How recently did fluid flow occur on caarbonaceous chondrites?

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What is the true Th/U ratio of the solar system and what was the timing of the last alteration of fragments carbonaceous chondrites? It is well documented that carbonaceous chondritic meteorites, particularly the CI, CM and CR subtypes, are aqueously altered and that the timing of this alteration was a few Ma after CAI (calcium-aluminium rich inclusion) formation in the early solar system. Thus, this must have occurred on the parent body. However, for some CI's, CM's and CR's, it has never been shown that aqueous alteration really ever ceased and the fluid-mobile nature of U means that this most certainly affected U/Th ratios. Some of these meteorites have cosmic-exposure ages of 200 kyr or less which fortuitously lies within the accessible time range of U-series disequilibria (especially ^{238}U-^{234}U-^{230}Th). Thus, we have undertaken bulk U-Th isotope determinations on a wide range of carbonaceous chondrites. What is striking is that the ^{238}U-^{234}U system (half life = 245 kyr) shows marked disequilibria with (^{238}U/^{234}U) up to 1.17 and many have excess ^{238}U over ^{230}Th. Measurements of ^{149}Sm/^{150}Sm using 10^{13} Ohm resistors on a Thermo Fisher plus Triton in the Macquarie University – Thermo Fisher Isotope Development Laboratory seem to preclude that the disequilibria reflect neutron capture. Rather, the data imply that ice thawing and fluid flow occurred during the impacts that dislodged these carbonaceous chondrites from their parent bodies.