

Fukushima Daiichi Nuclear Power Station: Uranium analysis result in the soil

1. Analysis result

(Unit: Bq/kg·dry soil)

Sampling spot ():Distance from the stack of Unit 1, 2	Sampling date/Analyzed organization	U-234	U-235	U-238
Playground (west-northwest approx. 500m)	June 13 Japan Chemical Analysis Center	12.0±0.7	0.52±0.072	13±0.7
Near the industrial waste disposal plant (south-southwest approx. 500m)		6±0.4	0.28±0.069	6.7±0.44
Adjacent to industrial waste disposal facility (south-southwest approx. 500m)		5.6±0.34	0.2±0.051	5.2±0.33
Natural Uranium specific radioactivity (Bq/g)		1.2×10^4	5.7×10^2	1.2×10^4
Natural Uranium abundance ratio (wt%)		0.0054	0.72	99.3

2. Evaluation

Uranium detected for this analysis is valued as the same level as in the natural condition for the following reasons.

- Radioactive densities of U-234 and U-238 are same in the sampling , and , where Uranium in nature forms radioactive balance (same radioactivity density between U-234 and U-238).

- U-235 abundance ratio of the sampling , and are almost same as the natural U-235 abundance ratio, which is $U-235/U-238 = 0.0073$.

U-235 of the sampling : $6.5 \times 10^{-6}g$ (0.52Bq/kg Dry soil)

U-238 of the sampling : $1.0 \times 10^{-3}g$ (13Bq/kg Dry soil)

$U-235/U-238=0.0062^*$

U-235 of the sampling : $3.5 \times 10^{-6}g$ (0.28Bq/kg Dry soil)

U-238 of the sampling : $5.4 \times 10^{-4}g$ (6.7Bq/kg Dry soil)

$U-235/U-238=0.0065^*$

U-235 of the sampling : $2.5 \times 10^{-6}g$ (0.2Bq/kg Dry soil)

U-238 of the sampling : $4.2 \times 10^{-4}g$ (5.2Bq/kg Dry soil)

$U-235/U-238=0.006^*$

* The above values may not match the calculation due to the rounding off.

END