Hydrogeochemical Investigations and Preliminary Assesments of Geothermal Resources Potential in the Hakkari Region at the Eastern Anatolia Province

[1]*MEHMET NURİ BODUR AND* [2]*HAKAN GÜNDOĞMUŞ*

Hakkari University, Engineering Faculty, Civil Engineering Department, Hakkari-TURKEY
[1]*mehmetnuribodur@hakkari.edu.tr &*
[2]*hakangundogmus@hakkari.edu.tr*

ABSTRACT
The Hakkâri region is located on the Eastern part of Turkey which is formed by the collision and clash of Arabian and Anatolian plates. This province is tectonically active and having the most important structural segments of Turkey. The structural elements are regionally represented by the Bitlis-Zağros Suture Belt (BZSB), Şemdinli-Yüksekova Fault (ŞF-YF) and Başkale Fault (BF) zones which are resulted and affected by geodynamical evolution of this province. In this generation, ophiolite and melange type units which are tectonically located on the otokton units were having different type of rocks. Those are generally observed together with the metamorphic and sedimentary rock assemblages in the Precambrian-Miocene age periods. In the studied areas which are locally exposed in cracks, fissures and fractures at some fault zones especially in the Hakkâri region of the Eastern Anatolia Province, It is carried out to measure some geochemical parameters of these springs water and gas also to investigate with their environmental impacts. It is already known that the environmental gases are chemically formed by the effects of tectonic activities, by the diagenetically evoluation of rocks formation with their internal dynamics. It is also known that those processes also affects the regional ecosystems causing the environmental impacts. In this manner, temporal changes with some geochemical water parameters *(Temperature, pH, Electrical Conductivity, Salt, Redox Potential*, *Total Dissolved Solid* and *Dissolved Oxygen)* and also gas parameters *(H_2S, CO, O_2* and *LEL)* in the water resources with their vicinity araes were periodically determined by using portable multi-parameter and gas measuring devices as in situ. Due to the getting results of this research, so that the further studies will be carried on the laboratory and field works soon possible. This study is supported by Rectorate of Hakkâri University and Unit of Scientific Research Projects with numbered code of **FM18BAP2** project.

Keywords: Eastern Anatolia, Hakkâri, Hydrogeology, Geochemistry, Mineral Waters and Geothermal.