

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	Date of sampling/ Analyses organization	U-234	U-235	U-238
Playground (west-northwest approx. 500m)	April 4/ Japan Chemical Analysis Center	7.2 ± 0.39	0.32 ± 0.069	8.2 ± 0.43
Playground (west-northwest approx. 500m)	April 11/ Japan Chemical Analysis Center	8.0 ± 0.45	0.35 ± 0.075	7.4 ± 0.42
Forest of wild birds (west approx. 500m)		7.5 ± 0.44	0.43 ± 0.090	6.7 ± 0.41
Adjacent to industrial waste disposal facility (south-southwest approx. 500m)		3.9 ± 0.29	N.D.	3.9 ± 0.29
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. Valuation

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

- Radioactive densities of U-234 and U-238 are same in all the samples, where Uranium in nature forms radioactive balance (same density between U-234 and U-238).
- U-235 abundance ratio is almost same as the natural U-235 abundance ratio, which is $U-235/U-238 = 0.0073$.

• April 4th

U-235 abundance ratio of sample : $4.0 \times 10^{-6}g(0.32Bq/kg \text{ Dry soil})$

U-238 abundance ratio of sample : $6.6 \times 10^{-4}g(8.2Bq/kg \text{ Dry soil})$

$U-235/U-238=0.0061 \quad 0.0073$

• April 11th

U-235 abundance ratio of sample : 4.4×10^{-6} g(0.35Bq/kg Dry soil)

U-238 abundance ratio of sample : 6.0×10^{-4} g(7.4Bq/kg Dry soil)

U-235/U-238=0.0080 0.0073

U-235 abundance ratio of sample : 5.4×10^{-6} g(0.43Bq/kg Dry soil)

U-238 abundance ratio of sample : 5.4×10^{-4} g(6.7Bq/kg Dry soil)

U-235/U-238=0.0099 0.0073

End