

# Uranium partitioning during water treatment processes.

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Uranium concentrations and their variations during drinking water treatment processes from public water supply station were studied. The station derives its water from underground sources through 18 drilled wells, 500-600 m depth, in a circle of 10 km<sup>2</sup> area and produce 10x10<sup>3</sup> m<sup>3</sup>/d. Water samples were collected from different treatment processes (input, output, after filtration, sludge tank, reverse osmosis permit and reject, and waste water bond). Sand filter samples and soil samples from the surrounding region were collected. Uranium concentration in the collected samples were measured using ICP-MS. Uranium concentrations in water samples show a wide range of variation from 0.06 to 35 ppb and leachable uranium concentration in soil samples ranged from 0.3 to 0.7 ppm. The chemical properties of water and chemical and physical properties of sand and soil samples were determined. The effect of water treatment steps on uranium concentration; dose assessment due to water drinking (before and after treatment) and the radio-ecological assessment were discussed.