distribution, and especially in the particular reservoirs, whether business or home. The most frequent causes of water's contamination in these reservoirs are inadequate sealing of water tanks and cisterns, lack of a cleaning program and regular and periodic disinfection. Thus, there is a concern as to their microbiological quality since water can present pathogenic microorganisms affecting the health of the population. Every year millions of people, mostly children, die from water-related diseases in all the world. A bacteriological examination of water is an important tool for determining the quality of drinking water. The objective of this study was to analyze the microbiological quality of semi-artesian wells' water for the presence of coliforms and correlate the level of contamination with the depth of the wells. We analyzed 24 samples from semi-artesian wells in the city of Dourados, Mato Grosso do Sul, from June to September of 2013 and a questionnaire was applied to the owners. The research of total and fecal coliforms was performed by the multiple pipes determining the most probable number of coliforms in 100 mL of sample (MPN / 100mL) as the protocol the American Public Health Association (2005). The results revealed that 54.1% of the samples showed levels of total coliforms, and 20.8% presence of *Escherichia coli* and the rarest wells showed higher infection rate. From the results it is concluded that the samples analyzed 54.1% do not meet the standards established by law 2914 of 2011 the Ministry of Health, being unfit for consumption, and such contamination can be directly related to the depth of the wells analyzed.

Key - words: *Escherichia coli*, semi-artesian wells, total coliforms

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