

Brains evolution and evaporate minerals formation in Saghand playa in central Iran, and compare with some saline lake in the world

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Abstract: Saghand playa is located about 150 km northeast of Yazd in central Iran. In order to study brine evolution and effect of brine origin on mineralogical distribution and hydrochemical characteristics of evaporate minerals for exploration, 21 samples were collected from different parts of this playa. The samples were analyzed using the XRD to determine mineralogical characteristics of the brine. Normalized XRF results were led to establish elemental analysis of the samples. Results were compared with data of Great Saline Lake, the Death Valley and the Great Salt pan in North the America. Cation and anion variations in the Saghand playa brine, hydrochemically and physicochemically are similar to the Great Saline Lake the brine type is Na-K-Mg-Cl-SO₄ as alkaline meteoric brine. Mineralogically, halite, gypsum and bazanite are the most frequent evaporite minerals in this playa which suggest higher Concentration in of Saghand playa brine in comparison with the other mentioned playa.

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