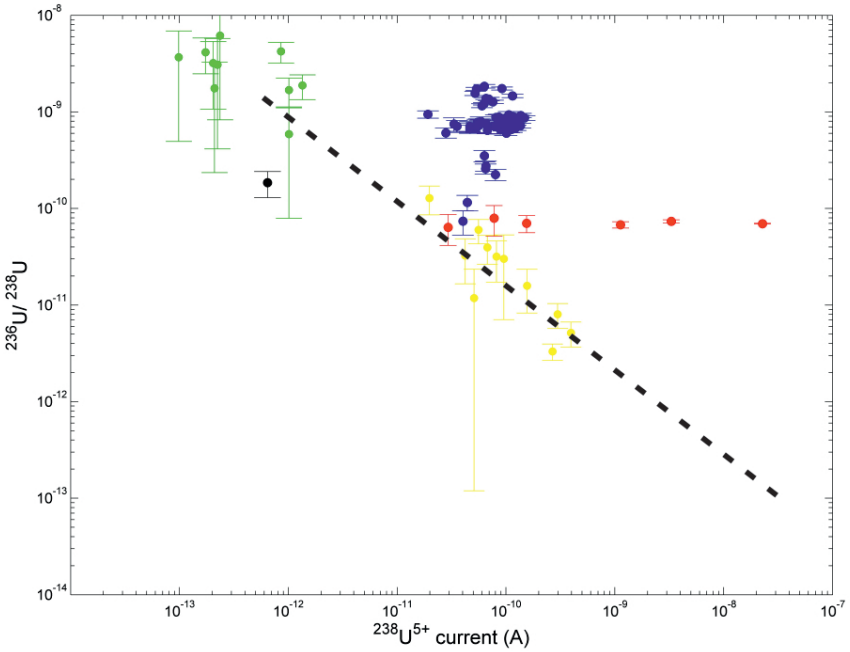

Supplementary Figure 3: The detection limit for ^{236}U. The graph shows the $^{236}U/^{238}U$ ratios (not correted for blank) vs the $^{238}U^{5+}$ current which relates linearly to the sputter sample U content. There are 5 groups: 1) Iron oxide carrier (black) 2) The procedural blanks (green), 3) the pre-nuclear samples (yellow), 4) the nuclear age samples (blue) making up our ^{236}U pulse in the coral core, 4) and a dilution series (uranium oxide vs iron oxide matrix) of our Vienna-KkU standard (red). The procedural blanks did pick up 30–100 ng total in U during chemistry and yielded 2–11 counts each over several hours of measurement. The pre-nuclear age samples were our best available real chemistry blank. As can be seen the isotope ratio decreases linearly (dashed black line) with processed mass of sample U, with the same total amounts of ^{236}U contamination picked up as for the procedural blanks. Therefore we can conclude that the contamination is a relatively constant contribution, and that the lowest measured ratio still corresponds to an upper limit. An improved limit could be expected if the sample mass was increased further. The dilution series of the Vienna-KkU standard spans from pure uranium oxide to 1µg uranium oxide per 1mg iron oxide. These dilution samples were prepared by one co-precipitation step only rather than full chemistry. Therefore the lowest level dilution sample is not affected by the chemistry blank levels.