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

＜Location D along the Mano River: Samples collected＞

Items	General items		Radioactive materials			
Locations	Water	Sediment	Water (Cs)	Water (Sr)	Sediment (Cs)	Sediment (Sr)
D-1	○	○	○	○	○	○
D-2	○	○	○	—	○	—
D-3	○	○	○	—	○	—
D-4a	○	○	○	—	○	—
D-4b	○	—	○	—	—	—
D-5	○	○	○	—	○	—

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

Items	Latitude and longitude of the location		Survey date and time			Water	Sediment				Other	
Locations	Latitude	Longitude	Date	Time (water)	Time (sediment)	Water temperature (degrees C)	Sediment temperature (degrees C)	Property	Color	Contaminants	Water depth (m)	Transparency (cm)
D-1	37.73315°	140.92535°	2014/9/3	10:53	11:10	19.7	19.8	Sand	2.5Y4/2	Pebbles	0.61	>50.0
D-2	37.70985°	140.95650°		13:03	13:18	20.7	20.8	Sand	2.5Y4/2	Pebbles, plant	0.60	>50.0
D-3	37.70502°	140.96213°		13:54	14:12	20.8	20.7	Sand	2.5Y4/4	Pebbles	0.71	>50.0
D-4a	37.73088°	140.90813°		8:55	9:12	18.9	19.2	Sand	2.5Y3/3	Plant	0.77	>50.0
D-4b	37.73157°	140.90930°		10:00	—	19.1	—	—	—	—	0.66	>50.0
D-5	37.72168°	140.88980°		7:50	8:10	18.9	18.9	Sand	2.5Y4/2	Some plant fragments	0.91	>50.0

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

Items	Latitude and longitude of the location		Survey date and time		pH	BOD	COD	DO	Electrical conductivity	Salinity	TOC	SS	Turbidity	Cs-134	Cs-137	Sr-90
Locations	Latitude	Longitude	Date	Time		(mg/L)	(mg/L)	(mg/L)	(mS/m)		(mg/L)	(mg/L)	(FNU)	(Bq/L)	(Bq/L)	(Bq/L)
D-1	37.73315°	140.92535°	2014/9/3	10:53	7.1	<0.5	3.3	10.4	8.7	0.05	1.5	1	1.3	0.025	0.066	0.0014
D-2	37.70985°	140.95650°		13:03	7.3	<0.5	3.2	9.7	8.9	0.05	1.5	3	1.7	0.020	0.055	—
D-3	37.70502°	140.96213°		13:54	7.2	<0.5	3.2	9.7	9.6	0.05	1.3	2	1.4	0.017	0.046	—
D-4a	37.73088°	140.90813°		8:55	7.3	0.6	3.3	9.5	8.0	0.05	1.6	1	1.4	0.021	0.061	—
D-4b	37.73157°	140.90930°		10:00	7.4	<0.5	2.6	9.5	7.7	0.04	1.5	2	1.1	0.027	0.078	—
D-5	37.72168°	140.88980°		7:50	7.4	<0.5	2.8	9.6	7.2	0.04	1.5	1	1.2	0.026	0.075	—

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

Items	Latitude and longitude of the location		Survey date and time		pH	Redox potential	Water content	IL	TOC	Soil particle density	Grain size distribution						Median grain diameter	Maximum grain diameter	Cs-134	Cs-137	Sr-90
											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)					
Locations	Latitude	Longitude	Date	Time		$E_{N.H.E}$ (mV)	(%)	(%)	(mg/g-dry)	(g/cm3)	(%)	(%)	(%)	(%)	(%)	(%)	(mm)	(mm)	(Bq/kg-dry)	(Bq/kg-dry)	(Bq/kg-dry)
D-1	37.73315°	140.92535°	2014/9/3	11:10	7.1	334	15.3	1.7	2.5	2.702	69.0	19.7	7.7	2.8	0.4	0.4	2.8	9.5	290	810	1.5
D-2	37.70985°	140.95650°		13:18	7.1	339	15.8	1.4	2.1	2.698	58.3	28.6	11.4	1.0	0.3	0.4	2.4	9.5	120	360	—
D-3	37.70502°	140.96213°		14:12	7.2	346	22.1	1.6	1.6	2.695	7.5	11.8	72.0	6.7	1.2	0.8	0.53	9.5	24	69	—
D-4a	37.73088°	140.90813°		9:12	7.1	356	20.2	2.0	2.8	2.725	27.7	28.1	32.3	9.3	1.3	1.3	1.0	9.5	450	1,300	—
D-5	37.72168°	140.88980°		8:10	7.4	364	23.2	2.0	2.2	2.704	25.5	41.7	28.9	2.2	0.7	1.0	1.2	9.5	280	870	—

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＞

Location		Latitude and longitude of the location		Sampling Date	Division	Class	Order	Family	Species name	English name	Population	Sample weight (kg-wet)	Note			Cs-134	Cs-137	Sr-90
		Latitude	Longitude										Growth stage	Stomach contents	Measurement site	(Bq/kg-wet)	(Bq/kg-wet)	(Bq/kg-wet)
D-4a D-4b	—	37.73088° 37.73157°	140.90813° 140.90930°	2014/8/30	Algae/plant	—	—	—	—	River bottom materials (incl. algae)	Considerable number	0.046	—	—	—	100	290	—
					Angiospermae	Monocotyledoneae	Najadales	Potamogetonacea	*Potamogeton berchtoldii*	Small pondweed	Considerable number	0.45	—	—	—	2.8	10	—
					Arthropod	Insecta	Trichoptera	Stenopsychidae	*Stenopsyche marmorata*	Stenopsyche marmorata	258	0.036	Larva	—	—	49	140	—
					Arthropod	Insecta	Odonata	Corduliidae	*Macromia amphigena*	Macromia amphigena	465	0.044	Larva (dragonfly larva)	—	—	10	27	—
					Arthropod	Insecta	Odonata	Cordulegastridae	*Anotogaster sieboldii*	Anotogester sieboldii								
					Arthropod	Insecta	Odonata	Gomphidae	*Davidius nanus*	Davidius nanus								
					Arthropod	Insecta	Odonata	Gomphidae	*Davidius sp.*	Davidius								
					Arthropod	Insecta	Odonata	Gomphidae	*Nihonogomphus viridis*	Nihonogomphus viridis								
					Arthropod	Insecta	Odonata	Gomphidae	*Onychogomphus viridicostus*	Onychogomphus viridicostus								
					Arthropod	Insecta	Odonata	Gomphidae	*Sieboldius albardae*	albardae								
					Arthropod	Insecta	Odonata	Libellulidae	*Orthetrum albistylum*	Common skimmer								
					Arthropod	Insecta	Odonata	Aeshnidae	*Anax parthenope julius*	Anax parthenope								
					Arthropod	Insecta	Megaloptera	Corydalidae	*Protohermes grandis*	Protohermes grandis	242	0.13	Larva	—	—	9.4	27	—
					Arthropoda	Malacostraca	Decapoda	Atyidae	*Paratya improvisa*	Freshwater shrimp	733	0.082	Imago	—	—	22	55	—
					Mollusca	Gastropoda	Sorbeoconcha	Pleuroceridae	*Semisulcospira libertina*	Semisulcospira libertina	22	0.055	Imago	—	Molluscan body	38	100	—
					Vertebrata	Osteichthyes	Osmeriformes	Osmeridae	*Plecoglossus altivelis*	Sweetfish	4	0.034	Immature fish	Some (details unknown)	Viscera removed	15	38	—
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	*Rhinogobius sp.*	R. sp. CB	20	0.033	Mature fish	—	—	24	70	—
					Vertebrata	Amphibia	Anura	Rana	*Rana catesbeiana*	American Bullfrog	1	0.030	Imago	—	—	32	81	—
					Coarse particulate organic matters (CPOMs)	—	—	—	—	Fallen leaves	Considerable number	0.67	—	—	—	96	290	—
				2014/9/14	Coarse particulate organic matters (CPOMs)	—	—	—	—	Fallen leaves	Considerable number	0.26	—	—	—	77	240	—

*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 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: A statement in red in the "Growth stage" column shows the age assessed based on squama or otolith

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

*7: 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.

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

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