

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 )	March 28/ Japan Chemical Analysis Center	$12 \pm 0.6$	$0.50 \pm 0.086$	$12 \pm 0.6$
Adjacent to industrial waste disposal facility ( south-southwest approx. 500m )		$4.4 \pm 0.27$	$0.23 \pm 0.057$	$4.3 \pm 0.27$
Natural Uranium specific radioactivity (Bq/g)		$1.2 \times 10^4$	$5.7 \times 10^2$	$1.2 \times 10^4$
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 the sample and the sample , 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  $U-235/U-238 = 0.0073$ .

U-235 abundance ratio of sample :  $6.2 \times 10^{-6}g(0.5Bq/kg \text{ Dry soil})$

U-238 abundance ratio of sample :  $9.6 \times 10^{-4}g(12Bq/kg \text{ Dry soil})$

$U-235/U-238=0.0064 \quad 0.0073$

U-235 abundance ratio of sample :  $2.9 \times 10^{-6}g(0.23Bq/kg \text{ Dry soil})$

U-238 abundance ratio of sample :  $3.5 \times 10^{-4}g(4.3Bq/kg \text{ Dry soil})$

$U-235/U-238=0.0084 \quad 0.0072$

End