

OResults of Radioactive Material Monitoring of Aquatic Organisms (Location D along the Mano River)

<Location D along the Mano River: Samples collected>

Items Locations	General items		Radioactive materials			
	Water	Sediment	Water (Cs)	Water (Sr)	Sediment (Cs)	Sediment (Sr)
D-4 a	○	○	○	○	○	○

<Location D along the Mano River: Site measurement item>

Items Locations	Latitude and longitude of the location		Survey date and time			Water	Sediment				Other	
	Latitude	Longitude	Date	Time (water)	Time (sediment)	Water temperature (degrees C)	Sediment temperature (degrees C)	Property	Color	Contaminants	Water depth (m)	Transparency (cm)
D-4 a	37.7308°	140.9081°	2018/12/6	08:58	09:15	10.0	9.3	Sand	2.5Y4/3	None	0.40	>50

<Location D along the Mano River: General survey items/Analysis of radioactive materials` Water>

Items Locations	Latitude and longitude of the location		Survey date and time		pH	BOD	COD	DO	Electric conductivity	Salinity	TOC	SS	Turbidity	Cs-134	Cs-137	Sr-90
	Latitude	Longitude	Date	Time (water)		(mg/L)	(mg/L)	(mg/L)	(mS/m)		(mg/L)	(mg/L)	(FNU)	(Bq/L)	(Bq/L)	(Bq/L)
D-4 a	37.7308°	140.9081°	2018/12/6	08:58	7.0	<0.5	2.0	11.1	9.4	0.05	0.9	<1	0.5	N.D.(0.0013)	0.014	0.00097

Note) N.D. means to be below the detection limit and figures in parentheses show the detection limit.

<Location D along the Mano River: General survey items/Analysis of radioactive materials` Sediment>

Items Locations	Latitude and longitude of the location		Survey date and time		pH	Redox potential E <sub>SHE</sub> (mV)	Water content (%)	IL (%)	TOC (mg/g-dry)	Soil particle density (g/cm <sup>3</sup> )	Grain size distribution								Cs-134 (Bq/kg-dry)	Cs-137 (Bq/kg-dry)	Sr-90 (Bq/kg-dry)
	Latitude	Longitude	Date	Time (sediment)							Gravel (2-75mm) (%)	Coarse sand (0.85-2mm) (%)	Medium sand (0.25-0.85mm) (%)	Fine sand (0.075-0.25mm) (%)	Silt (0.005-0.075mm) (%)	Clay (Less than 0.005mm) (%)	Median grain diameter (mm)	Maximum grain diameter (mm)			
D-4 a	37.7308°	140.9081°	2018/12/6	09:15	7.6	286	18.0	1.8	2.4	2.711	23.8	35.1	35.5	4.1	1.5		1.1	9.5	27	330	0.84

Note) N.D. means to be below the detection limit and figures in parentheses show the detection limit.

<Location D along the Mano River: Analysis items` Aquatic organisms>

Locations	Sampling point	Latitude and longitude of the location		Sampling date	Division	Class	Order	Family	Scientific name	English name	Population	Sample weight (kg-wet)	Note			Radioactive cesium (Bq/kg-wet)			Sr-90 (Bq/kg-wet)
		Latitude	Longitude										Growth stage	Stomach contents	Measurement site	Total	Cs-134	Cs-137	
D-4 b	The main stream of the Mano River	37.7312°	140.9096°	2018/12/4	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.011	-	-	-	110	N.D.(16)	110	-
					Arthropoda	Insecta	Ephemeroptera	Isonymiidae	<i>Isonymchia valida</i>	Isonymchia valida	136	0.0041	Larva	-	-	15	N.D.(6.8)	15	-
					Arthropoda	Insecta	Ephemeroptera	Ephemeridae	<i>Ephemeria strigata</i>	Mont mayfly	321	0.017	Larva	-	-	61.8	4.8	57	-
					Arthropoda	Insecta	Plecoptera	Perlidae	<i>Kamimura tibialis</i>	<u>Kamimura tibialis</u>	128	0.0091	Larva	-	-	N.D.	N.D.(3.5)	N.D.(3.4)	-
					Arthropoda	Insecta	Plecoptera	Perlidae	<i>Neoperla sp.</i>	Neoperla									
					Arthropoda	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	Stenopsyche marmorata	106	0.022	Larva	-	-	35	N.D.(2.8)	35	-
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Sieboldius albardae</i>	Sieboldius albardae	242	0.028	Larva(Dragonfly larva)	-	-	12	N.D.(1.8)	12	-
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Davidius sp.</i>	<u>Davidius</u>									
					Arthropoda	Insecta	Odonata	Aeshnidae	<i>Boyeria maclachlani</i>	Boyeria maclachlani									
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Lepomis macrochirus</i>	Bluegill	6	0.0045	Immature fish	-	-	16	N.D.(7.3)	16	-

\*1: Organisms were collected in or around the targeted water areas.

\*2: When multiple types of aquatic organisms were collected, a sample was prepared by mixing them.

\*3: For a sample made of multiple types of aquatic organisms, the English name of the dominant one largest in number is underlined.

\*4: Basically, measurement was conducted for all organism samples. Viscera (stomach and bowels) were removed for the measurement when possible so that undigested food and sediments, etc. in the digestive system would be excluded.

\*5: Plankton (suspended algae) is the residue remaining after the filtration of lake water or seawater with a plankton net (40µm-mesh).

\*6: River bottom materials (incl. algae) are algae, etc. that were scratched off stones with a brush, etc. and may include very fine particles such as inorganic silt and clay.

\*7: N.D. means to be below the detection limit and figures in parentheses show the detection limit.

\*8: Activity concentrations include counting errors, but the details are omitted here.