

FY2014 Tokyo Metropolis Survey Results

[Survey Results]

(1) Water

Rivers

Radioactive cesium (Cs-134, Cs-137): Not detectable at any location

Coastal areas

Radioactive cesium (Cs-134, Cs-137): Not detectable at any location

(2) Sediments

Rivers

Cs-134: 21 - 110 Bq/kg (dry)

Cs-137: 75 - 320 Bq/kg (dry)

Coastal areas

Cs-134: ND - 150 Bq/kg (dry)

Cs-137: 6.3 - 480 Bq/kg (dry)

(3) Surrounding Environment

(a) Soil

Rivers

Cs-134: 84 - 240 Bq/kg (dry)

Cs-137: 28 - 750 Bq/kg (dry)

(b) Ambient dose rate

Rivers

0.04 - 0.11 μ Sv/h

Tokyo River (Water) 1/1

R i v e r s	Location				Sampling Date	Weather	Air temperature (°C)	Water depth (m)	Water										Remarks	
	No.	Water area	Location	Municipality					General items						Activity concentration(Bq/L)					
									Water temperature (°C)	Sampling depth (m)	Color	Odor	Transparency (cm)	Electrical conductivity (nS/m)	SS (mg/L)	Turbidity (FNU)	Radioactive cesium			
																	Cs-134	Cs-137		
50	Arakawa River System	Arakawa River Lower Reaches	Kasai Bridge	Koto City/Edogawa City	2014/5/22	Cloudy	19.7	1.2	21.5	0.0	Grayish yellow	Faint sewage	22	532.0	30	13	<0.56 ±	0.11	<0.58 ±	0.096
					2014/8/22	Sunny	29.6	1.8	29.1	0.0	Grayish yellow	Faint sewage	30	808.0	14	6.5	<0.61 ±	0.13	<0.65 ±	0.13
					2014/11/19	Sunny	9.5	1.5	14.7	0.0	Grayish greenish yellow	Faint sewage	>100	2,530.0	20	12	<0.48 ±	0.12	<0.41 ±	0.065
		Sumida River	Ryogoku Bridge	Chuo City /Sumida City	2015/2/2	Sunny	7.5	2.0	9.4	0.0	Light grayish yellow green	Faint sewage	35	2,810.0	10	4.8	<0.59 ±	0.13	<0.47 ±	0.10
					2014/5/23	Sunny	22.3	2.7	21.1	0.0	Grayish yellow	Faint sewage	35	1,376.0	14	1.9	<0.56 ±	0.094	<0.58 ±	0.12
					2014/8/22	Sunny	31.5	5.1	29.1	0.0	Grayish reddish yellow	Faint sewage	46	2,310.0	9	8.2	<0.51 ±	0.14	<0.62 ±	0.12
51					2014/11/19	Sunny	15.3	3.2	17.7	0.0	Light grayish yellow green	Faint sewage	94	3,880.0	6	1.4	<0.60 ±	0.14	<0.60 ±	0.13
					2015/2/2	Sunny	9.7	3.5	11.1	0.0	Light grayish yellow green	Faint sewage	>100	4,110.0	5	1.9	<0.59 ±	0.13	<0.86 ±	0.21

Tokyo River (Sediment)1/1

R i v e r s	Location				Sampling Date	Weather	Air temperature (°C)	Water depth (m)	Sediment														Remarks					
	No.	Water area	Location	Municipality					Sediment temperature (°C)	Sample length (cm)	Color	Odor	General items								Inert con (%)	Density (g/cm ³)		Property	Activity concentration [Bq/kg(dry)]			
													Grain size distribution(%)												Radioactive cesium			
													Coarse gravel	Medium gravel	Fine gravel	Coarse sand	Medium sand	Fine sand	Silt	Clay					Cs-134	Cs-137		Total
50	Arakawa River System	Arakawa River Lower Reaches	Kasai Bridge	Koto City/Edogawa City	2014/5/22	Cloudy	19.7	1.2	20.8	7	Black	Medium hydrogen sulfide	0.0	2.7	0.7	0.6	0.8	1.7	48.0	45.6	33.0	2.564	Silt	110 ± 15	320 ± 24	430		
					2014/8/22	Sunny	29.0	1.8	29.0	3	Black	Faint sewage	2.0	15.9	4.6	1.0	3.0	2.9	38.5	32.1	42.9	2.520	Silt	77 ± 8.4	240 ± 15	317		
					2014/11/19	Sunny	9.5	1.5	16.0	7	Black	Dark yellow	0.0	9.3	3.0	0.6	2.5	1.6	39.0	44.1	36.4	2.578	Silt	110 ± 11	300 ± 18	410		
					2015/2/2	Sunny	7.5	2.0	10.6	6	Faint hydrogen sulfide	Medium sewage	0.0	6.4	2.3	1.1	2.5	2.8	42.2	42.8	31.4	2.497	Silt	70 ± 12	260 ± 22	330		
					2014/5/23	Sunny	22.3	2.7	18.6	3	Faint hydrogen sulfide	Medium hydrogen sulfide	0.0	21.2	7.6	0.9	12.7	33.4	10.4	13.8	50.7	2.611	Silt	35 ± 7.3	110 ± 11	145		
					2014/8/22	Sunny	31.5	5.1	30.3	4	Black	Medium sewage	0.0	14.6	7.6	0.9	18.9	37.3	6.1	14.7	89.1	2.646	Sand/silt	27 ± 4.7	120 ± 8.3	147		
51	Sumida River	Ryogoku Bridge	Chuo City /Sumida City	2014/11/19	Sunny	15.3	3.2	18.6	4	Black	Medium hydrogen sulfide	0.0	13.2	7.4	1.4	19.5	34.9	11.7	12.0	56.3	2.652	Sand/silt	40 ± 4.5	120 ± 7.5	160			
				2015/2/2	Sunny	9.7	3.5	11.2	4	Black	Medium sewage	1.8	15.6	7.0	1.3	20.7	36.1	8.5	9.0	57.7	2.661	Sand	21 ± 3.0	75 ± 4.9	96			

Tokyo River (Surrounding Environment) 1/1

Location				Sampling Date	Weather	Air temperature (°C)	Surrounding Environment(Soil,Air dose)													Remarks				
							Left bank						Right bank											
No.	Water area		Location	Municipality		Color	Odor	Property	Activity concentration [Bq/kg(dry)]			Air Dose (μSv/h)	Color	Odor	Property	Activity concentration [Bq/kg(dry)]			Air Dose (μSv/h)					
									Radioactive cesium							Radioactive cesium								
									Cs-134	Cs-137	Total					Cs-134	Cs-137	Total						
R i v e r s	50	Arakawa River System	Arakawa River Lower Reaches	Kasai Bridge	Koto City/Edogawa City	2014/5/22	Cloudy	19.7	Faint hydrogen sulfide	faint earth	Loamy	210 ± 15	550 ± 24	760	0.09	Dark olive brown	faint earth	Loamy	110 ± 11	340 ± 17	450	0.11		
						2014/8/22	Sunny	29.6	Dark grayish yellow	faint earth	Loamy	240 ± 17	660 ± 29	900	0.08	Dark grayish yellow	faint earth	Loamy	91 ± 11	280 ± 18	371	0.09		
						2014/11/19	Sunny	9.5	Dark brown	faint earth	Loamy	220 ± 14	750 ± 27	970	0.08	Blackish brown	faint earth	Loamy	110 ± 9.8	290 ± 16	400	0.11		
						2015/2/2	Sunny	7.5	Blackish brown	faint earth	Loamy	160 ± 13	540 ± 23	700	0.08	Dark brown	faint earth	Loamy	84 ± 8.6	300 ± 16	384	0.10		
						2014/5/23	Sunny	22.3	-	-	-	-	-	-	0.04	-	-	-	-	-	-	-	0.06	Soil not exposed
	51	Sumida River	Ryogoku Bridge	Chuo City /Sumida City	2014/8/22	Sunny	31.5	-	-	-	-	-	-	0.04	-	-	-	-	-	-	-	0.06	Soil not exposed	
					2014/11/19	Sunny	15.3	-	-	-	-	-	-	0.04	-	-	-	-	-	-	-	0.05	Soil not exposed	
					2015/2/2	Sunny	9.7	-	-	-	-	-	-	0.04	-	-	-	-	-	-	-	-	0.06	Soil not exposed

Tokyo Coastal (Sediment) 1/1

Location				Sediment																		Remarks			
No.	Water area	Sampling Date	Weather	Air temperature (C)	Water depth (m)	General items												Activity concentration [Bq/kg(dry)]							
						Sediment temperature (C)	Sample length (cm)	Color	Odor	Coarse gravel	Medium gravel	Fine gravel	Grain size distribution(%)		Fine sand	Silt	Clay	Sediment content (%)	Density (g/cm ³)	Property	Radioactive cesium				
																		Cs-134	Cs-137		Total				
C 65	Approx. 1 km offshore of Kyo-Edogawa River Estuary	Offshore of Kyo-Edogawa River Estuary	2014/5/27	Cloudy	24.4	6.0	18.2	7	Black	None	0.0	0.0	0.0	0.1	0.7	17.0	50.8	31.5	42.7	2.568	Silt	150 ± 12	480 ± 21	630	
			2014/6/24	Light rain	26.8	7.8	19.4	6	Black	Dim yellow	0.0	0.0	0.0	0.0	0.3	2.6	56.1	41.1	36.3	2.521	Silt	120 ± 13	380 ± 22	500	
			2014/7/23	Cloudy	34.6	8.0	20.5	7	Black	Faint orange	0.0	0.0	0.0	0.0	1.0	15.2	41.1	42.7	37.0	2.499	Silt	85 ± 13	290 ± 21	375	
			2014/8/26	Light rain	26.3	7.7	26.2	8	Black	-----	0.0	1.3	0.0	0.2	3.3	49.5	22.0	23.8	53.3	2.615	Silt	38 ± 5.9	130 ± 11	168	
			2014/9/17	Cloudy	27.4	8.4	22.5	9	Black	-----	0.0	0.0	0.0	0.0	0.2	3.1	61.7	35.0	31.5	2.513	Silt	79 ± 14	330 ± 23	409	
			2014/11/6	Cloudy	17.6	7.6	19.5	7	Faint hydrogen sulfide	-----	0.0	0.0	0.0	0.1	1.8	43.2	27.0	27.9	44.5	2.604	Silt	57 ± 8.6	180 ± 15	237	
			2015/2/4	Sunny	6.3	4.9	10.8	2	Faint hydrogen sulfide	None	0.0	0.0	0.1	0.2	9.2	83.9	2.7	3.9	75.4	2.721	Sand	1.5 ± 0.26	6.3 ± 0.33	7.8	
			2014/5/27	Cloudy	24.6	5.6	19.6	7	Faint hydrogen sulfide	None	3.5	0.0	0.0	0.1	0.1	1.7	57.1	37.6	41.2	2.577	Silt	71 ± 8.9	240 ± 15	311	
			2014/6/24	Light rain	23.0	5.7	19.9	3	Faint hydrogen sulfide	None	0.0	0.0	0.0	0.1	0.3	1.8	63.1	34.9	43.0	2.571	Silt	80 ± 9.6	250 ± 15	336	
			C 66	St-8	Offshore of Arakawa River-Kyo-Edogawa River Estuary	2014/7/23	Cloudy	35.8	6.0	23.5	8	Faint hydrogen sulfide	None	0.0	0.0	0.0	0.1	0.2	2.2	53.5	44.1	41.1	2.582	Silt	90 ± 11
2014/8/26	Cloudy	26.8				5.1	27.1	7	Faint hydrogen sulfide	Dim yellow	0.0	0.0	0.0	0.1	0.3	1.2	54.7	43.7	39.7	2.573	Silt	79 ± 11	230 ± 18	309	
2014/9/17	Cloudy	27.8				6.0	22.8	9	Faint hydrogen sulfide	Dim yellow	0.0	0.0	0.0	0.1	0.1	1.8	62.8	35.2	42.2	2.558	Silt	78 ± 11	200 ± 17	278	
2014/11/6	Cloudy	18.8				5.1	19.6	4	Faint hydrogen sulfide	Dim yellow	0.0	0.0	0.0	0.0	0.2	1.0	55.3	43.5	31.9	2.558	Silt	67 ± 12	190 ± 20	257	
2015/2/4	Sunny	8.9				4.9	11.7	5	Faint hydrogen sulfide	None	0.0	0.3	0.0	0.0	0.4	1.2	53.4	44.7	36.8	2.586	Silt	65 ± 8.7	190 ± 15	255	
2014/5/27	Cloudy	23.8				10.9	17.2	6	Black	-----	0.0	2.6	1.1	0.5	0.6	2.7	45.1	47.4	26.7	2.594	Silt	<6.3	2.0	18 ± 2.3	18
2014/8/26	Cloudy	27.1				10.2	21.9	10	Black	-----	0.0	0.4	0.5	0.2	0.3	1.8	47.3	49.6	23.7	2.565	Silt	17 ± 5.1	45 ± 6.0	62	
2014/11/6	Cloudy	18.4				10.7	20.3	7	Black	-----	0.0	0.2	0.1	0.5	2.9	47.6	48.7	26.4	2.592	Silt/sand	11 ± 1.5	38 ± 2.2	49		
2015/2/4	Sunny	7.9				10.4	12.5	8	Black	-----	0.0	0.0	0.1	0.1	0.4	1.2	56.7	41.7	20.9	2.583	Silt	26 ± 4.6	83 ± 6.8	109	
C 67	Southwestern area of Toyosu Wharf	Offshore of Sumida River Estuary				2014/5/27	Cloudy	24.4	6.0	18.2	7	Black	None	0.0	0.0	0.0	0.1	0.7	17.0	50.8	31.5	42.7	2.568	Silt	150 ± 12
			2014/6/24	Light rain	26.8	7.8	19.4	6	Black	Dim yellow	0.0	0.0	0.0	0.0	0.3	2.6	56.1	41.1	36.3	2.521	Silt	120 ± 13	380 ± 22	500	
			2014/7/23	Cloudy	34.6	8.0	20.5	7	Black	Faint orange	0.0	0.0	0.0	0.0	1.0	15.2	41.1	42.7	37.0	2.499	Silt	85 ± 13	290 ± 21	375	
			2014/8/26	Light rain	26.3	7.7	26.2	8	Black	-----	0.0	1.3	0.0	0.2	3.3	49.5	22.0	23.8	53.3	2.615	Silt	38 ± 5.9	130 ± 11	168	
			2014/9/17	Cloudy	27.4	8.4	22.5	9	Black	-----	0.0	0.0	0.0	0.0	0.2	3.1	61.7	35.0	31.5	2.513	Silt	79 ± 14	330 ± 23	409	
			2014/11/6	Cloudy	17.6	7.6	19.5	7	Faint hydrogen sulfide	-----	0.0	0.0	0.0	0.1	1.8	43.2	27.0	27.9	44.5	2.604	Silt	57 ± 8.6	180 ± 15	237	
			2015/2/4	Sunny	6.3	4.9	10.8	2	Faint hydrogen sulfide	None	0.0	0.0	0.1	0.2	9.2	83.9	2.7	3.9	75.4	2.721	Sand	1.5 ± 0.26	6.3 ± 0.33	7.8	
			2014/5/27	Cloudy	24.6	5.6	19.6	7	Faint hydrogen sulfide	None	3.5	0.0	0.0	0.1	0.1	1.7	57.1	37.6	41.2	2.577	Silt	71 ± 8.9	240 ± 15	311	
			2014/6/24	Light rain	23.0	5.7	19.9	3	Faint hydrogen sulfide	None	0.0	0.0	0.0	0.1	0.3	1.8	63.1	34.9	43.0	2.571	Silt	80 ± 9.6	250 ± 15	336	
			2014/7/23	Cloudy	35.8	6.0	23.5	8	Faint hydrogen sulfide	None	0.0	0.0	0.0	0.1	0.2	2.2	53.5	44.1	41.1	2.582	Silt	90 ± 11	280 ± 19	370	
2014/8/26	Cloudy	26.8	5.1	27.1	7	Faint hydrogen sulfide	Dim yellow	0.0	0.0	0.0	0.1	0.3	1.2	54.7	43.7	39.7	2.573	Silt	79 ± 11	230 ± 18	309				
2014/9/17	Cloudy	27.8	6.0	22.8	9	Faint hydrogen sulfide	Dim yellow	0.0	0.0	0.0	0.1	0.1	1.8	62.8	35.2	42.2	2.558	Silt	78 ± 11	200 ± 17	278				
2014/11/6	Cloudy	18.8	5.1	19.6	4	Faint hydrogen sulfide	Dim yellow	0.0	0.0	0.0	0.0	0.2	1.0	55.3	43.5	31.9	2.558	Silt	67 ± 12	190 ± 20	257				
2015/2/4	Sunny	8.9	4.9	11.7	5	Faint hydrogen sulfide	None	0.0	0.3	0.0	0.0	0.4	1.2	53.4	44.7	36.8	2.586	Silt	65 ± 8.7	190 ± 15	255				
2014/5/27	Cloudy	23.8	10.9	17.2	6	Black	-----	0.0	2.6	1.1	0.5	0.6	2.7	45.1	47.4	26.7	2.594	Silt	<6.3	2.0	18 ± 2.3	18			
2014/8/26	Cloudy	27.1	10.2	21.9	10	Black	-----	0.0	0.4	0.5	0.2	0.3	1.8	47.3	49.6	23.7	2.565	Silt	17 ± 5.1	45 ± 6.0	62				
2014/11/6	Cloudy	18.4	10.7	20.3	7	Black	-----	0.0	0.2	0.1	0.5	2.9	47.6	48.7	26.4	2.592	Silt/sand	11 ± 1.5	38 ± 2.2	49					
2015/2/4	Sunny	7.9	10.4	12.5	8	Black	-----	0.0	0.0	0.1	0.1	0.4	1.2	56.7	41.7	20.9	2.583	Silt	26 ± 4.6	83 ± 6.8	109				



Figure 3.5.8 Survey Locations (Chiba, Saitama, Tokyo Prefectures)