Investigation on the presence of excessive arsenic and fluoride in well-water in Kg. Sekolah, Ulu Kepong

Chow Weng Sum
Geological Survey Malaysia, Jalan Gurney, Kuala Lumpur

Some residents in Kg. Sekolah, Ulu Kepong were found to have mottled teeth and subsequent analyses of well water in the area showed the presence of excessive arsenic and fluoride in some wells.

Analyses of river water and drain water, including effluents from some factories and the sewage exidation pond nearby indicated that it was not possible to identify any likely source of contamination by surface runoff.

Chemical analyses carried out in the soil showed a remarkable correlationship between the total and adhered arsenic and fluoride contents of the soil and the content of arsenic and fluoride in the groundwater. Semi quantitative mineral examination of heavy concentrates in the soil showed the presence of excessive fluorite and limonite in some places.

Leaching from the fluorite as well as that of the fluoride-enriched soil leads to excessive fluoride in the groundwater. High total and adhered arsenic content in the soil could result from the breakdown of pyrites and arsenopyrites in the soil. Leaching from the pyrites and arsenopyrites as well as from the arsenic-enriched soil could lead to the presence of excessive arsenic in the groundwater. The breakdown of pyrites and arsenopyrites results in the formation of secondary minerals like limonite and scorodite in the soil.

******

Warta Geologi (Newsletter of the Geological Society of Malaysia), Vol. 12, No. 2, March-April 1986