

## Study of some heavy metal dispersion in soils around Dashkasan village, Ghorveh, Kurdistan Province, Iran

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### Abstract

Dashkasan village is in the southeastern part of Kurdistan Province. The purpose of this study is to determine the contamination of As, Pb, Ni, Zn and Cr by mining activities in the soil of the village of Dashkasan. The results of physicochemical analysis of soil samples showed that the soil pH is in the range of the neutral soils. In terms of cation exchange capacity, it is approximately in average of 15.16 mEq, and the weight percentages of organic matter in the samples are in average of 4.73. Granulometry showed that in general the soils of the region are medium to fine grained and in the range of sand, silt and clay and are often in the range of mud sand. They are poorly sorted and have low content of calcium carbonate. Environmental indicators were used to assess the amounts of soil contamination. The results of the contamination factor in the area of Dashkasan village showed that there is pollution in the most samples. The highest contamination factor is related to the element lead (9.80). The highest enrichment coefficient is related to the element lead (3.47). The results of geo-accumulation index of lead showed that some samples are in the high-contaminated to very high-contaminated group. Biohazard factor and biohazard potential showed that arsenic and lead the range of environmental risk is very high in the samples. In all soil samples collected in the area of Dashkasan village, the pollution load is higher than 1, which indicates that the study area has been affected by abnormal concentrations. On the basis of anthropogenic factor, the highest contamination is related to Pb.

**Keywords:** Heavy metals, Geochemistry, Soil contamination, Dashkasan (SariGunai).