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Determination of fluoride source in ground water using petrographic studies in Dashtestan area, south of Iran

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The groundwater occurs in Dashtestan area, contains a high level of fluoride. Since groundwater is vastly used for drinking and irrigation purposes, the local residents are at high risk of fluoride toxicity, as already evidenced by the occurrence of dental Fluorosis in many residents. 35 surface and groundwater samples were collected in September, 2009. The results show that in 23 samples the fluoride concentration is above the permissible level (1.5ppm). Petrographic study of lithological units in the catchment area indicates that mica minerals are the most probable source of fluoride content in the study area.