

## Radioactivity Density of the Seawater in the Port of Fukushima Daiichi NPS &lt; 1/3 &gt;

(Data summarized on March 21)

Place of Sampling	Shallow Draft Quay at 1F				Inside Unit 1-4 Water Intake Canal (North) at 1F				1F Unit 1 Screen (Outside the Silt Fence)		1F Unit 1 Screen (Inside the Silt Fence)		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	Mar 20, 2013 6:20 AM		N/A		Mar 20, 2013 6:24 AM		N/A		Mar 20, 2013 6:28 AM		Mar 20, 2013 6:30 AM		
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 ( / )	
I-131 (Approx. 8 days)	ND	-	-	-	ND	-	-	-	ND	-	ND	-	40
Cs-134 (Approx. 2 years)	ND	-	-	-	6.8	0.11	-	-	5.4	0.09	8.3	0.14	60
Cs-137 (Approx. 30 years)	2.6	0.03	-	-	8.8	0.10	-	-	13	0.14	12	0.13	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. 1Bq/L, Cs-134: Approx.1Bq/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.

## Radioactivity Density of the Seawater in the Port of Fukushima Daiichi NPS &lt; 2/3 &gt;

(Data summarized on March 21)

Place of Sampling	1F Unit 2 Screen (Outside the Silt Fence)		1F Unit 2 Screen (Inside the Silt Fence)		1F Unit 3 Screen (Outside the Silt Fence)		1F Unit 3 Screen (Inside the Silt Fence)		1F Unit 4 Screen (Outside the Silt Fence)		1F Unit 4 Screen (Inside the Silt Fence)		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	Mar 20, 2013 6:33 AM		Mar 20, 2013 6:36 AM		Mar 20, 2013 6:40 AM		Mar 20, 2013 6:44 AM		Mar 20, 2013 6:40 AM		Mar 20, 2013 6:44 AM		
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 ( / )	
I-131 (Approx. 8 days)	ND	-	ND	-	ND	-	ND	-	ND	-	ND	-	40
Cs-134 (Approx. 2 years)	5.7	0.10	11	0.18	7.2	0.12	17	0.28	ND	-	ND	-	60
Cs-137 (Approx. 30 years)	14	0.16	22	0.24	15	0.17	53	0.59	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. 9Bq/L, Cs-134: Approx.16Bq/L, Cs-137: Approx.21Bq/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.

Radioactivity Density of the Seawater in the Port of Fukushima Daiichi NPS < 3/3 >

(Data summarized on March 21)

Place of Sampling	Inside Unit 1-4 Water Intake Canal (South) at 1F		Port Entrance of Fukushima Daiichi NPS		In Front of Unit 6 Water Intake Canal at 1F								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	Mar 20, 2013 6:50 AM		N/A		N/A								
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 ( / )	
I-131 (Approx. 8 days)	ND	-	-	-	-	-							40
Cs-134 (Approx. 2 years)	6.3	0.11	-	-	-	-							60
Cs-137 (Approx. 30 years)	16	0.18	-	-	-	-							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. 1Bq/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 Unit 1-4 Water Intake

Place of Sampling	North of Unit 1-4 Water Intake at Fukushima Daiichi NPS		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.)
Date of Sampling	Jul 9, 2012		
Detected Nuclides (Half-life)	Density of Sample (Bq/L)	Scaling Factor ( / )	
I-131 (Approx. 8 days)	ND	-	40
Cs-134 (Approx. 2 years)	ND	-	60
Cs-137 (Approx. 30 years)	ND	-	90
H-3 (approx. 12yrs)	13	0.00	60,000
All α	ND	-	-
All β	31	-	-
Sr-89 (Approx. 51 days)	ND	-	300
Sr-90 (Approx. 29 years)	9	0.3	30

\* 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.

\* Nuclide analysis results of I-131, Cs-134, Cs-137 were announced on July 10. H-3, All α and All β were announced on October 3.

\* When the measurement value is below the detection limit, "ND" is marked. The detection limits are as follows.

I-131: Approx. 1Bq/L, All α: Approx. 0.1Bq/L, Sr-89: Approx. 0.3Bq/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 of Sr-89 and Sr-90 were done by KAKEN Inc..

(Evaluation)

Sr-90 were detected supposedly as a result of this accident.

## Nuclides Analysis Result of Radioactive Materials in the Unit 1-4 Water Intake

Place of Sampling	North of Unit 1-4 Water Intake at Fukushima Daiichi NPS		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.)
Date of Sampling	Aug 13, 2012		
Detected Nuclides (Half-life)	Density of Sample (Bq/L)	Scaling Factor ( / )	
I-131 (Approx. 8 days)	ND	-	40
Cs-134 (Approx. 2 years)	23	0.38	60
Cs-137 (Approx. 30 years)	41	0.46	90
H-3 (approx. 12yrs)	190	0.00	60,000
All $\alpha$	ND	-	-
All $\beta$	120	-	-
Sr-89 (Approx. 51 days)	ND	-	300
Sr-90 (Approx. 29 years)	55	1.8	30

\* 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.

\* Nuclide analysis results of I-131, Cs-134, Cs-137 were announced on August 14. H-3, All  $\alpha$  and All  $\beta$  were announced on October 3.

\* When the measurement value is below the detection limit, "ND" is marked. The detection limits are as follows.

I-131: Approx. 1Bq/L, All  $\alpha$ : Approx. 0.09Bq/L, Sr-89: Approx. 0.5Bq/L

\* Nuclides analysis of Sr-89 and Sr-90 were done by KAKEN Inc..

(Evaluation)

Sr-90 were detected supposedly as a result of this accident.

## 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 1-4 Water Intake	Sep 10, 2012	N.D. [ $<1.9 \times 10^{-3}$ ]	N.D. [ $<1.6 \times 10^{-3}$ ]

[ ] shows below the detection limit.

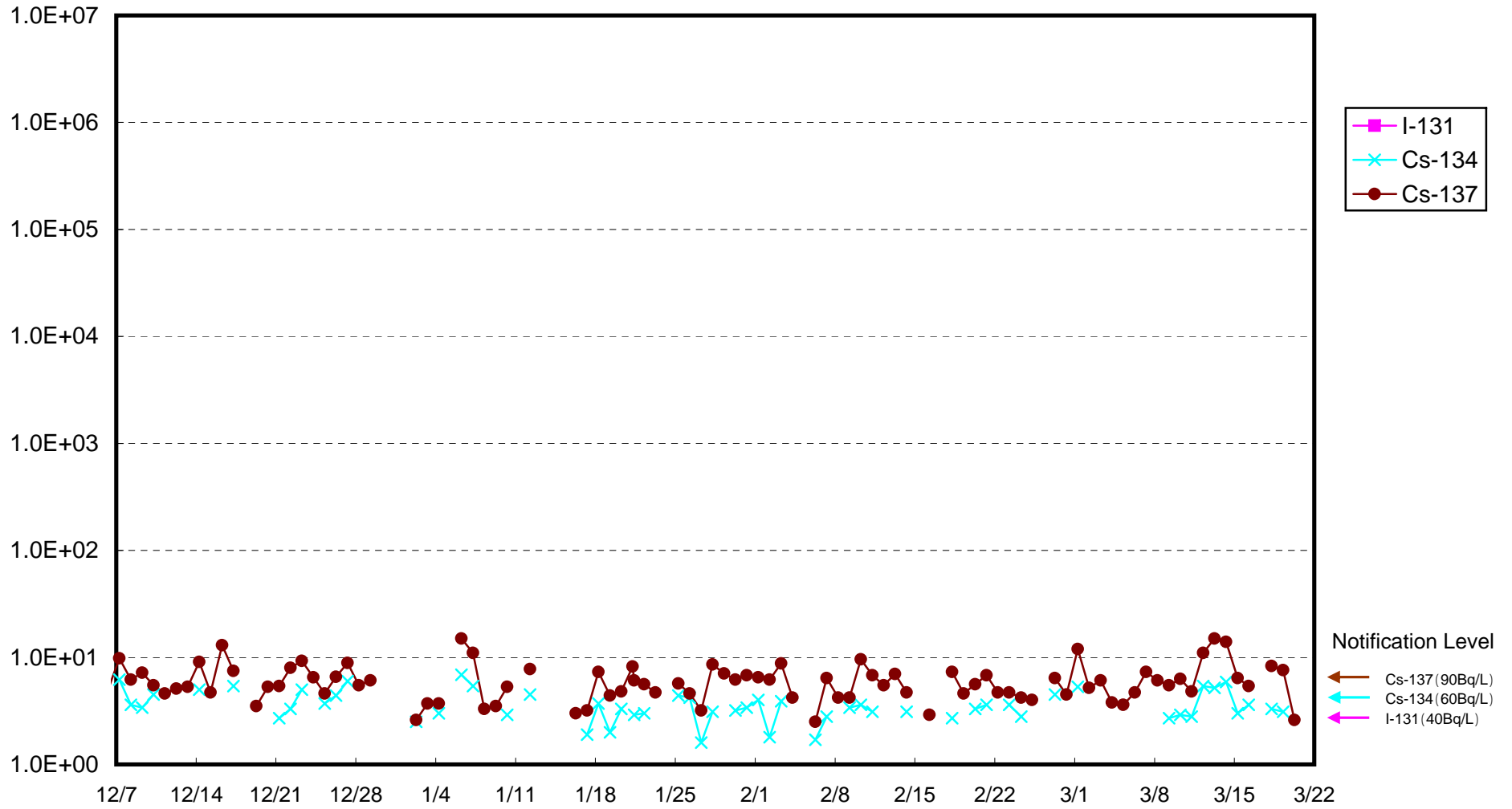
2. Analytical Institution  
KAKEN Inc.

3. Evaluation:

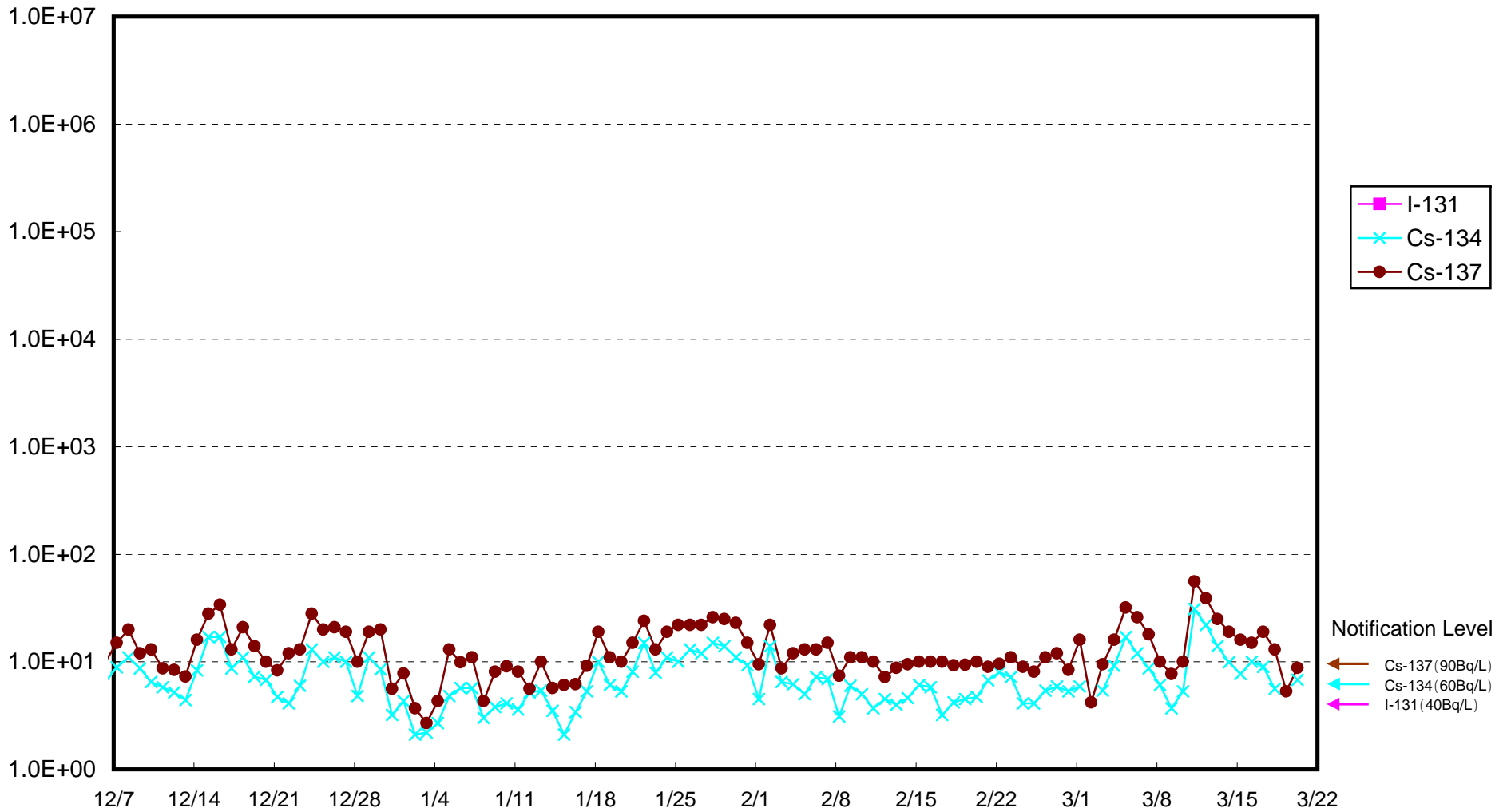
Pu-238 and Pu-239+Pu-240 were not detected in the sample collected this time.

End

Radioactivity Density of the Seawater in Front of the Shallow Draft Quay at 1F (Bq/L)

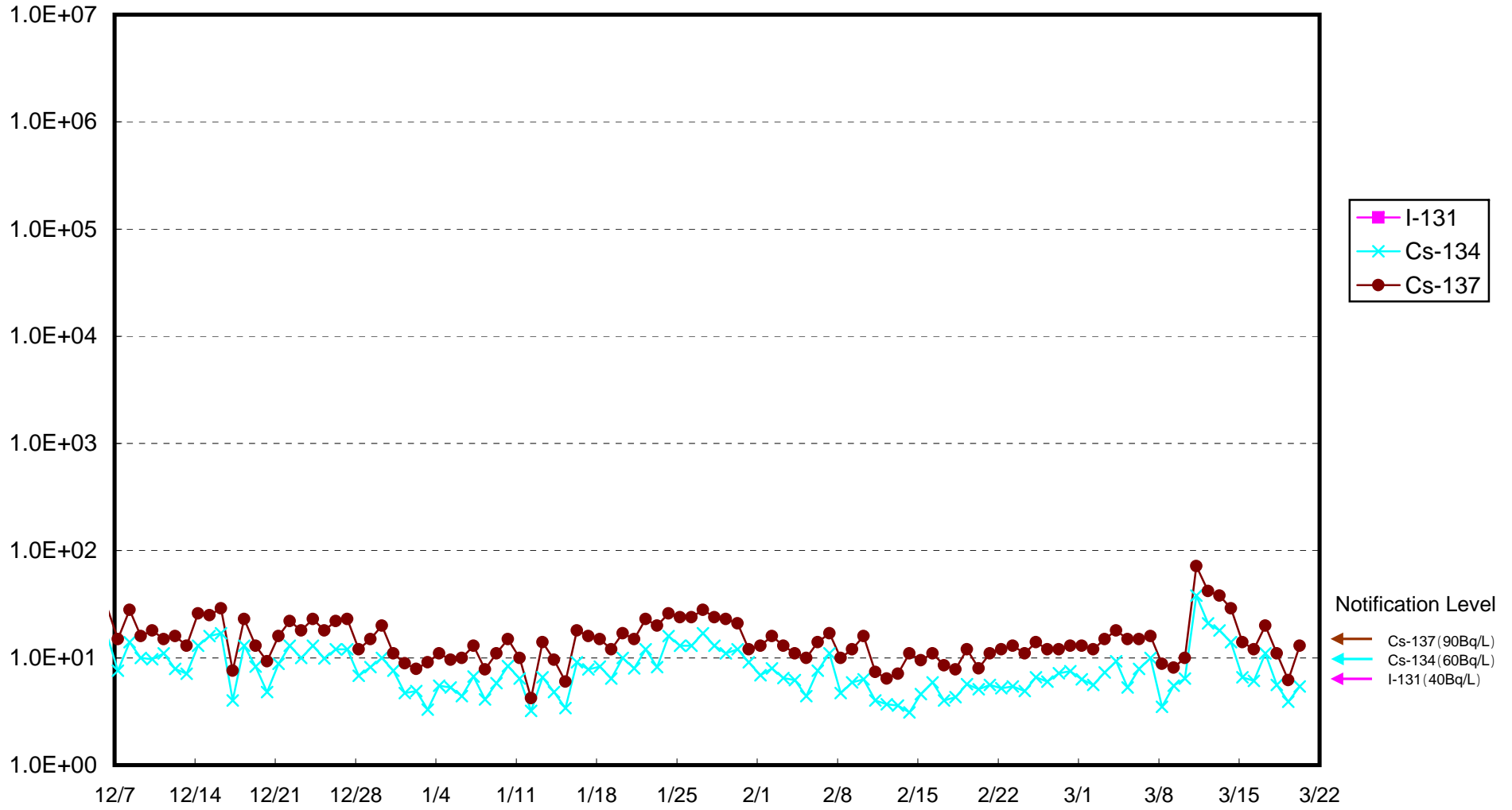


Radioactivity Density of the Seawater at the North of Unit 1-4 Water Intake of Fukushima Daiichi NPS (Bq/ L)

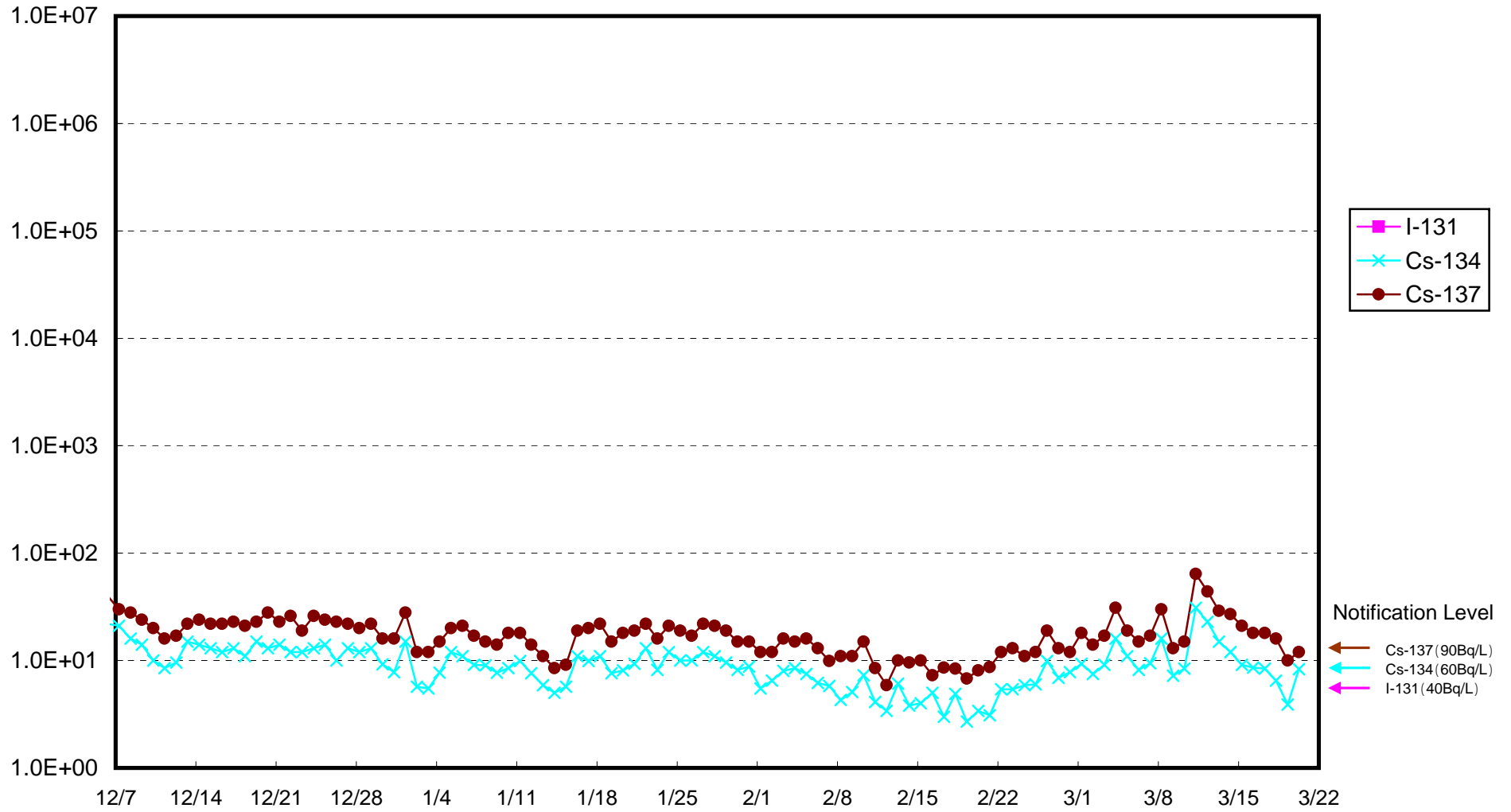




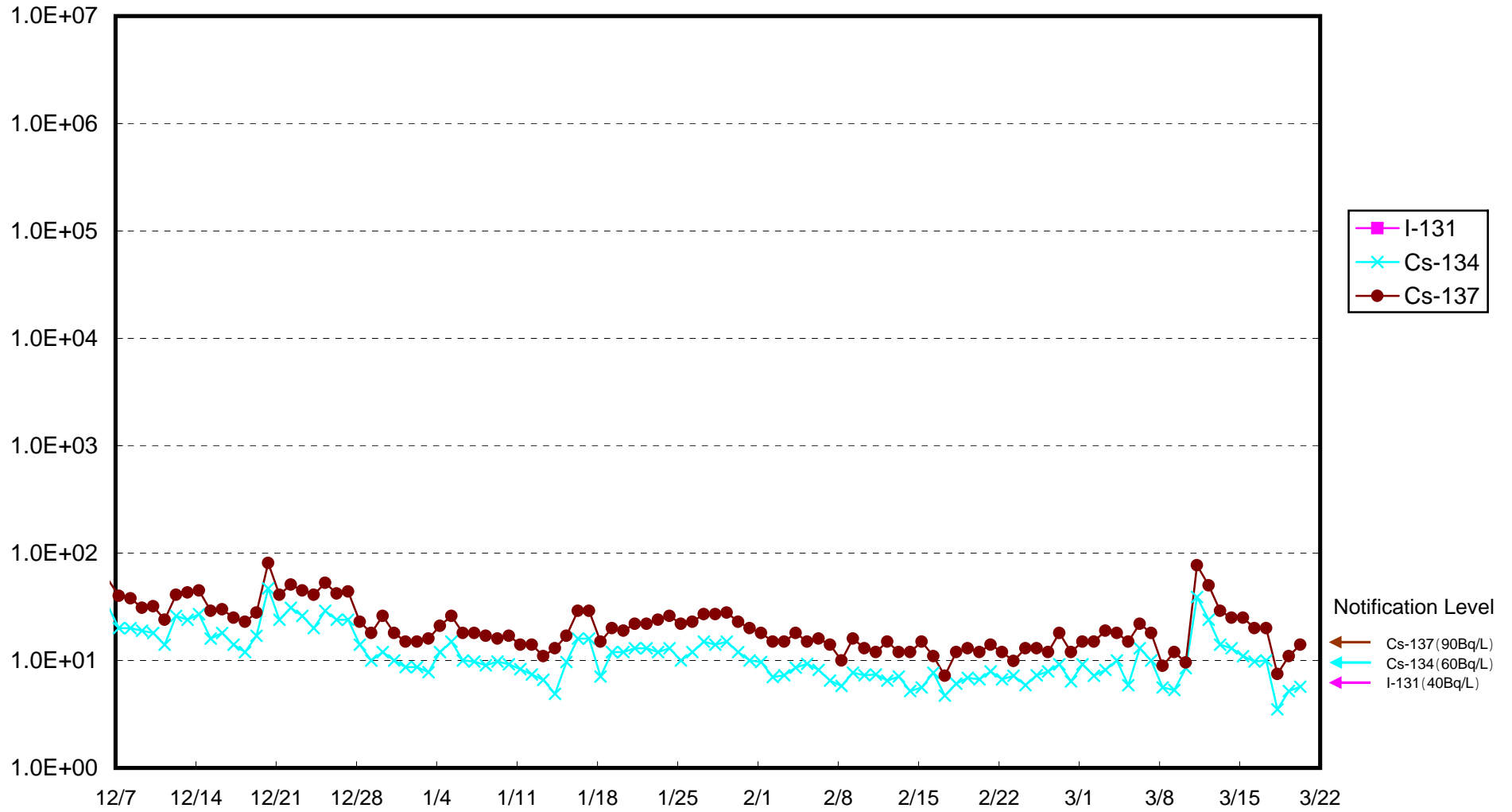
Radioactivity Density of the Seawater at Unit 1 Screen at 1F (Outside the Silt Fence) (Bq/L)



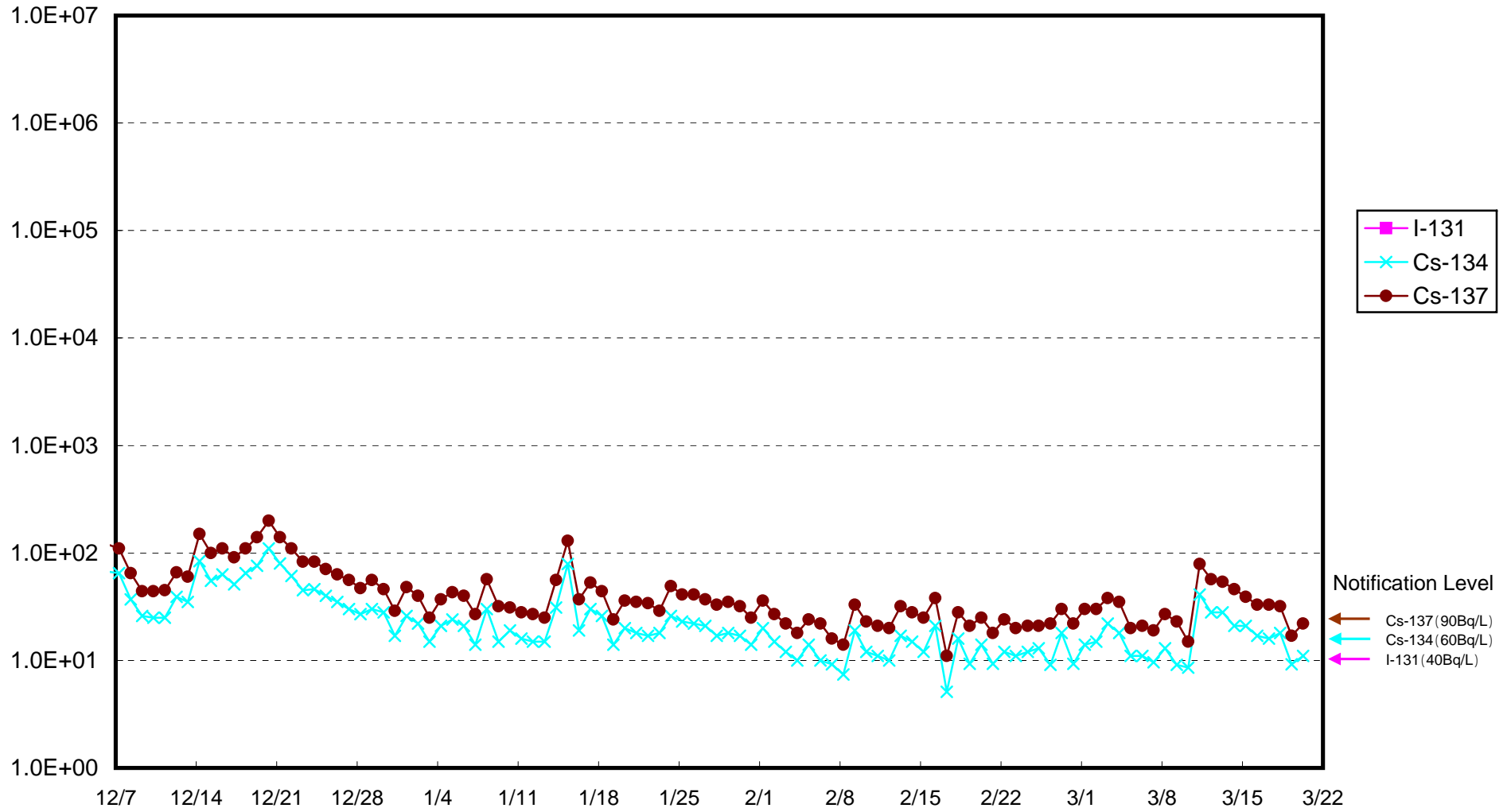
Radioactivity Density of the Seawater at Unit 1 Screen at 1F (Inside the Silt Fence) (Bq/L)



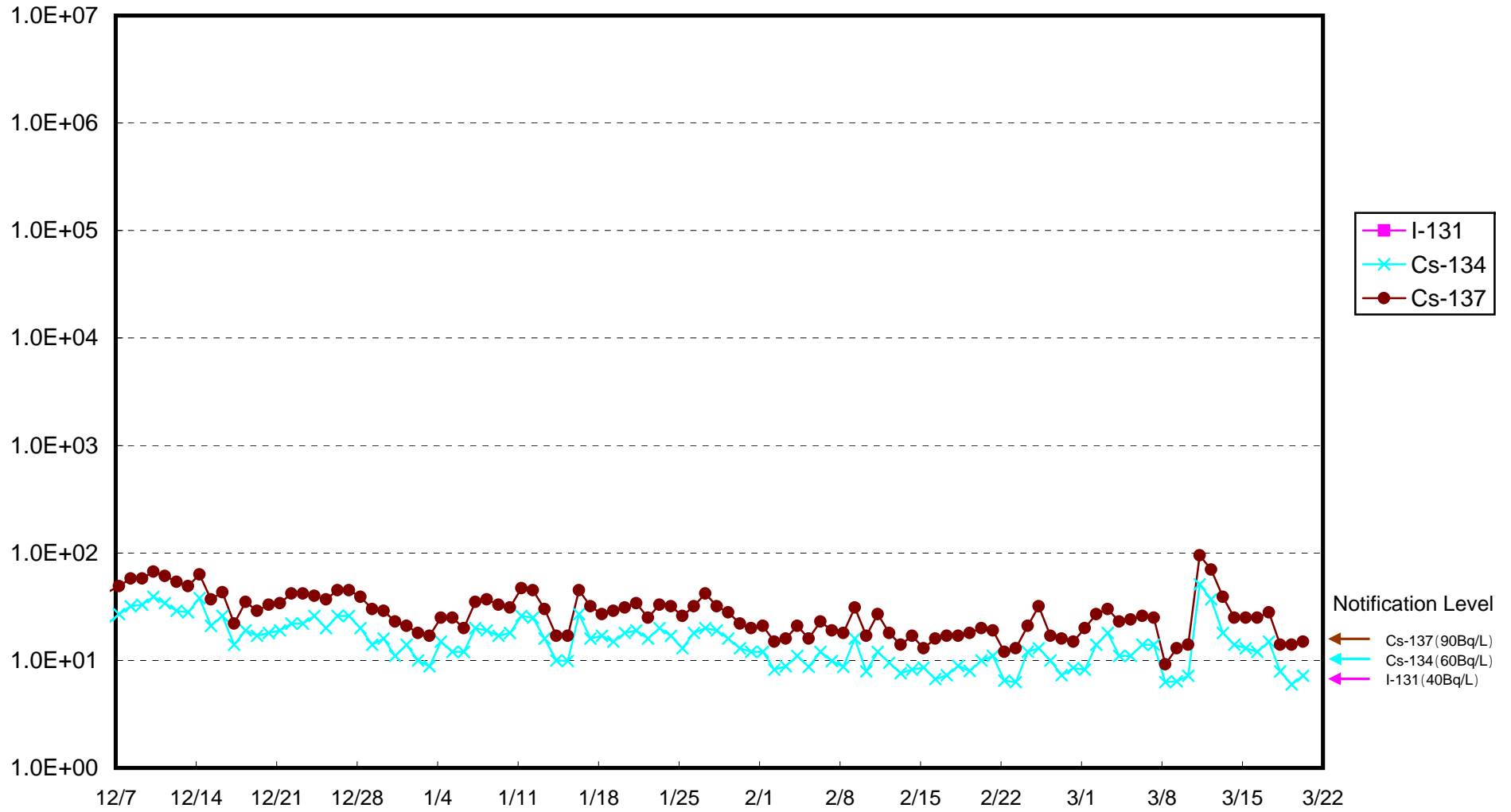
Radioactivity Density of the Seawater at Unit 2 Screen at 1F (Outside the Silt Fence) (Bq/L)



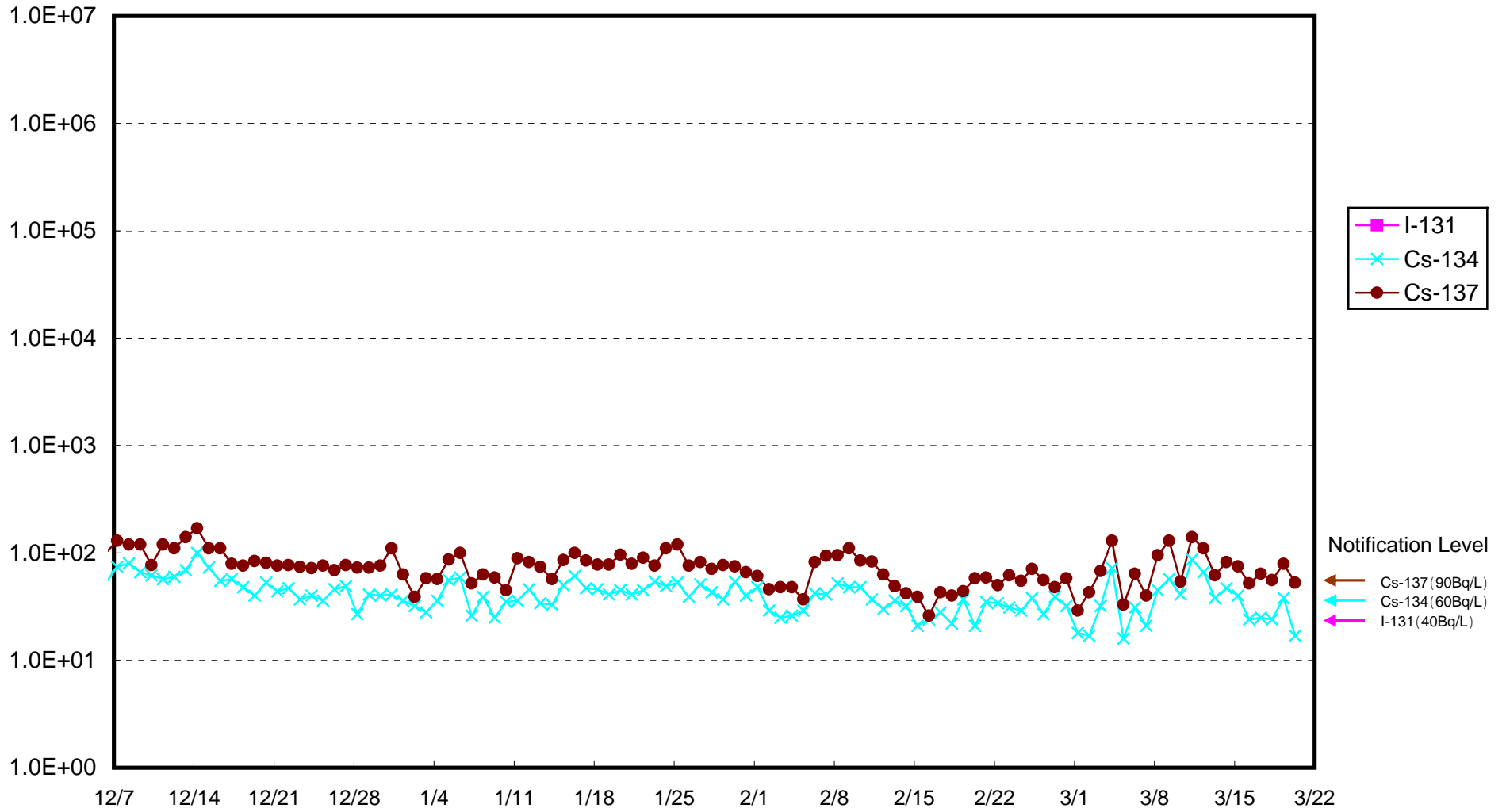
Radioactivity Density of the Seawater at Unit 2 Screen at 1F (Inside the Silt Fence) (Bq/L)



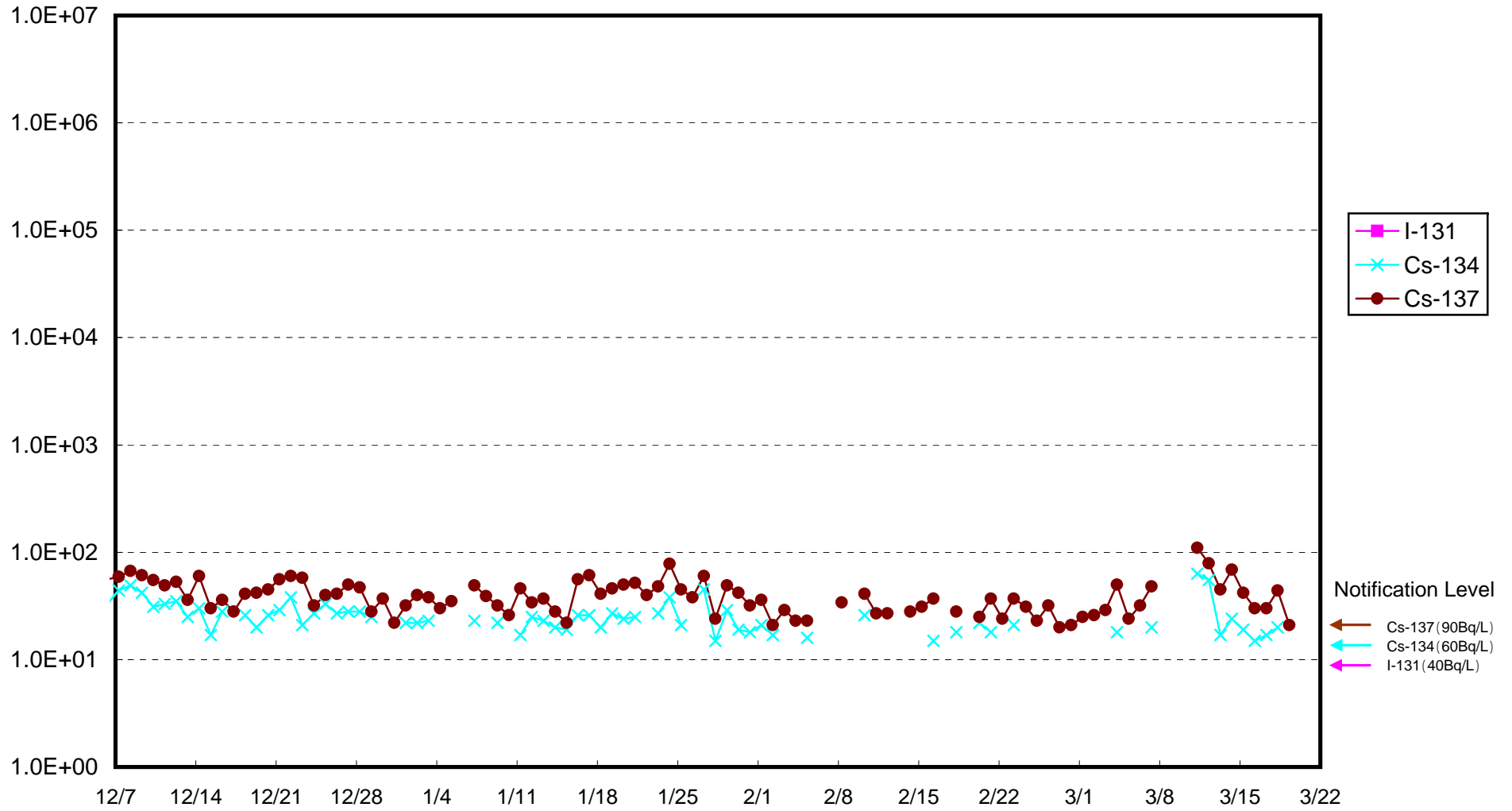
Radioactivity Density of the Seawater at Unit 3 Screen at 1F (Outside the Silt Fence) (Bq/L)



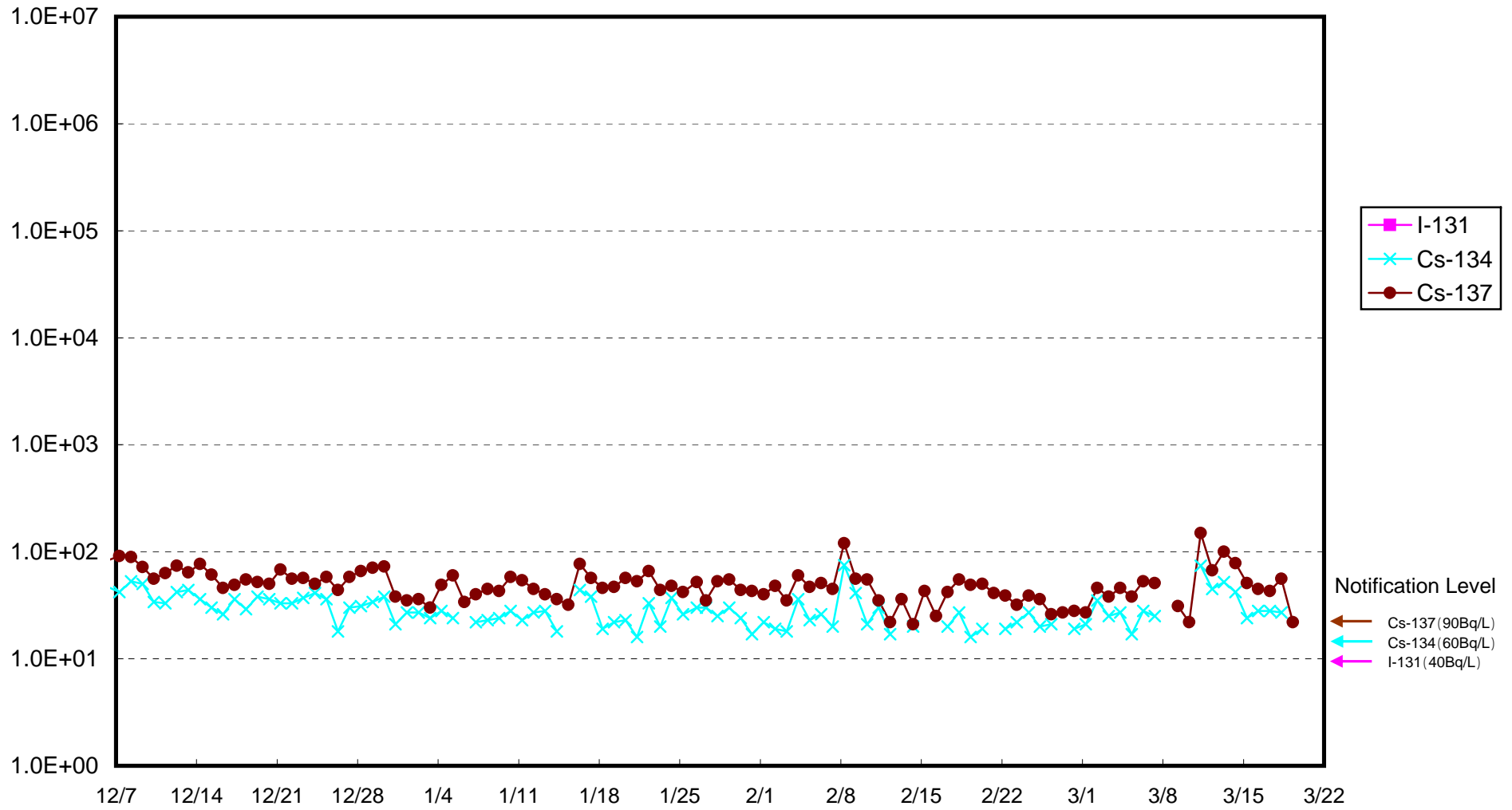
Radioactivity Density of the Seawater at Unit 3 Screen at 1F (Inside the Silt Fence) (Bq/L)



Radioactivity Density of the Seawater at Unit 4 Screen at 1F (Outside the Silt Fence) (Bq/L)



Radioactivity Density of the Seawater at Unit 4 Screen at 1F (Inside the Silt Fence) (Bq/L)





Radioactivity Density of the Seawater at the South of Unit 1-4 Water Intake of Fukushima Daiichi NPS (Bq/ L)

