The geology of saltwater of Bishusha (Rutshuru, D.R.Congo): origin and hydrochemic characterization

[1]SHUNGU G. [2] MUHINDO B. [3]MASHALA,P.

[1] University of Goma, guyshungu02@yahoo.fr
[2] University of Goma,boscomuhindomusubao@yahoo.fr
[3] University of Lubumbashi, pierremashala@yahoo.fr

Bishusha is located in the Rutshuru region (North Kivu, D.R. Congo). This region belongs to the Mesoproterozoic belt that covers mainly the eastern D.R. Congo. Quartzite, schist, pegmatite and volcanic slags due to Nyamulagira volcano are the principal types of lithology that predominate.

This paper consists mainly in the study of the hydrogeological and hydrochemic characterization of Bishusha salted water. MARIBA, MAKERA and KAZIHIRO are the water source sampled.

The use of major and minor chemical elements helped to understand the process of mineralization of the study area waters. This mineralization is probably due to the dissolution and precipitation of the water-bearing rock and exchange databases by chemical weathering.

The major reactions are recognized as responsible of enrichment and depletion of elements in groundwater are the exchange of Ca^{2+}- Mg^{2+}due to the water and rock interaction .

The conductivity is generally high and oscillates between 2020µs / cm and 7345µs / cm. More the water is charged with ions, more it's conductive.

Piper and Schoeller diagrams enabled better identification of facies, the qualitative aspects of groundwater and their evolution. These diagrams allow distinguishing essentially two chemical facies: The calcium and magnesium chlorinated water and the sodium and potassium chlorinated water.

By this study, we found that the water of sampled sources is considered consumables and drinking, except the source Mariba 1 that differ from others and dangerous to the human health

The hydrodynamic environment of saltwater sources of the study area varies from free and confined groundwater.