“High Alarm” from Plastic Scintillation Fiber monitor (PSF monitor) monitoring the wharf drainage channel at the Fukushima Daiichi Nuclear Power Station

<Reference Document>
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【Overview】

○ We continue to investigate the cause of the “High Alarm” from the Plastic Scintillation Fiber monitor (hereinafter referred to as, "PSF monitor") monitoring the wharf drainage channel that occurred on March 2, 2021. Analysis of the rain water flowing into the drainage ditch (sampled on March 21) near temporary storage area W2, which is upstream from the aforementioned drainage channel, found concentrations of cesium-134 to be below detectable limits (detectable limits: 3.5~3.6Bq/L), and concentrations of cesium-137 to be between 6.1~9.4Bq/liter. This analysis, which was conducted on March 22, also found gross beta values to be high at between 1.6×10^{3} ~1.7×10^{3}Bq/liter.

○ In order to investigate the cause of the high gross beta values from the aforementioned drainage ditch rainwater, dose rates at the surface of the ground in temporary storage area W2 (soil and asphalt, etc.) were measured and it was found on March 22 that there are spots where beta ray values are high (maximum: 5mSv/hour).

○ Furthermore, on March 22, clumps of a gel-like substance emitting high beta rays were found on the surface of temporary storage area W2. Therefore, on March 24, the aforementioned gel-like clumps were collected along with soil from the spots in temporary storage area W2 where beta ray doses are high after which a decontaminating agent (coating stripper decontamination agent) was scattered on the surface of the surrounding area, and the area was covered with tarps and sandbags.

○ Analysis of the aforementioned gel-like clumps (material mixed with soil) and soil from the surrounding area found cesium-134 concentrations to be 2.9×10^{1}Bq/g, cesium-137 concentrations to be 9.0×10^{2}Bq/g, and gross beta values to be 2.3×10^{5}Bq/g.

○ Going forward, we will continue to analyze the results of this analysis, the contents of the container removed from the aforementioned area on March 2, and the elemental composition of the gel-like clumps. We shall also continue to investigate the cause of the PSF monitor “High Alarm” using the sampling results from the aforementioned drainage channel.

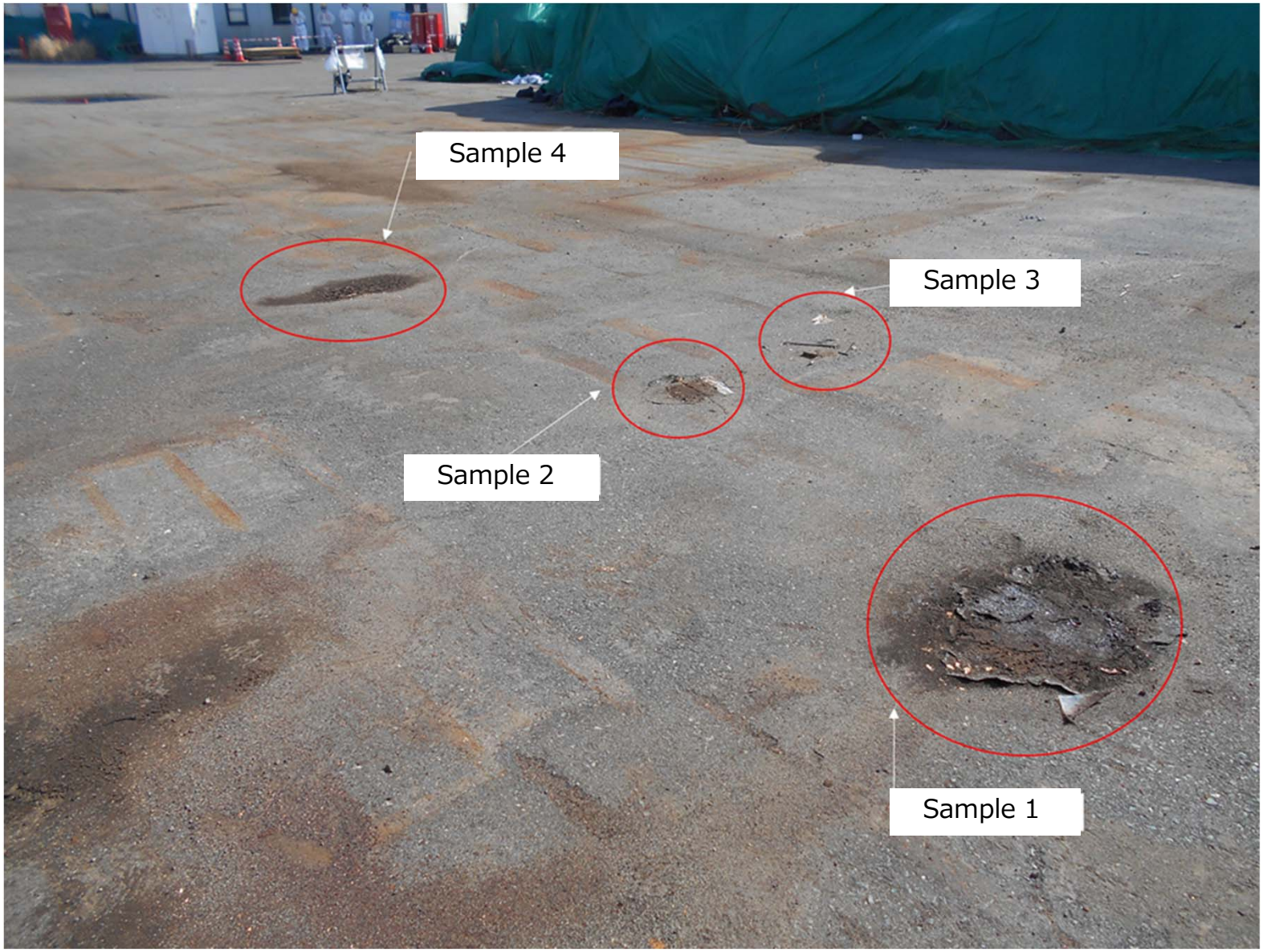
○ We will continue to monitor radioactivity concentrations in the aforementioned drainage channel.

【Reference】 Analysis results for each sample

【Units: Bq/g】

Sample name	Sampling date	Cesium 134	Cesium 137	Gross beta radioactivity
Sample 1 (Gel-like substance mixed with soil)	3/22 4:30 PM	2.9E+1	9.0E+2	2.3E+5
Sample 2 (Soil)	3/24 3:35 PM	2.1E+1	4.9E+2	2.4E+4
Sample 3 (Soil)	3/24 3:40 PM	2.7E+1	5.8E+2	6.4E+3
Sample 4 (Soil)	3/24 3:31PM	8.2E+1	1.9E+3	4.7E+4

【Reference】Positional relationship of samples

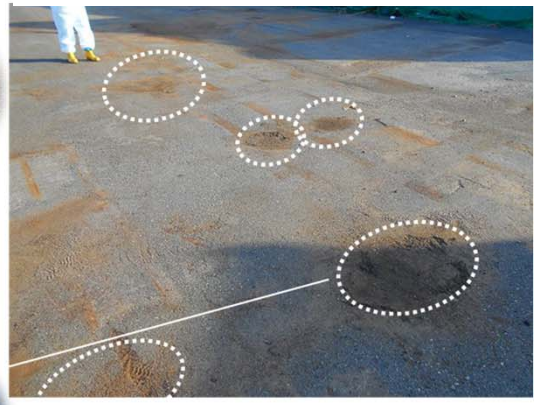


【Reference】Sample collection conditions

On March 24, after the gel-like clumps (gel-like substance mixed with soil) and surrounding soil was collected, the surrounding surface was sprayed with a decontaminating agent (coating stripper decontamination agent), and covered with a tarp, upon which sandbags were placed.
As soon as preparations have been completed, the asphalt will also be stripped to decontaminate the area.

①Prior to removal

②After removal



③Stripper applied to areas where samples were taken

④Sampled area covered with a tarp