

## Investigation on Natural Pollution Sources to Arsenic in around of Hashtrood City, East Azerbaijan Province

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**Abstract :** Soil and surface and ground waters pollution to arsenic (As) due to its high potential for food cycle entrance, has high risk for human safety. Also, this pollution can cause quality and quantity decreasing of agricultural products or some lesions in farm animals that due to low knowledge, its reason is unknown, but can relate to As pollution. This study was conducted to investigate level of soil and water pollution by As in Hashtrood city. Based on the region's information, the surface and ground waters, soil, river sediments, and rock were sampled and analyzed for physico-chemical and As in lab. There are significant differences for mean contents between As in the samples and crust. The maximum levels of As were observed in fly ash sample. Consequently, As pollution was related to geogenic and volcanic eruptions in this region. These mechanisms are diagnosed as As pollution in the region: As release for the rock units, As sorption by oxide minerals in aerobic and acidic to neutral conditions, desorption from oxide surfaces with pH increasing, increasing of As concentration in solution, and consequently pollution.

**Keywords :** arsenic, flyash, groundwater, soil

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