

Supplimentary Information for

**Cesium adsorption/desorption behavior of clay minerals considering
actual contamination conditions in Fukushima**

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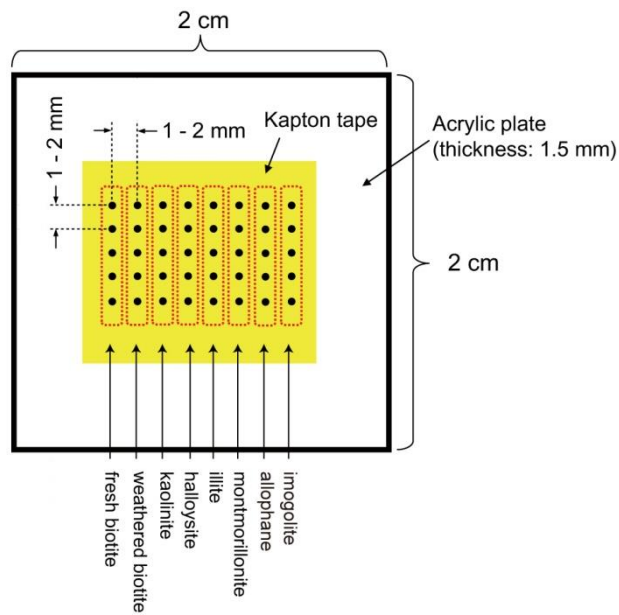


Figure S1. A design for the substrate on which fine mineral particles are located with double-stick Kapton tape and a vacuum tweezers on a micromanipulator.

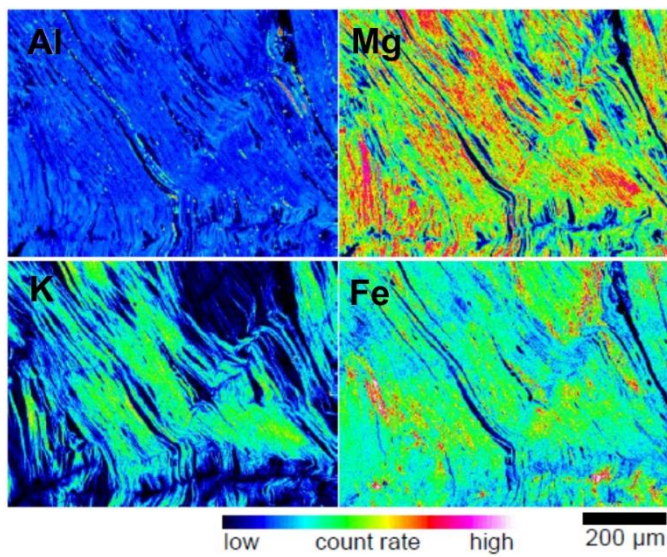


Figure S2. Chemical map of Al., Mg, K and Fe from a petrographic thin section of weathered biotite (WB) obtained using an electron-probe microanalyzer.

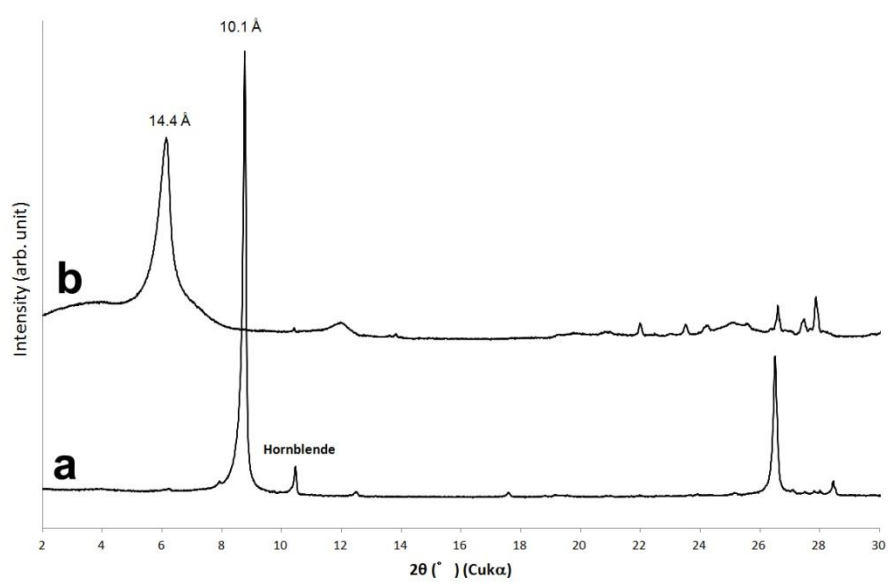


Figure S3. X-ray diffraction patterns from (a) fresh biotite (FB) and (b) weathered biotite (WB) used in the experiments.

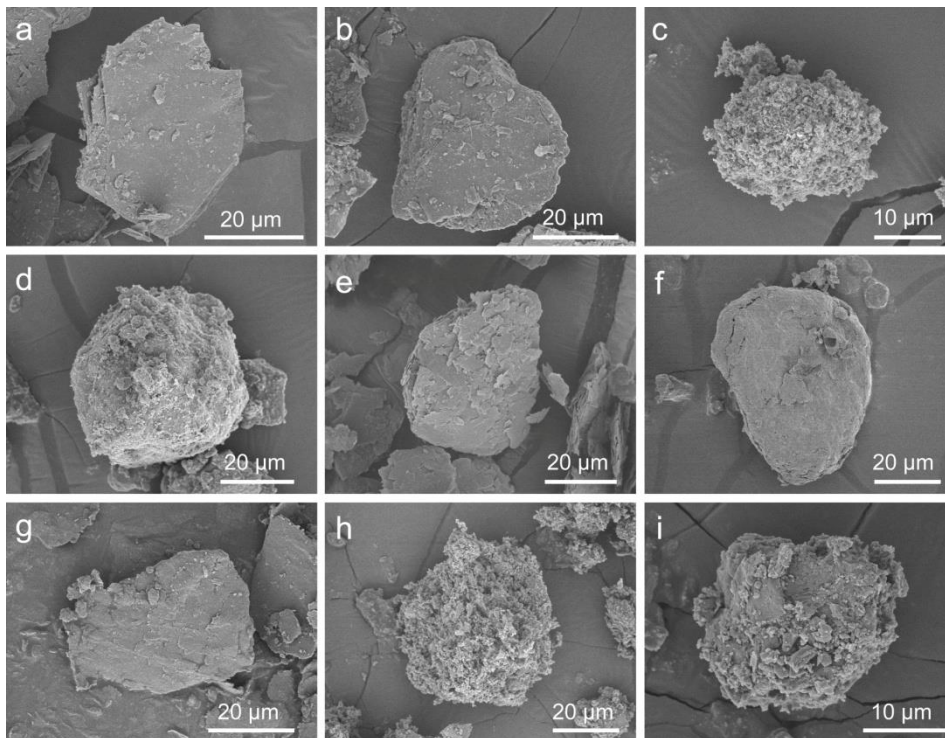


Figure S4. Morphologies of the mineral particles; (a) fresh biotite, (b) weathered biotite, (c) kaolinite, (d) halloysite, (e) illite, (f) montmorillonite, (g) Swa-1, (h) allophane, (i) imogolite. The images were taken using a Hitachi S-4500 scanning electron microscope with a field-emission gun operated at 5kV.

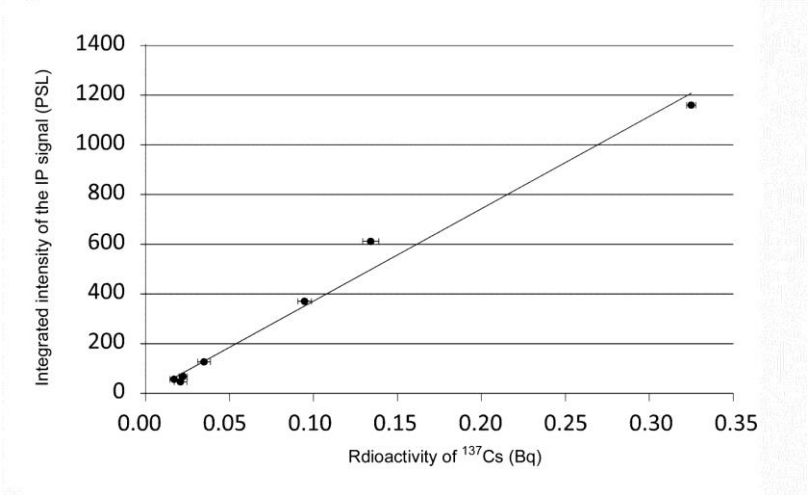


Figure S5. Correlation between radioactivity of ¹³⁷Cs in fine mineral particles less than 50 μm in size measured using a germanium radiation spectrometer and integrated IP signal intensities inside the spotty images formed by the radiation from the particles on the IP.