

## FY2019 Tokyo Metropolis Survey Results

[Outline of 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: ND – 9.3 Bq/kg (dry)

Cs-137: 44 - 110 Bq/kg (dry)

Coastal areas

Cs-134: ND - 15 Bq/kg (dry)

Cs-137: 28 - 160 Bq/kg (dry)

### (3) Surrounding Environment

#### (a) Soil

Rivers

Cs-134: 11 - 110 Bq/kg (dry)

Cs-137: 160 -1,400 Bq/kg (dry)

#### (b) Ambient dose rate

Rivers

0.04 - 0.08  $\mu$ Sv/h

# Tokyo River (Water) 1/1

Location					Water														
No.	Water area	Location	Municipality	Sampling Date	Weather	Air temperature (°C)	Water depth (m)	General items								Activity concentration(Bq/L)		Remarks	
								Water temperature (°C)	Sampling depth (m)	Color	Odor	Transparency (cm)	Electrical conductivity (mS/m)	SS (mg/L)	Turbidity (FNU)	Radioactive cesium			
R i v e r s	50	Arakawa River System	Arakawa River Lower Reaches	Kasai Bridge	Koto City/Edogawa City	2019/5/24	Sunny	24.5	0.5	22.2	0.0	Grayish yellow	None	31	572	19	11	<0.69	<0.88
						2019/8/20	Cloudy	29.5	1.3	28.8	0.0	Dark grayish greenish yellow	Faint sewage	35	435	25	14	<0.76	<0.67
						2019/11/25	Cloudy	16.2	1.5	14.0	0.0	Grayish greenish yellow	None	21	718	32	16	<0.77	<0.66
						2020/1/22	Cloudy	4.0	1.5	9.9	0.0	Grayish yellow green	None	83	3,160	4	1.0	<0.81	<0.80
	51	Sumida River	Ryogoku Bridge	Chuo City	2019/5/24	Sunny	32.3	2.7	22.7	0.0	Dark grayish yellow green	None	>100	937	3	1.5	<0.73	<0.90	
					2019/8/20	Cloudy	32.3	1.6	28.8	0.0	Dark grayish greenish yellow	Faint sewage	35	215	11	5.2	<0.71	<0.67	
						2019/11/25	Cloudy	18.7	2.3	16.3	0.0	Dark grayish yellow green	None	28	362	27	15	<0.52	<0.71
						2020/1/22	Cloudy	5.8	2.6	11.7	0.0	Dark grayish greenish yellow	None	89	3,160	2	0.4	<0.85	<0.61

# 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										Sediment content (%)		Density (g/cm <sup>3</sup> )	Property	Activity concentration [Bq/kg(dry)]		
														Grain size distribution(%)														Cs-134	Cs-137	Total
														Coarse gravel	Medium gravel	Fine gravel	Coarse sand	Medium sand	Fine sand	Silt	Clay									
50	Arakawa River System	Arakawa River Lower Reaches		Kasai Bridge	Koto City/Edogawa City	2019/5/24	Sunny	24.5	0.5	22.0	10	Olive black	Faint sewage	0.0	0.0	0.0	0.2	0.5	1.3	58.7	39.5	33.4	2.571	Silt	<11	110	110			
						2019/8/20	Cloudy	29.5	1.3	28.5	4	Black	Faint sewage	0.0	2.7	1.0	0.8	0.9	1.0	49.1	44.6	38.5	2.548	Silt	9.3	100	109.3			
						2019/11/25	Cloudy	16.2	1.5	13.9	5	Olive black	Faint sewage	0.5	1.7	2.2	1.7	2.1	9.3	43.6	38.9	52.9	2.608	Silt	<6.5	78	78			
						2020/1/22	Cloudy	4.0	1.5	10.8	10	Olive black	None	0.0	1.3	0.8	0.7	1.0	4.4	46.1	45.8	50.1	2.675	Silt	<9.4	65	65			
51	Sumida River	Ryogoku Bridge		Chuo City	2019/5/24	Sunny	32.3	2.7	22.3	8	Black	Medium hydrogen sulfide	0.0	6.3	6.0	1.2	13.1	41.1	19.0	13.4	41.1	2.597	Silt/sand	<7.3	67	67				
					2019/8/20	Cloudy	32.3	1.6	26.9	5	Black	Medium hydrogen sulfide	0.0	8.6	5.9	1.6	14.4	39.7	15.7	14.2	43.1	2.651	Silt	<8.4	55	55				
					2019/11/25	Cloudy	18.7	2.3	15.9	3	Olive black	Faint sewage	0.0	4.8	3.4	2.0	35.7	33.6	9.9	10.7	48.0	2.661	Sand/silt	<7.0	44	44				
					2020/1/22	Cloudy	5.8	2.6	12.5	5	Black	Medium sewage	0.0	0.0	0.1	0.3	7.3	43.5	24.4	24.4	56.7	2.627	Sand/silt	<8.1	82	82				

# Tokyo River (Surrounding Environment) 1/1

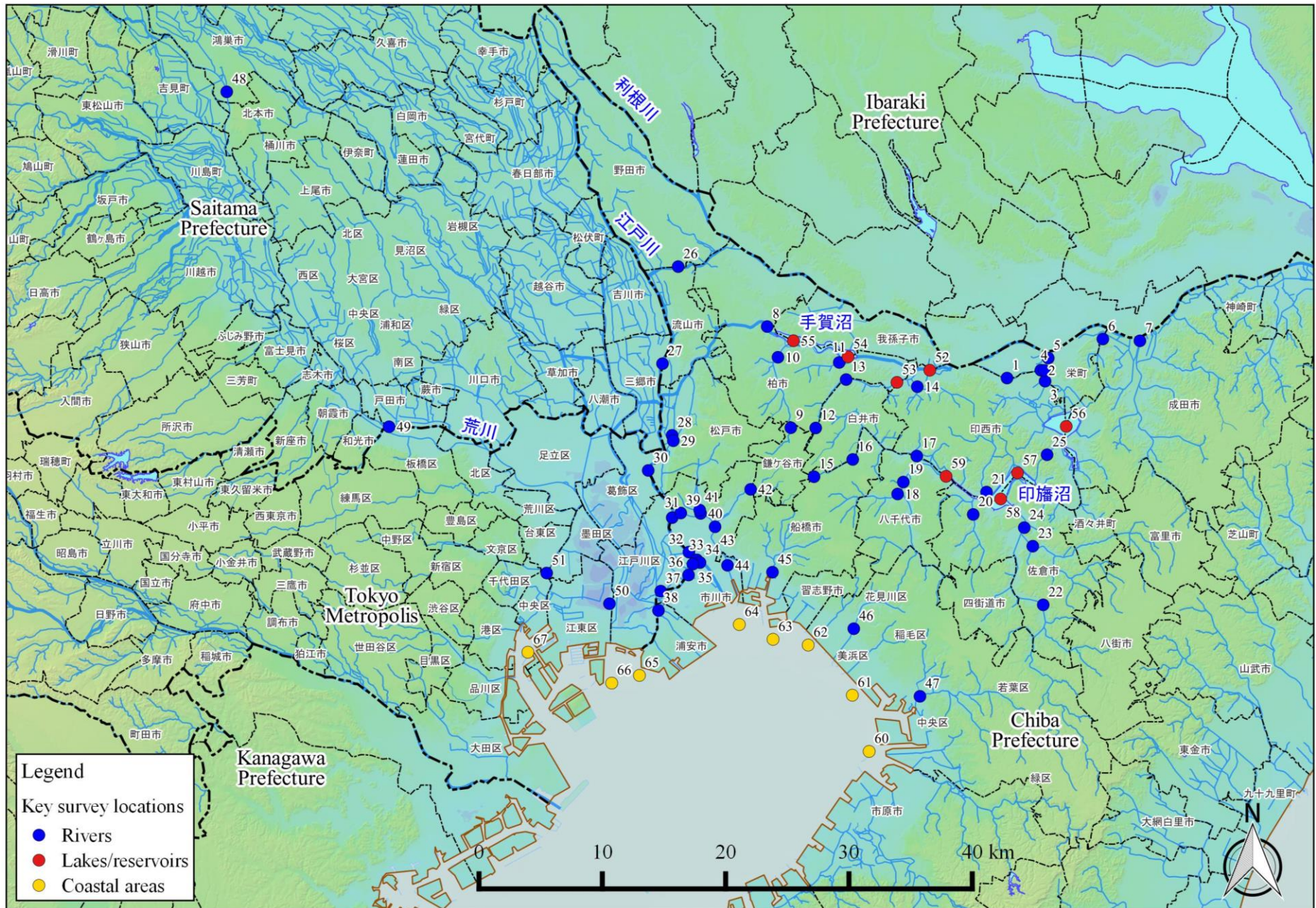
Location					Sampling Date	Weather	Air temperature (°C)	Surrounding Environment(Soil,Air dose)														Remarks	
								Left bank							Right bank								
No.	Water area		Location	Municipality	Color	Odor	Property	Activity concentration [Bq/kg(dry)]			Air Dose (µSv/h)	Color	Odor	Property	Activity 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	2019/5/24	Sunny	24.5	Blackish brown	Faint earth	Loamy	85	1,100	1,185	0.06	Dark brown	Faint earth	Loamy	14	230	244	0.07	
						2019/8/20	Cloudy	29.5	Grayish yellowish brown	Faint earth	Loamy	110	1,400	1,510	0.07	Grayish yellowish brown	Faint earth	Loamy	27	310	337	0.08	
						2019/11/25	Cloudy	16.2	Blackish brown	Faint earth	Loamy	64	1,000	1,064	0.06	Blackish brown	Faint earth	Loamy	19	240	259	0.07	
						2020/1/22	Cloudy	4.0	Dull yellowish brown	Faint earth	Loamy	13	180	193	0.05	Blackish brown	Faint earth	Loamy	11	160	171	0.06	
51		Sumida River	Ryogoku Bridge	Chuo City	2019/5/24	Sunny	32.3	-	-	-	-	-	-	0.06	-	-	-	-	-	-	0.05	Soil not exposed	
					2019/8/20	Cloudy	32.3	-	-	-	-	-	-	0.07	-	-	-	-	-	-	-	0.04	Soil not exposed
					2019/11/25	Cloudy	18.7	-	-	-	-	-	-	0.06	-	-	-	-	-	-	-	0.06	Soil not exposed
					2020/1/22	Cloudy	5.8	-	-	-	-	-	-	0.05	-	-	-	-	-	-	-	0.04	Soil not exposed

# Tokyo Coastal (Water) 1/1

Location				Sampling Date	Weather	Air temperature (°C)	Water depth (m)	Water										Remarks	
No.	Water area		Surface layer					General items						Activity concentration(Bq/L)					
								Water temperature (°C)	Sampling depth (m)	Color	Odor	Secchi disk depth (m)	Salinity (‰)	SS (mg/L)	Turbidity (FNU)	Radioactive cesium			
		Deep layer											Cs-134	Cs-137					
C o a s t a l  a r e a s	65	Approx. 1 km offshore of Kyu-Edogawa River Estuary	Offshore of Kyu-Edogawa River Estuary	Surface layer	2019/5/24	Sunny	24.1	5.3	20.5	0.5	Grayish yellow green	None	0.7	5.4	23	19	<0.75	<0.85	
				Deep layer					19.7	4.3	-	None		28.5	7	1.9	<0.79	<0.90	
				Surface layer	2019/6/25	Cloudy	22.8	6.5	21.9	0.5	Dark grayish yellow green	None	0.9	5.7	16	9.3	<0.82	<0.67	
				Deep layer					20.5	5.5	-	Faint hydrogen sulfide		27.4	5	1.4	<0.72	<0.85	
				Surface layer	2019/7/26	Sunny	27.3	5.6	26.2	0.5	Dark grayish greenish yellow	None	1.0	7.0	16	9.5	<0.71	<0.85	
				Deep layer					24.3	4.6	-	None		23.4	3	1.2	<0.82	<0.74	
		Surface layer	2019/8/25	Sunny	29.3	6.2	26.2	0.5	Grayish greenish yellow	None	1.0	6.7	14	8.7	<0.77	<0.88			
		Deep layer					27.4	5.2	-	None		25.2	3	1.9	<0.90	<0.67			
		Surface layer	2019/9/20	Sunny	24.3	5.7	24.8	0.5	Grayish yellow green	None	2.0	17.6	5	2.7	<0.82	<0.90			
		Deep layer					24.0	4.7	-	None		28.4	3	1.8	<0.77	<0.85			
		Surface layer	2019/11/11	Sunny	18.7	5.7	17.5	0.5	Dark grayish yellow green	None	3.8	14.4	9	5.2	<0.80	<0.61			
		Deep layer					18.7	4.7	-	None		27.4	6	2.3	<0.88	<0.61			
	Surface layer	2020/2/10	Sunny	6.8	5.7	11.3	0.5	Grayish yellow green	None	2.3	27.9	5	1.7	<0.69	<0.86				
	Deep layer					12.0	4.7	-	None		30.1	7	3.0	<0.63	<0.92				
	66	St-8	Offshore of Arakawa River/ Kyu-Edogawa River Estuaries	Offshore of Arakawa River/ Kyu-Edogawa River Estuaries	Surface layer	2019/5/24	Sunny	24.7	4.7	22.0	0.5	Grayish yellow green	None	1.2	9.2	9	5.4	<0.62	<0.88
					Deep layer					20.1	3.7	-	None		26.7	6	1.9	<0.81	<0.85
					Surface layer	2019/6/25	Cloudy	23.2	5.4	22.8	0.5	Dark grayish yellow green	None	0.8	6.6	14	10	<0.86	<0.74
					Deep layer					22.0	4.4	-	None		21.4	6	2.3	<0.80	<0.90
					Surface layer	2019/7/26	Sunny	27.3	5.2	26.1	0.5	Dark grayish yellow green	None	1.1	8.3	10	6.3	<0.77	<0.80
					Deep layer					24.1	4.2	-	None		25.6	4	1.8	<0.58	<0.67
			Surface layer	2019/8/25	Sunny	29.8	5.4	28.5	0.5	Dark grayish yellow	None	1.0	16.2	11	6.9	<0.75	<0.80		
			Deep layer					27.3	4.4	-	None		25.1	6	2.2	<0.65	<0.74		
			Surface layer	2019/9/20	Sunny	24.5	4.8	24.7	0.5	Grayish yellow green	None	1.5	14.9	6	3.2	<0.83	<0.80		
			Deep layer					24.2	3.8	-	None		27.1	9	4.2	<0.77	<0.80		
Surface layer			2019/11/11	Sunny	20.0	4.7	18.6	0.5	Grayish greenish yellow	None	1.2	13.3	7	2.2	<0.78	<0.66			
Deep layer							18.8	3.7	-	None		25.9	7	2.7	<0.83	<0.61			
Surface layer	2020/2/10	Sunny	7.8	4.4	11.6	0.5	Grayish yellow green	None	1.9	28.9	14	6.5	<0.84	<0.92					
Deep layer					11.2	3.4	-	None		29.2	11	3.8	<0.78	<0.80					
67	Southwestern area of Toyosu Wharf	Offshore of Sumida River Estuary	Offshore of Sumida River Estuary	Surface layer	2019/5/24	Sunny	28.8	10.1	22.6	0.5	Dark grayish yellow	None	1.8	17.7	3	2.9	<0.69	<0.85	
				Deep layer					18.1	9.1	-	None		30.9	2	0.8	<0.73	<0.90	
				Surface layer	2019/8/25	Sunny	30.4	11.4	28.7	0.5	Reddish yellowish black	None	0.9	14.8	6	2.1	<0.68	<0.85	
				Deep layer					25.4	10.4	-	None		27.4	1	0.4	<0.72	<0.74	
		Surface layer	2019/11/11	Cloudy	17.9	10.8	18.9	0.5	Dark grayish yellow green	None	4.0	23.3	1	0.9	<0.81	<0.71			
		Deep layer					19.8	9.8	-	None		29.6	7	2.1	<0.58	<0.66			
		Surface layer	2020/2/7	Sunny	7.9	11.0	10.9	0.5	Dark grayish green	None	3.7	29.5	7	6.0	<0.66	<0.92			
		Deep layer					12.4	10.0	-	None		30.8	4	2.2	<0.64	<0.55			

# Tokyo Coastal (Sediment) 1/1

		Location		Sampling Date	Weather	Air temperature (°C)	Water depth (m)	Sediment																	Remarks
No.	Water area	Sediment temperature (°C)	Sample length (cm)					Color	Odor	General items									Sediment content (%)	Density (g/cm <sup>3</sup> )	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													
C o a s t a l	65	Approx. 1 km offshore of Kyu-Edogawa River Estuary	Offshore of Kyu-Edogawa River Estuary	2019/5/24	Sunny	24.1	5.3	18.0	8	Olive black	Faint hydrogen sulfide	0.0	0.0	0.0	0.0	0.3	15.4	59.0	25.3	46.2	2.706	Silt	11	120	131
				2019/6/25	Cloudy	22.8	6.5	21.5	10	Black	None	0.0	0.0	0.0	0.1	6.6	55.6	37.7	45.9	2.579	Silt	15	160	175	
				2019/7/26	Sunny	27.3	5.6	23.0	7	Black	Faint sewage	0.0	0.2	0.3	0.2	1.1	27.0	39.3	31.9	49.1	2.611	Silt/sand	12	130	142
				2019/8/25	Sunny	29.3	6.2	25.8	10	Black	Faint sewage	0.0	0.0	0.0	0.0	0.7	10.5	57.2	31.7	44.7	2.579	Silt	11	150	161
				2019/9/20	Sunny	24.3	5.7	24.9	10	Olive black	Faint sewage	0.0	0.0	0.0	0.0	0.1	9.5	64.4	26.1	42.3	2.570	Silt	12	130	142
				2019/11/11	Sunny	18.7	5.7	18.5	10	Dark grayish yellow	None	0.0	0.0	0.0	0.0	0.1	0.7	61.9	37.3	48.0	2.582	Silt	<8.8	71	71
				2020/2/10	Sunny	6.8	5.7	13.2	5	Olive black	Faint hydrogen sulfide	0.0	0.0	0.0	0.0	0.1	2.1	52.8	45.1	52.1	2.584	Silt	6.3	69	75.3
				2019/5/24	Sunny	24.7	4.7	18.0	6	Olive black	None	0.0	0.0	0.0	0.2	0.1	1.0	64.4	34.4	40.3	2.683	Silt	10	120	130
				2019/6/25	Cloudy	23.2	5.4	21.4	8	Black	None	0.0	0.0	0.0	0.0	0.1	1.4	62.1	36.4	52.3	2.625	Silt	<7.7	100	100
				a r e a s	66	St-8	Offshore of Arakawa River/ Kyu-Edogawa River Estuaries	2019/7/26	Sunny	27.3	5.2	24.0	5	Black	Faint sewage	0.0	0.0	0.0	0.1	0.2	1.7	59.3	38.8	49.4	2.605
2019/8/25	Sunny	29.8	5.4					21.7	9	Olive black	Faint hydrogen sulfide	0.0	0.0	0.0	0.1	0.1	1.0	63.6	35.2	49.4	2.599	Silt	6.9	99	105.9
2019/9/20	Sunny	24.5	4.8					25.0	9	Olive black	Faint sewage	0.0	0.0	0.0	0.2	0.2	1.5	58.1	40.1	47.7	2.610	Silt	<8.2	86	86
2019/11/11	Sunny	20.0	4.7					19.0	10	Olive black	None	0.0	0.0	0.0	0.0	0.0	10.9	44.7	44.4	54.3	2.677	Silt	<7.7	28	28
2020/2/10	Sunny	7.8	4.4					12.3	4	Olive black	Faint hydrogen sulfide	0.0	0.0	0.0	0.0	0.0	1.1	43.6	55.4	56.7	2.646	Silt	<6.6	35	35
2019/5/24	Sunny	28.8	10.1					16.9	10	Black	Medium hydrogen sulfide	0.0	0.0	0.0	0.0	0.1	0.6	47.5	51.9	21.7	2.675	Silt	<18	51	51
67	Southwestern area of Toyosu Wharf	Offshore of Sumida River Estuary	2019/8/25	Sunny	30.4	11.4	21.0	10	Black	Medium hydrogen sulfide	0.0	0.0	0.0	0.0	0.1	1.0	40.7	58.2	25.6	2.623	Silt	<11	73	73	
			2019/11/11	Cloudy	17.9	10.8	19.3	10	Greenish black	Medium hydrogen sulfide	0.0	0.0	0.0	0.0	0.2	1.4	41.1	57.4	28.8	2.599	Silt	<11	51	51	
			2020/2/7	Sunny	7.9	11.0	12.7	10	Black	Medium hydrogen sulfide	0.0	0.0	0.0	0.0	0.3	1.0	41.7	57.0	28.7	2.637	Silt	<9.1	45	45	



Survey Locations (Chiba,Saitama,Tokyo Prefectures)