

A STUDY ON HYDROGEOCHEMISTRY OF GROUNDWATER IN THE CHAHAR FARSAKH, SOUTH- EAST OF BIRJAND, IRAN

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In order to make an appraisal of the hydrogeochemical specifications of the groundwater in south-east of Birjand, Iran a selection of about 9 water sources including qanat and spring was made in Chahar Farsakh area. Physical parameters such as Total Dissolved Solids (TDS), EC, pH, hardness and major ion concentrations of groundwater samples were taken into consideration. Hydrogeochemical data suggest that the groundwater is mostly Cl-SO₄ type. Aquifer materials varying from limestone to alluvial sediments. In the case of TDS, there is a considerable amount of dissolved ions in the water samples. Total hardness (TH) based on the CaCO₃ of groundwater widely varies from 1445.87 to 259.6 (mg/l). High TDS and TH values of the samples indicate the presence of the saline groundwater system that should be consider as a great health concern in the study area.

Keywords: groundwater, total dissolved solids, Chahar Farsakh