

Arsenic contamination of groundwater in the Yumigahama Sandbar, Western Tottori, Japan.

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Detectable levels of arsenic (0.01-0.2mg/L) have recently been reported in groundwater from several sites in the Yumigahama Peninsula. These observations appear to be associated with soluble forms of iron (from 0.1 mg/L to over 5 mg/L). The present study aims to investigate the occurrence and distribution of arsenic and other heavy metals in groundwater in the area. Analyses of groundwater for As, Fe, Cu, Cd, and Zn are being carried out using Atomic Absorption Spectrophotometry (AAS). Soil samples collected from the area will also be analysed for trace elements by X-ray Fluorescence (XRF), and subjected to elution tests for As and Fe by AAS. Groundwater in Yumigahama Peninsula has been caught from the sandy unconfined aquifer by shallow wells. Because this water resource is extensively used for cultivation, it is very important to assess groundwater quality. After the completion of the water and soil analyses, the results are expected to define the relationship between the metals mentioned above and arsenic, as well as to understand the redox conditions that control their occurrence in the groundwater.