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Title: Natural radioactivity in the scale of water well pipes

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Abstract: The natural radioactivity of Ra-226 and Ra-228 in scale samples taken from pipes used in 2 several local water wells,vas investigated. The results showed Ra-226 activities to be varying from 1284 to 3613 Bq/kg whereas. the Ra-228 concentrations did not show any significant variation, all being low, below 30 Bq/kg. The Rn-222 exhalations from these scale samples were also measured and compared with the Ra-226 contents. The average ratio of Rn-222/Ra-226 was 31%. Chemical analyses showed that the main constituent of the scale samples was iron. The radiation dose rates from the pipes and scale were up to 100 nSv/h. Although not a major hazard this could present a long-term risk if the scale materials were handled indiscriminately.