Abstract

New data are presented on 238U concentrations in surface and ground waters sampled at selected uranium mining sites in Kazakhstan and Kyrgyzstan and in water supplies of settlements located in the vicinity of these sites. Radiochemical neutron activation analysis (RNAA) was used for 238U determination in all cases. In addition, for data accuracy assessments purposes, a sub-set of these samples was analysed by high-resolution alpha spectrometry, following standard radiochemical separation and purification. Our data show that drinking waters sampled at various settlements located close to the uranium mining sites are characterised by relatively low uranium concentrations (1.9–35.9 μg L−1) compared to surface waters sampled within the same sites. The latter show high concentrations of total uranium, reflecting the influence from the radioactive waste generated as a result of uranium ore production.