



## Characterising Radon Emanations from Radium-Dial Watches

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Research during the latter half of 2011 has indicated that in addition to the hazard arising from the radium content of radium-dial watches, significant radon concentrations that exceed the UK Domestic and Workplace Action Levels of 200 Bq/m<sup>3</sup> and 400 Bq/m<sup>3</sup>, respectively, can arise from watches stored in the built environment (1). In an extension to that earlier research, the radon emanations from the watches are being investigated in order to evaluate the radon hazard and the effective radium content of the watches. These radon measurements are made by placing the watches in a sealed chamber in a closed loop with a DurrIDGE RAD7. We report here preliminary results from this ongoing investigation which suggest that radon emanation is not necessarily a straightforward function of radium content, as anticipated, but also depends on chamber temperature and humidity impacting upon watch-dependent factors such as design, construction, materials and wear-and-tear.

### Reference.

1. Gillmore G K, Crockett R G M, Denman A R, Flowers A, Harris R; Radium dial watches, a potentially hazardous legacy? *Environment International*. 45, 91–98. 2012. doi:10.1016/j.envint.2012.03.013.