

Verification of ^{137}Cs determination in seawater using Cu-hexacyanoferrates filters

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Abstract. A rapid method to determine ^{137}Cs in seawater using Cu-hexacyanoferrates ion exchanger has been developed and verified for purpose of Thailand routine and emergency environmental radiation monitoring. The Cu-hexacyanoferrate supported cotton-wound cartridge filters were used to absorb ^{137}Cs from spiked synthesis seawater by passing various large volumes i.e. 200 L, 300 L and 400 L over the filters with slow flow rate at 240 L/hr. The filter samples were converted to ash through a heating step and directly measured with gamma ray analysis using HPGe detector. The result showed acceptable accuracy with bias below $\pm 25\%$, in the range from - 24.63% to + 3.29%. This developed method is cost-effective and easily to performed in sampling fields and can be optimised its accuracy with analysis time when it needed.