

## List of Detected Gamma-Ray Emitting Radionuclides Other than Cs-134 and Cs-137 (FY2013)

As part of the FY2013 Radioactive Material Monitoring in the Water Environment conducted by the Ministry of the Environment, measurement data obtained for water, sediments and the surrounding environment (soil) using a germanium semiconductor detector were analyzed in order to compile data for accident-derived radionuclides other than Cs-134 and Cs-137 (I-131, Ag-110m, Te-129, Te-129m, Nb-95, Sb-125, Ce-144, etc.) and major naturally occurring radionuclides (K-40, etc.).

As a result of the analysis of 3,860 water samples, 3,062 sediment samples, and 4,478 soil samples (collected in the surrounding environment), an artificial radionuclide other than Cs-134 and Cs-137 was detected as shown in the following table.

Naturally occurring radionuclides were detected as follows. Potassium-40 was detected in water samples (in approx. 13% of the total); lead-212 (49% (id.)), lead-214 (23% (id.)), thallium-208 (23% (id.)), actinium (25% (id.)), and potassium-40 (91% (id.)) were detected in sediment samples; and lead-212 (33% (id.)), thallium-208 (11% (id.)), actinium-228 (14% (id.)), and potassium-40 (97% (id.)) were detected in soil samples (collected in the surrounding environment).

### Surrounding environment (soil)

Prefecture	Property	Water area	Location	Sampling date	Radionuclide	Activity concentrations (Bq/kg)	+/- errors (Bq/kg)	Detection limit (Bq/kg)
Fukushima	River	Maeda River	West side of National Route No. 6 (right side)	Aug. 27 2013	Ag-110m	1.36E+02	1.69E+01	4.37E+01