Depleted uranium screen (^{238}U, ^{236}U, ^{235}U, ^{234}U)

Solids

Solids are dissolved using a mixture of mineral acids.

Uranium in the sample solution is isolated by anion exchange chromatography followed by extraction chromatography. The purified fraction is split into two: one part is processed for measurement by alpha spectrometry; the other part is analysed by inductively coupled plasma mass spectrometry (ICPMS) to determine uranium isotope ratios. The uranium-238 alpha spectrometry measurements; the other uranium isotopes are determined from the ICP-MS isotope ratio measurements relative to uranium-238. Uranium-232 is used as the chemical yield tracer and as a result it is assumed that there is a negligible amount of uranium-232 present in the sample.