

## Nuclides Analysis Result of the Radioactive Materials in the Seawater < Coast, Fukushima Daiichi Nuclear Power Station >

(Data summarized on February 8)

Place of Sampling	North of Unit 5-6 Discharge Channel at Fukushima Daiichi NPS (Approx. 30m North of Unit 5-6 Discharge Channel)		Around South Discharge Channel of Fukushima Daiichi NPS (Approx. 1.3km South of Unit 1-4 Discharge Channel)		Density Limit Specified by the Reactor Regulation (Bq/L) (The density limit in the water outside the surrounding monitored areas is provided in section 6 of Appendix 2.)
	Time of Sampling		Time of Sampling		
	Feb 7, 2013 7:00 AM		Feb 7, 2013 7:25 AM		
Detected Nuclides (Half-life)	Density of Sample (Bq/L)	Scaling Factor ( / )	Density of Sample (Bq/L)	Scaling Factor ( / )	
I-131 (Approx. 8 days)	ND	-	ND	-	40
Cs-134 (Approx. 2 years)	ND	-	ND	-	60
Cs-137 (Approx. 30 years)	ND	-	ND	-	90

\* The density specified by the Reactor Regulation is converted from Bq/cm<sup>3</sup> to Bq/L.

\* Data of other nuclides is under evaluation.

\* In the case of more than 2 nuclides, the sum of scaling factors to density limits is compared to 1.

\* "ND" indicates that the measurement result is below the detection limit.

I-131: Approx. 0.42Bq/L, Cs-134: Approx. 1.1Bq/L, Cs-137: Approx. 1.4Bq/L

As the detection limit may vary depending on the detectors and sample properties, there are cases where nuclides below the detection limit are detected.

## Nuclides Analysis Result of Radioactive Materials in the Seawater < Offshore >

(Data summarized on February 8)

Place of Sampling (Place No.)	3km Offshore of Ukedo River (T-D1)				3km Offshore of Fukushima Daiichi NPS (T-D5)				3km Offshore of Fukushima Daini NPS (T-D9)				Density Limit Specified by the Reactor Regulation (Bq/L)
	Upper Layer		Lower Layer		Upper Layer		Lower Layer		Upper Layer		Lower Layer		
Time of Sampling	Jan 4, 2013 9:22 AM		Jan 4, 2013 9:22 AM		Jan 4, 2013 10:09 AM		Jan 4, 2013 10:09 AM		Jan 5, 2013 9:30 AM		Jan 5, 2013 9:30 AM		(The density limit in the water outside the surrounding monitored areas is provided in section 6 of Appendix 2.)
Detected Nuclides (Half-life)	Density of Sample (Bq/L)	Scaling Factor ( / )	Density of Sample (Bq/L)	Scaling Factor ( / )	Density of Sample (Bq/L)	Scaling Factor ( / )	Density of Sample (Bq/L)	Scaling Factor ( / )	Density of Sample (Bq/L)	Scaling Factor ( / )	Density of Sample (Bq/L)	Scaling Factor ( / )	
Cs-134 (Approx. 2 years)	0.029	0.00	0.021	0.00	0.013	0.00	0.013	0.00	0.011	0.00	0.0096	0.00	
Cs-137 (Approx. 30 years)	0.055	0.00	0.039	0.00	0.022	0.00	0.025	0.00	0.019	0.00	0.016	0.00	90

Place of Sampling (Place No.)													Density Limit Specified by the Reactor Regulation (Bq/L)
	Upper Layer		Lower Layer		Upper Layer		Lower Layer		Upper Layer		Lower Layer		
Time of Sampling													(The density limit in the water outside the surrounding monitored areas is provided in section 6 of Appendix 2.)
Detected Nuclides (Half-life)	Density of Sample (Bq/L)	Scaling Factor ( / )	Density of Sample (Bq/L)	Scaling Factor ( / )	Density of Sample (Bq/L)	Scaling Factor ( / )	Density of Sample (Bq/L)	Scaling Factor ( / )	Density of Sample (Bq/L)	Scaling Factor ( / )	Density of Sample (Bq/L)	Scaling Factor ( / )	
Cs-134 (Approx. 2 years)													
Cs-137 (Approx. 30 years)													90

\* The density specified by the Reactor Regulation is converted from Bq/cm<sup>3</sup> to Bq/L.

\* In the case of more than 2 nuclides, the sum of scaling factors to density limits is compared to 1.

\* Analysis results by detail analysis (Phosphomolybdic acid ammonium adsorption sampling method) are noted.

\* Analyzed by: Tokyo Electric Power Environmental Engineering Co., Inc.

## Analysis Result of Pu in the Seawater

### 1. Measurement Result:

( Unit: Bq/L )

Place of Sampling	Date	Pu-238	Pu-239+Pu-240
1F, North of Unit 5-6 Discharge Channel	Jan 8, 2013	N.D. [ $<5.1 \times 10^{-6}$ ]	$(5.8 \pm 1.8) \times 10^{-6}$
1F, Around South Discharge Channel	Jan 8, 2013	N.D. [ $<6.7 \times 10^{-6}$ ]	$(5.7 \pm 1.9) \times 10^{-6}$
15km Offshore of Fukushima Daiichi NPS, Upper Layer	Jan 11, 2013	N.D. [ $<6.1 \times 10^{-6}$ ]	N.D. [ $<6.1 \times 10^{-6}$ ]
Around 3km Offshore of Ukedo River, Upper Layer	Jan 8, 2013	N.D. [ $<6.1 \times 10^{-6}$ ]	$(6.2 \pm 1.9) \times 10^{-6}$
3km Offshore of Fukushima Daiichi NPS, Upper Layer	Jan 4, 2013	N.D. [ $<5.5 \times 10^{-6}$ ]	N.D. [ $<5.7 \times 10^{-6}$ ]
3km Offshore of Fukushima Daini NPS, Upper Layer	Jan 10, 2013	N.D. [ $<6.2 \times 10^{-6}$ ]	N.D. [ $<6.3 \times 10^{-6}$ ]
The range of the past measurement results obtained in the ocean near Fukushima Daiichi and Daini Nuclear Power Stations (FY2001 - FY2008)*		-	ND $\sim 1.3 \times 10^{-5}$

[ ] shows below the detection limit.

\*: Source "Report on the environmental radioactivity measurement around the Nuclear Power Plant (2008)", Committee on the safety technology of Nuclear Power Plants in Fukushima.

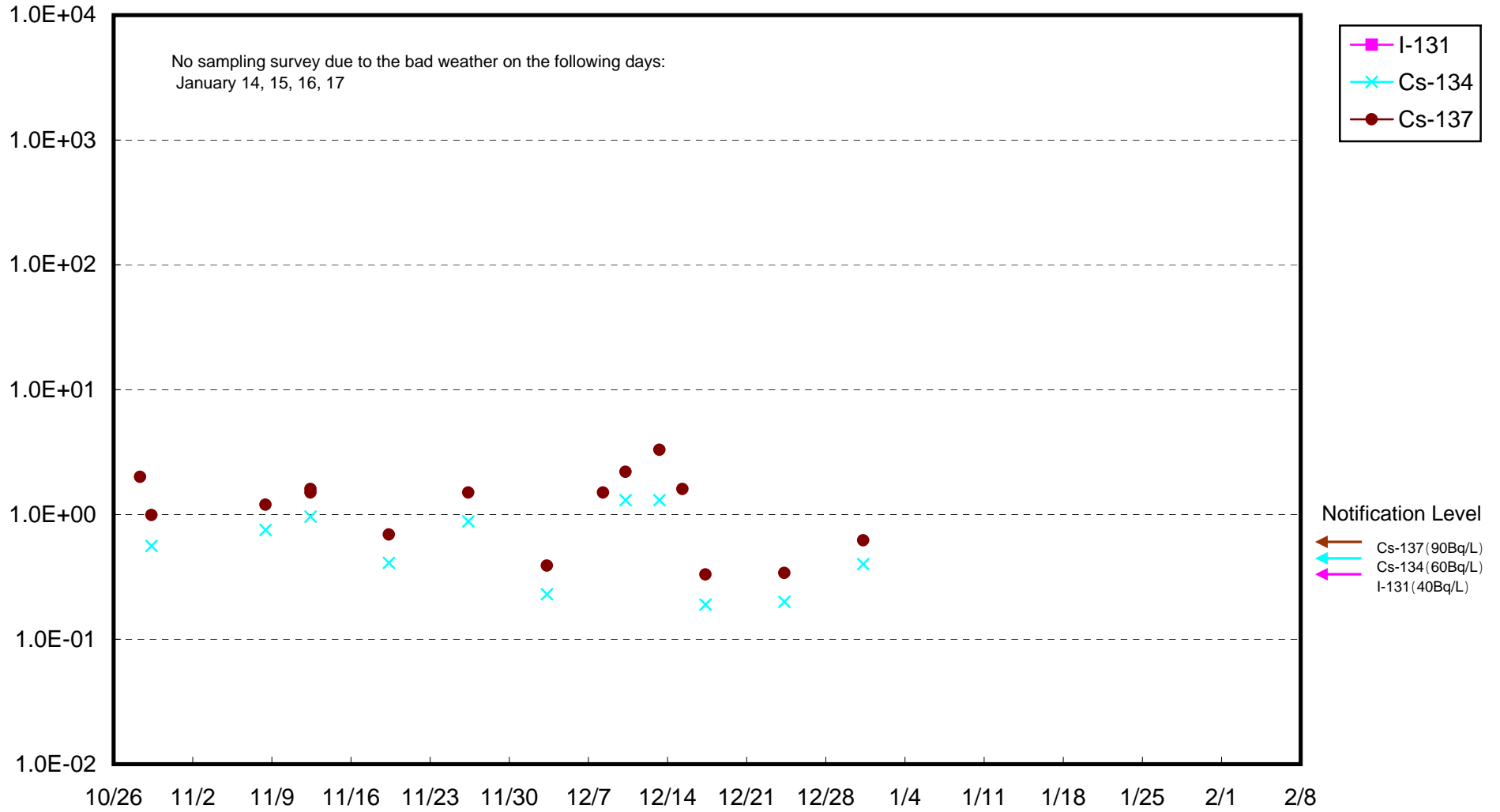
### 2. Analytical Institution: Japan Chemical Analysis Center

### 3. Evaluation:

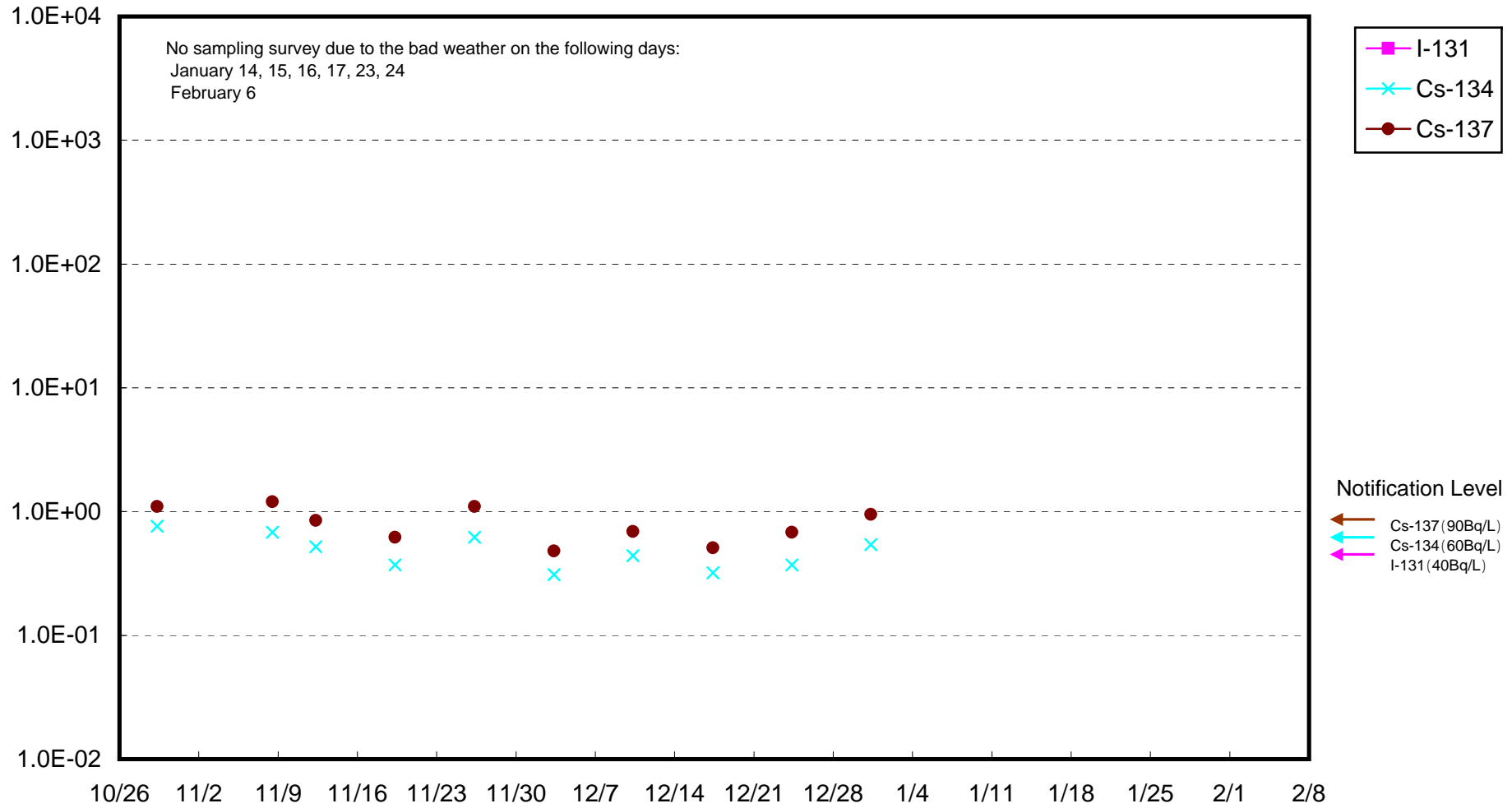
Given that the density level of Pu-239+Pu-240 detected at 1F, North of Unit 5-6 Discharge Channel, 1F, Around South Discharge Channel and Around 3km Offshore of Ukedo River, Upper Layer on January 8, 2013 is within the range of the past density measurements conducted along the seacoasts of 1F and 2F, it cannot be stated with absolute certainty that the presence of these particles is due to the accident.

End

Radioactivity Density of the Seawater at 1F Units 5-6 North Discharge Channel (Bq/L)

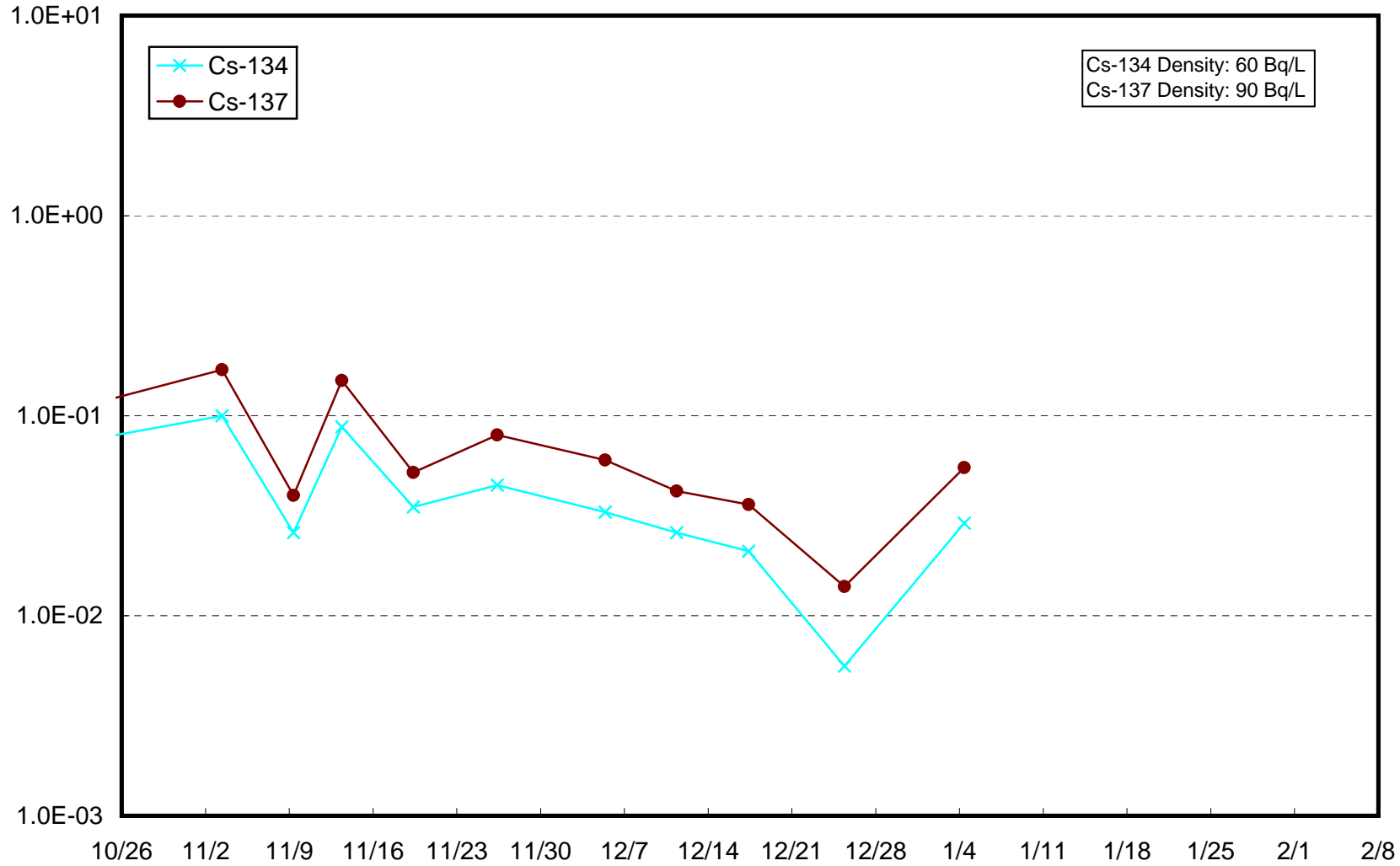


### Radioactivity Density of the Seawater at 1F South Discharge Channel (Bq/L)

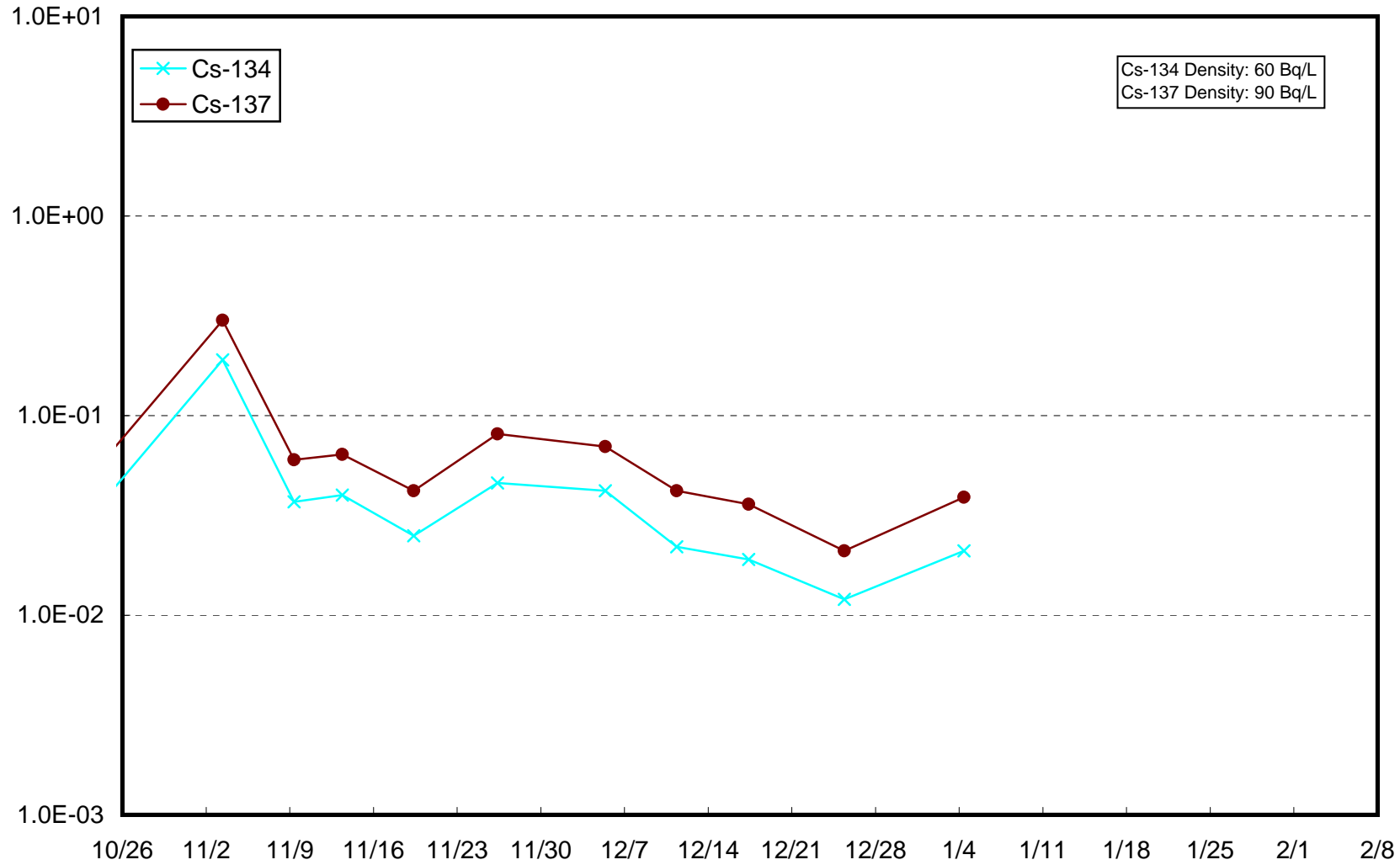


Sampling was conducted at around South Discharge Channel of Fukushima Daiichi NPS (approx. 330m south of Units 1-4 Discharge Channel) until November 25, 2012.

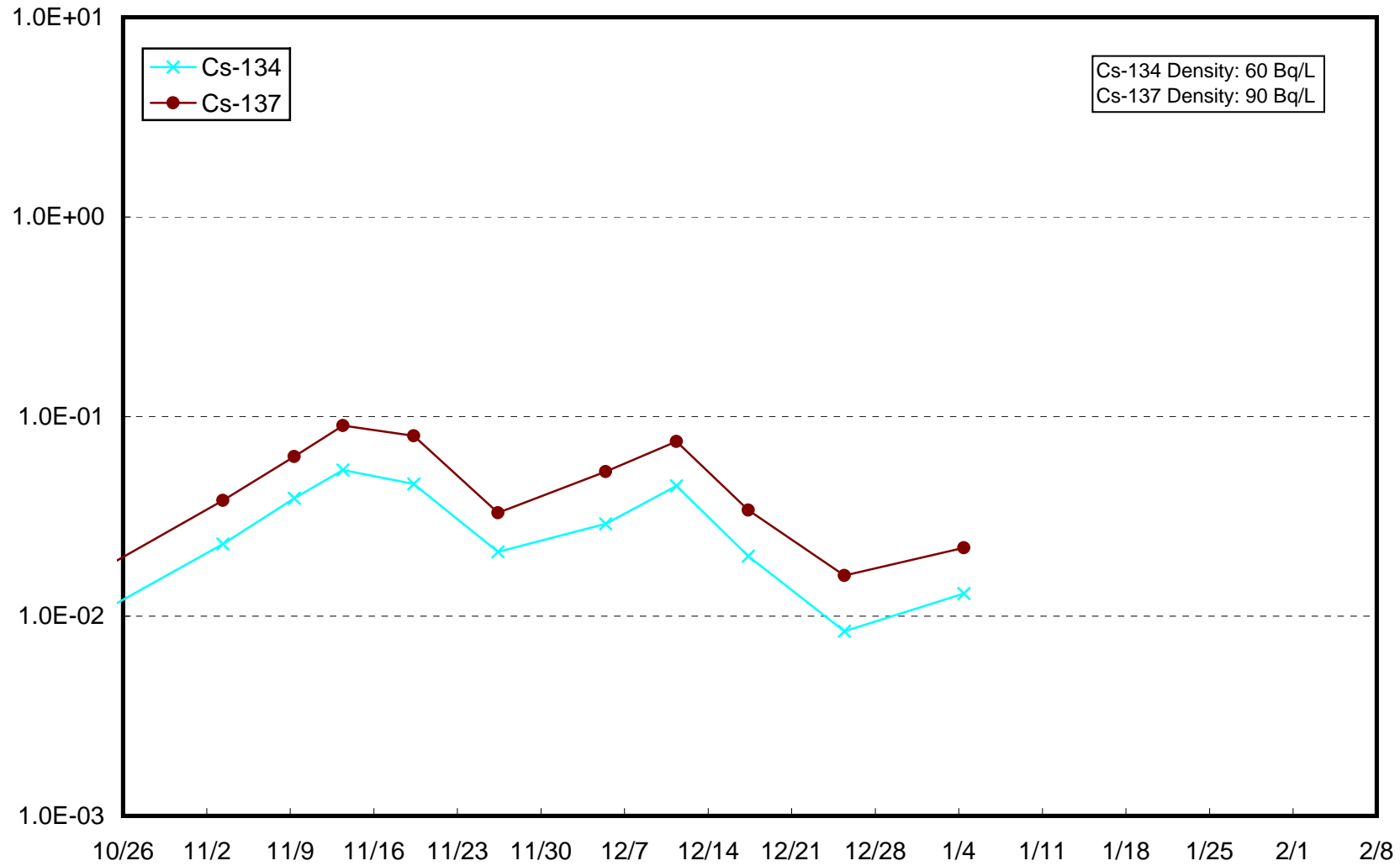
Radioactivity Density of the Seawater at 3km Offshore of Ukedo River (T-D1) Upper Layer (Bq/L)



Radioactivity Density of the Seawater at 3km Offshore of Ukedo River (T-D1) Lower Layer (Bq/L)

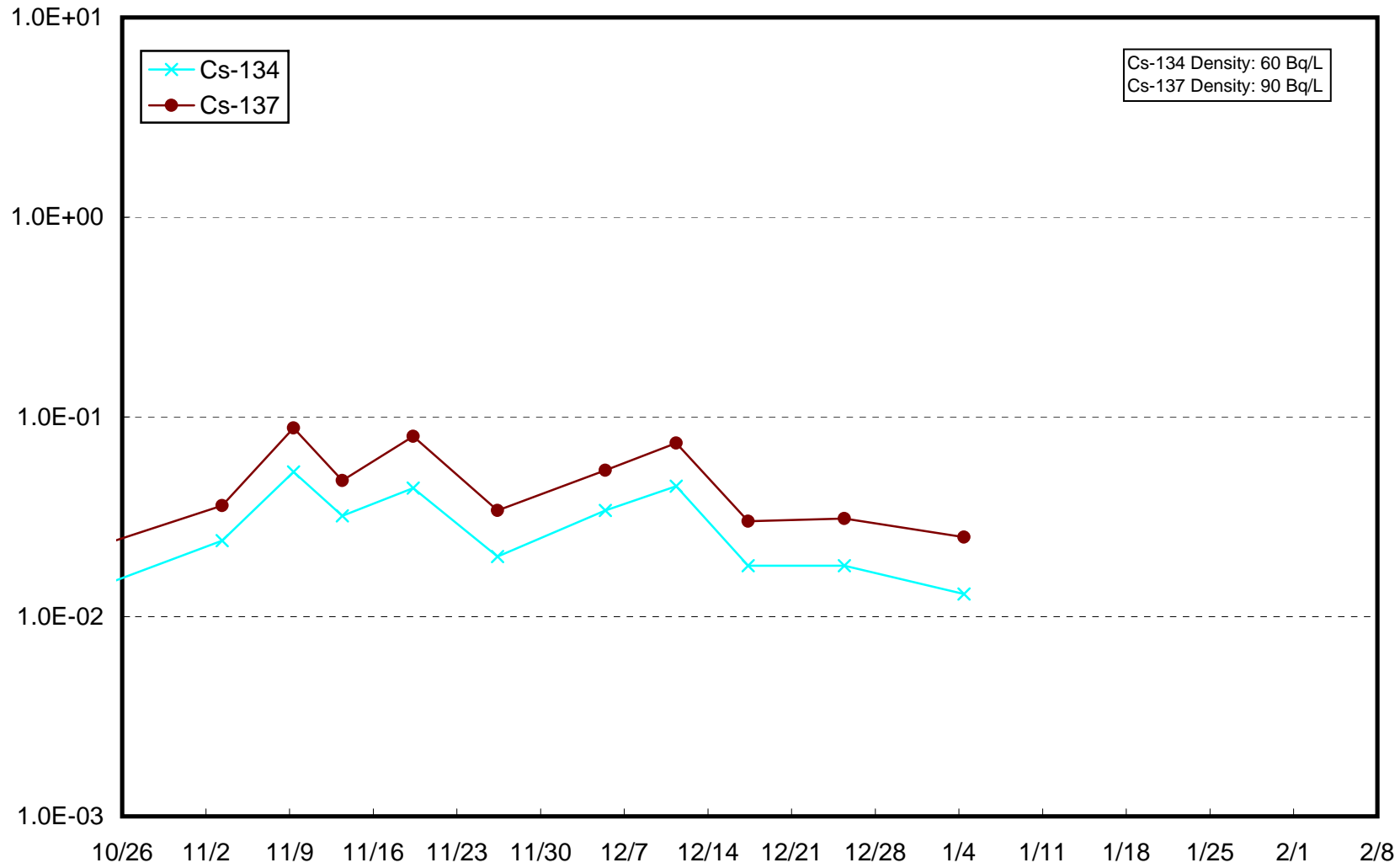


Radioactivity Density of the Seawater at 3km Offshore of Fukushima Daiichi NPS (T-D5) Upper Layer (Bq/L)

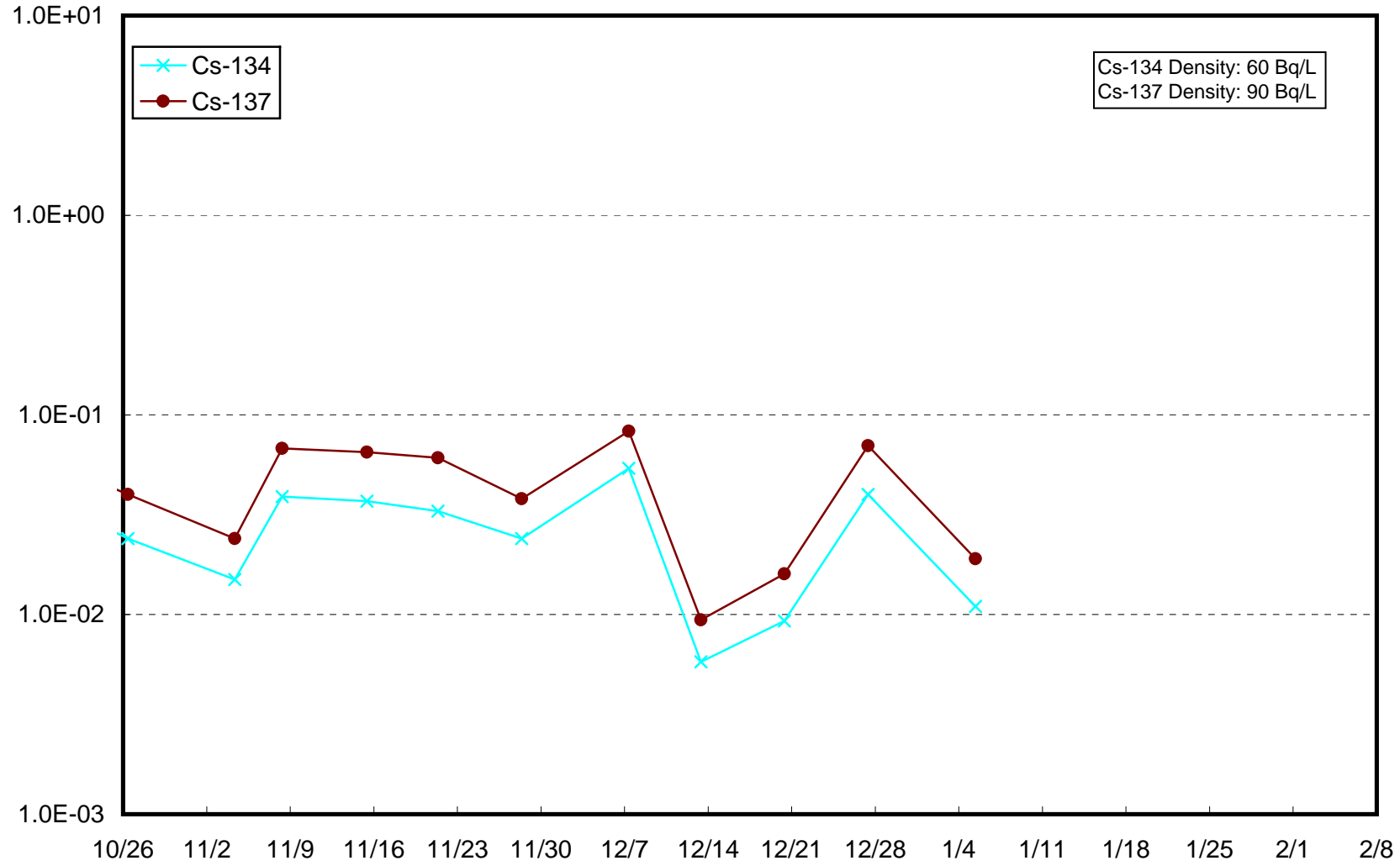




Radioactivity Density of the Seawater at 3km Offshore of Fukushima Daiichi NPS (T-D5) Lower Layer (Bq/L)



Radioactivity Density of the Seawater at 3km Offshore of Fukushima Daini NPS (T-D9) Upper Layer (Bq/L)



Radioactivity Density of the Seawater at 3km Offshore of Fukushima Daini NPS (T-D9) Lower Layer (Bq/L)

