Dust fallout in Kuwait city: Deposition and characterization

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Dust fallouts in Kuwait city was monitored on monthly basis during the period from March 2011 to February 2012 at 10 locations. The results of this study reveal that monthly dust deposition rates ranged from 0.002 to 0.32 kg/m² with average deposition rate of 0.053 kg/m² and annual average deposition rate of 0.59 kg/m², ranking the first out of 56 dust deposition rates observed throughout the world. On average, about 55.9% of the settled dusts have fine to very fine sand fraction sizes, while silt and clay comprise an average of 37.4 and 1.4% of the total sample, respectively. The concentrations for Zn and Mo out of 15 other elements analyzed from the dust were up to 11 times higher than their soil background values in Kuwait, while Pb and Ni were about seven times higher. Mo, Ni, Pb and Zn show maximum enrichment relative to the upper continental crustal component (Mn). Sr, Zr and Zn show highest concretions among all collected samples and quartz and calcite were the dominant minerals in the dust samples. The distribution of the heavy metals in dust seems to be controlled mainly by the land uses and the volume of traffic emissions.

Biography
Arafat A Al Shuaibi is an Assistant Professor at Kuwait University, Kuwait. He is awarded PhD in Geosciences, Stratigraphy/Micropaleontology from University of Texas at Dallas, USA, in 2006. He holds MSc in Geology/Recent benthic Foraminifera and BSc in Geology from Kuwait University. His current research interest is focused towards the study of the Upper Cretaceous planktonic Foraminifera of the Austin Chalk in Texas.