

DETERMINATION OF THE LIMITS OF GEOCHEMICAL BACKGROUND OF GROUNDWATER IN THE RIACHO DAS VACAS SUB-BASIN

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ABSTRACT

Groundwater plays an important role in meeting SDG 6, supplying or complementing the demands for drinking water, especially in scenarios of scarcity of surface water. In certain regions, there are geological anomalies that can give groundwater concentrations of elements above the legislated limits for human consumption or for other uses. Anthropogenic activities can also result in contamination that can make certain uses unfeasible. Differentiating what is natural and anthropic alteration is of paramount importance to outline guidelines for the management of water resources. This research aims to determine what are the natural background limits in the Riacho das Vacas sub-basin, inserted in a region with the presence of natural uranium anomalies and where a mining company that processes this mineral is located. Through statistical evaluation of the results of 46 wells, monitored in the study area between 1998 and 2018, it was preliminarily verified that the upper background limit for uranium is 0.023 mg/L. This value is between the maximum limit allowed for human consumption established in CONAMA Resolution No. 396 and that of Ordinance GM/MS No. 888.

KEYWORDS: Groundwater. Background. Uranium.

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