

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

(Data summarized on April 18)

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)		② 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 Apr 17, 2013 6:50 AM		Time of Sampling Apr 17, 2013 7:05 AM		
Detected Nuclides (Half-life)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	
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. 0.46Bq/L, Cs-134: Approx. 1.0Bq/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

(Data summarized on April 18)

Place of Sampling (Place No.)	North of Unit 5-6 Discharge Channel at Fukushima Daiichi NPS (Approx. 30m North of Unit 5-6 Discharge Channel) (T-1)		Around South Discharge Channel of Fukushima Daiichi NPS (Approx. 1.3km South of Unit 1-4 Discharge Channel) (T-2-1)		/		② 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		Date of Sampling		/		
Detected Nuclides (Half-life)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	
I-131 (Approx. 8 days)	ND	—	ND	—	/	/	40
Cs-134 (Approx. 2 years)	ND	—	ND	—	/	/	60
Cs-137 (Approx. 30 years)	ND	—	ND	—	/	/	90
H-3 (approx. 12yrs)	ND	—	ND	—	/	/	60,000
All α	ND	—	ND	—	/	/	—
All β	ND	—	ND	—	/	/	—
Sr-89 (Approx. 51 days)	ND	—	ND	—	/	/	300
Sr-90 (Approx. 29 years)	1.9	0.06	0.31	0.01	/	/	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 and All β obtained at "Around South Discharge Channel of Fukushima Daiichi NPS " were announced on March

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

I-131: Approx. 0.43Bq/L, Cs-134: Approx. 1.1Bq/L, Cs-137: Approx. 1.4Bq/L,

H-3: Approx. 3.2Bq/L, All α: Approx. 0.11Bq/L, All β: Approx. 25Bq/L,

Sr-89: Approx. 0.2Bq/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 Japan Chemical Analysis Center.

(Evaluation)

Although Sr-90 was detected supposedly as a result of this accident, it is less than the density limit in the water which is specified by the announcement.

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

(Data summarized on April 18)

Place of Sampling (Place No.)	1km Offshore of Nida River (T-13-1)				3km Offshore of Soma (T-22)				5km Offshore of Kashima (T-MA)				② 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.)
	Upper Layer		Lower Layer		Upper Layer		Lower Layer		Upper Layer		Lower Layer		
Time of Sampling	Mar 5, 2013 6:49 AM		Mar 5, 2013 6:49 AM		Mar 5, 2013 7:51 AM		Mar 5, 2013 7:51 AM		Mar 5, 2013 7:21 AM		Mar 5, 2013 7:21 AM		
Detected Nuclides (Half-life)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	
Cs-134 (Approx. 2 years)	0.0094	0.00	0.0082	0.00	0.0048	0.00	0.0049	0.00	0.0054	0.00	0.0075	0.00	60
Cs-137 (Approx. 30 years)	0.019	0.00	0.017	0.00	0.010	0.00	0.0096	0.00	0.011	0.00	0.015	0.00	90

Place of Sampling (Place No.)	Around 1km Offshore of Ota River (T-S1)				Around 3km Offshore of Odaka Ward (T-S2)				/				② 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.)
	Upper Layer		Lower Layer		Upper Layer		Lower Layer		Upper Layer		Lower Layer		
Time of Sampling	Mar 7, 2013 5:54 AM		Mar 7, 2013 5:54 AM		Mar 7, 2013 6:21 AM		Mar 7, 2013 6:21 AM		/		/		
Detected Nuclides (Half-life)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	
Cs-134 (Approx. 2 years)	0.014	0.00	0.011	0.00	0.016	0.00	0.016	0.00	/	/	/	/	60
Cs-137 (Approx. 30 years)	0.025	0.00	0.021	0.00	0.034	0.00	0.032	0.00	/	/	/	/	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: THE GENERAL ENVIRONMENTAL TECHNOS Co., LTD.

## Nuclides Analysis Result of Radioactive Materials in the Seawater

(Data summarized on April 18)

Place of Sampling (Place No.)	15km Offshore of Fukushima Daiichi NPS (T-5) Upper Layer		3km Offshore of Ukedo River (T-D1) Upper Layer		3km Offshore of Fukushima Daiichi NPS (T-D5) Upper Layer		② 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		Date of Sampling		Date of Sampling		
Detected Nuclides (Half-life)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	
Cs-134 (Approx. 2 years)	0.0018	0.00	0.039	0.00	0.036	0.00	60
Cs-137 (Approx. 30 years)	0.0043	0.00	0.071	0.00	0.064	0.00	90
H-3 (approx. 12yrs)	ND	—	ND	—	ND	—	60,000
All α	ND	—	ND	—	ND	—	—
All β	ND	—	ND	—	ND	—	—
Sr-89 (Approx. 51 days)	ND	—	ND	—	ND	—	300
Sr-90 (Approx. 29 years)	ND	—	0.056	0.00	0.042	0.00	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 Cs-134, Cs-137 were announced on April 4 and 11.

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

H-3: Approx. 2.9Bq/L, All α: Approx. 3.3Bq/L, All β: Approx. 19Bq/L,

Sr-89: Approx. 0.03Bq/L, Sr-90: 0.009Bq/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 Japan Chemical Analysis Center.

(Evaluation)

Although Sr-90 was detected supposedly as a result of this accident, it is less than the density limit in the water which is specified by the announcement.

## Nuclides Analysis Result of Radioactive Materials in the Seawater

(Data summarized on April 18)

Place of Sampling (Place No.)	3km Offshore of Fukushima Daini NPS (T-D9) Upper Layer						② 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	Mar 6, 2013						
Detected Nuclides (Half-life)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	
Cs-134 (Approx. 2 years)	0.0040	0.00	/	/	/	/	60
Cs-137 (Approx. 30 years)	0.011	0.00	/	/	/	/	90
H-3 (approx. 12yrs)	ND	—	/	/	/	/	60,000
All α	ND	—	/	/	/	/	—
All β	ND	—	/	/	/	/	—
Sr-89 (Approx. 51 days)	ND	—	/	/	/	/	300
Sr-90 (Approx. 29 years)	ND	—	/	/	/	/	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 Cs-134, Cs-137 were announced on April 4.

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

H-3: Approx. 2.9Bq/L, All α: Approx. 3.3Bq/L, All β: Approx. 19Bq/L,

Sr-89: Approx. 0.02Bq/L, Sr-90: Approx. 0.007Bq/L

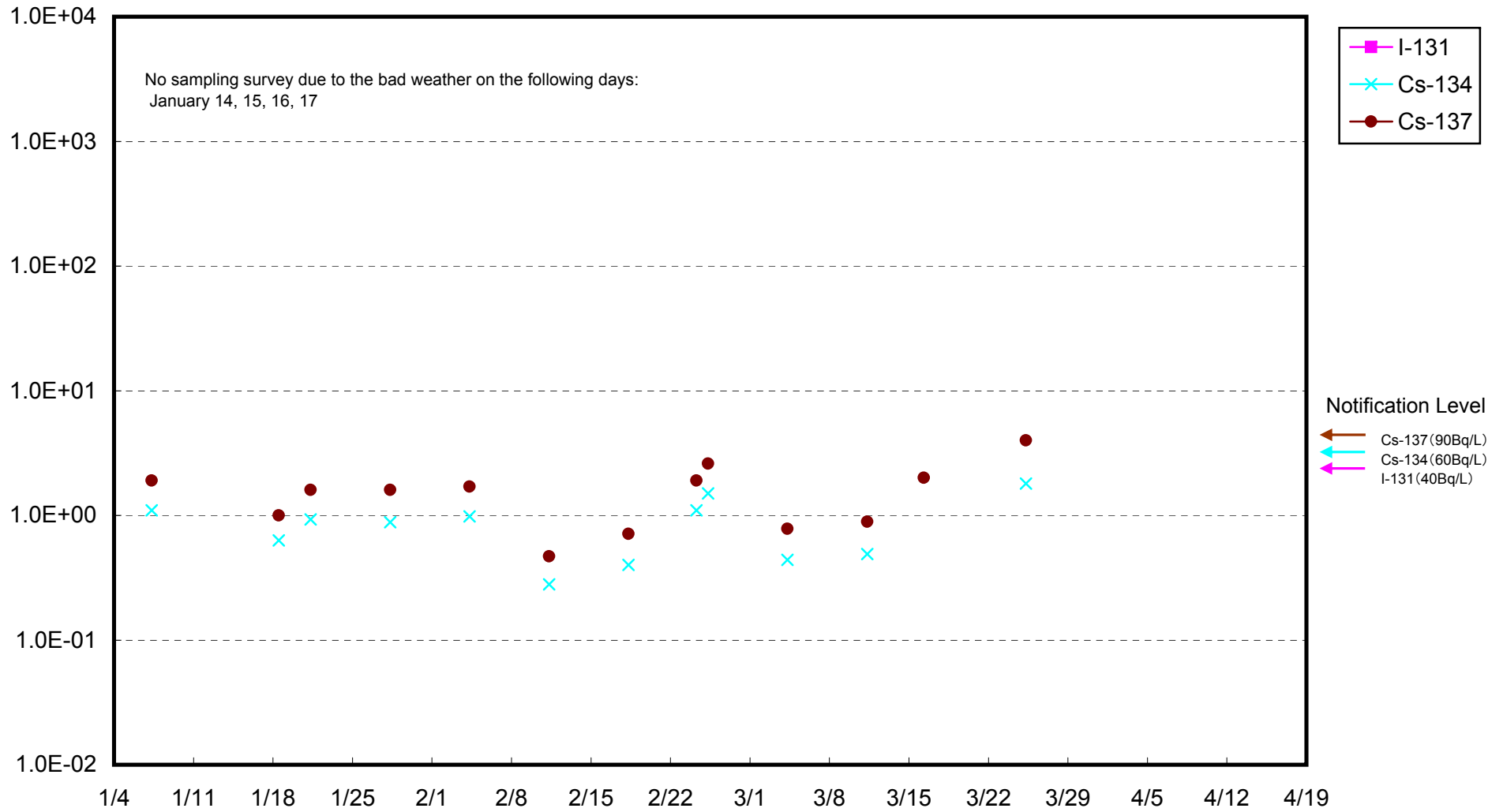
As the detection limit may vary depending on the detectors and sample properties, there are cases where nuclides below the detection limit are detected.

\* Nuclides analysis of Sr-89 and Sr-90 were done by Japan Chemical Analysis Center.

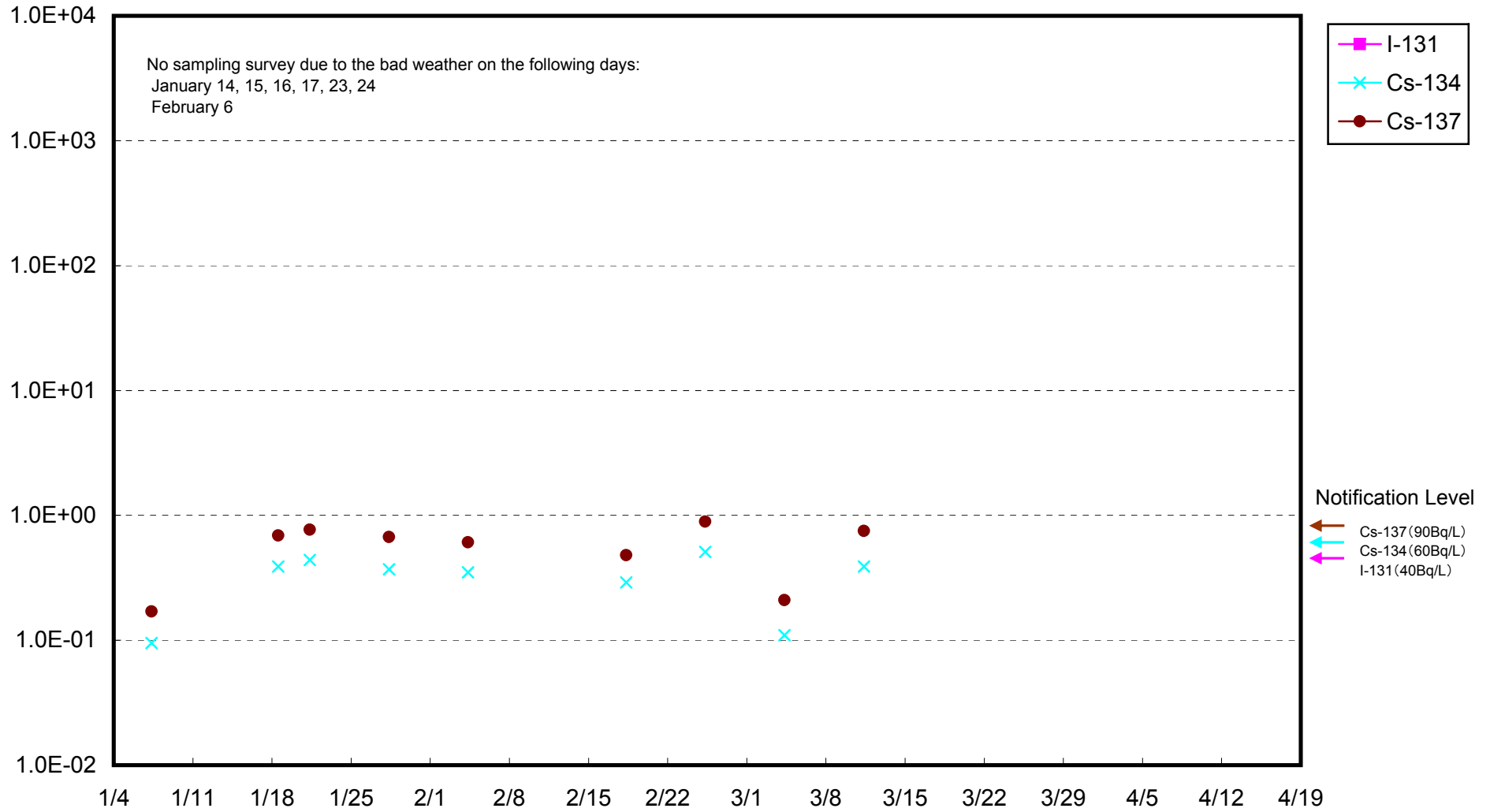
(Evaluation)

H-3, All αradiation, All βradiation, Sr-89 and Sr-90 were not detected in the sample collected this time.

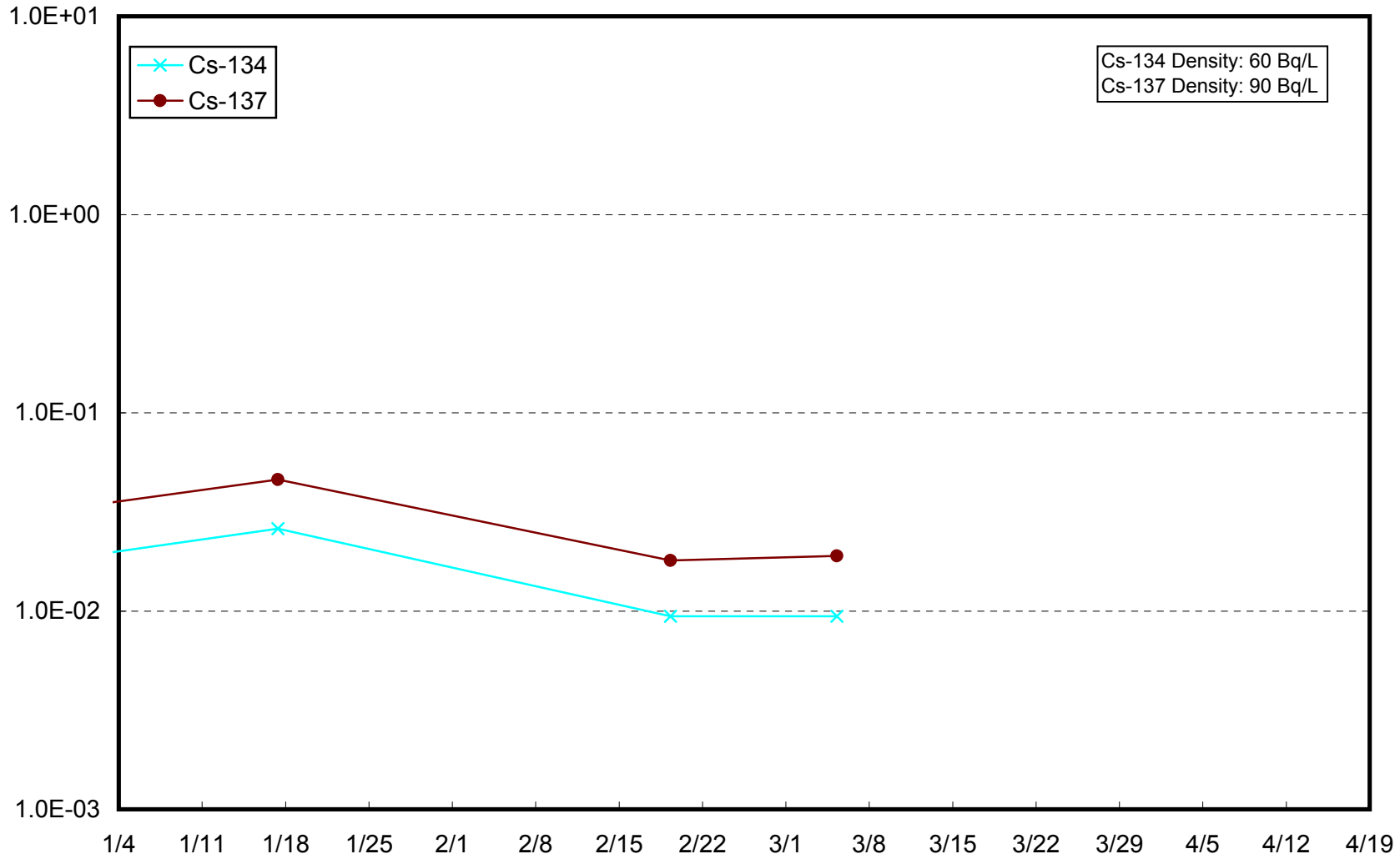
Radioactivity Density of the Seawater at 1F Units 5-6 North Discharge Channel (Bq/L)



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

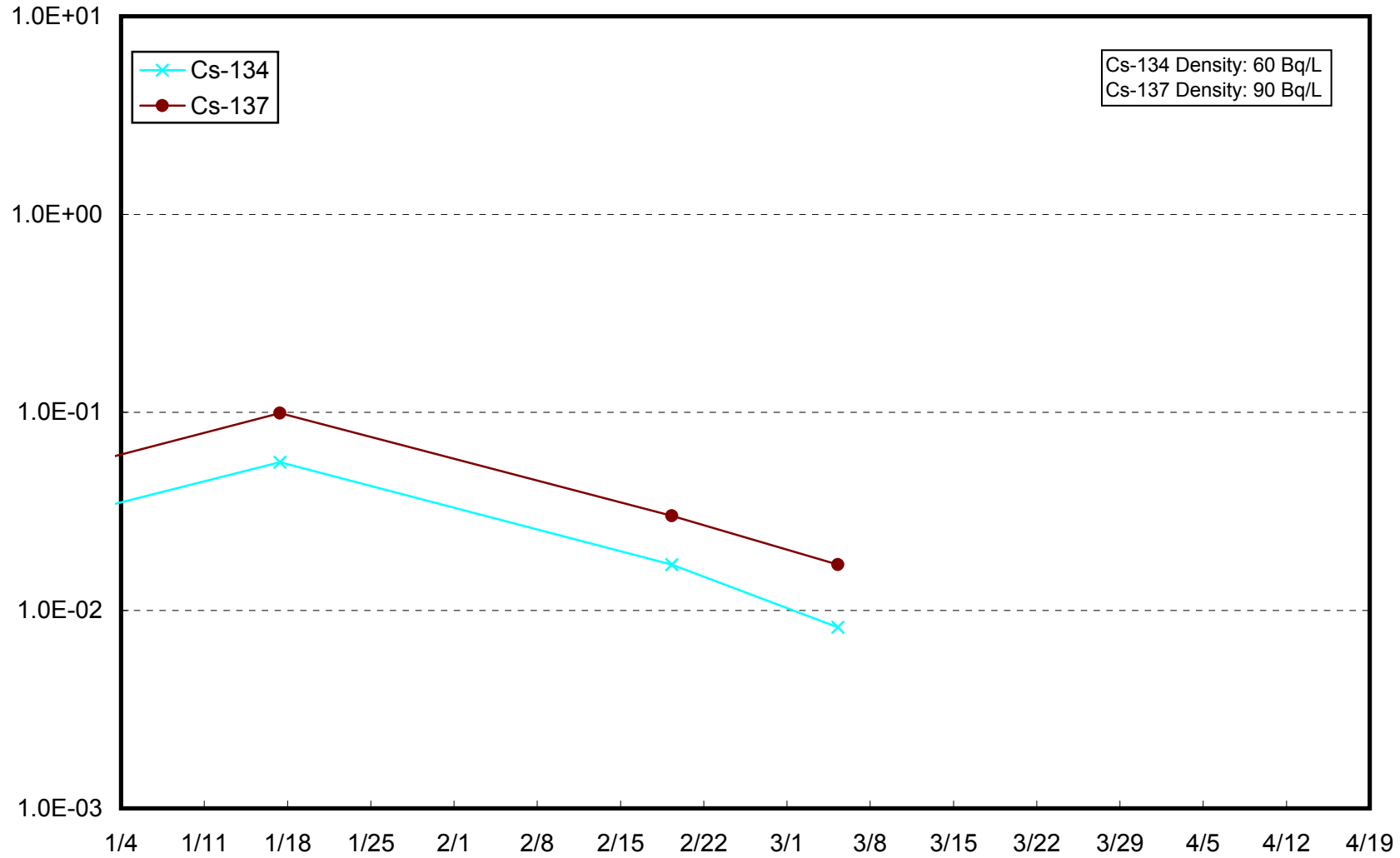


Radioactivity Density of the Seawater at 1km Offshore of Nida River (T-13-1) Upper Layer (Bq/L)

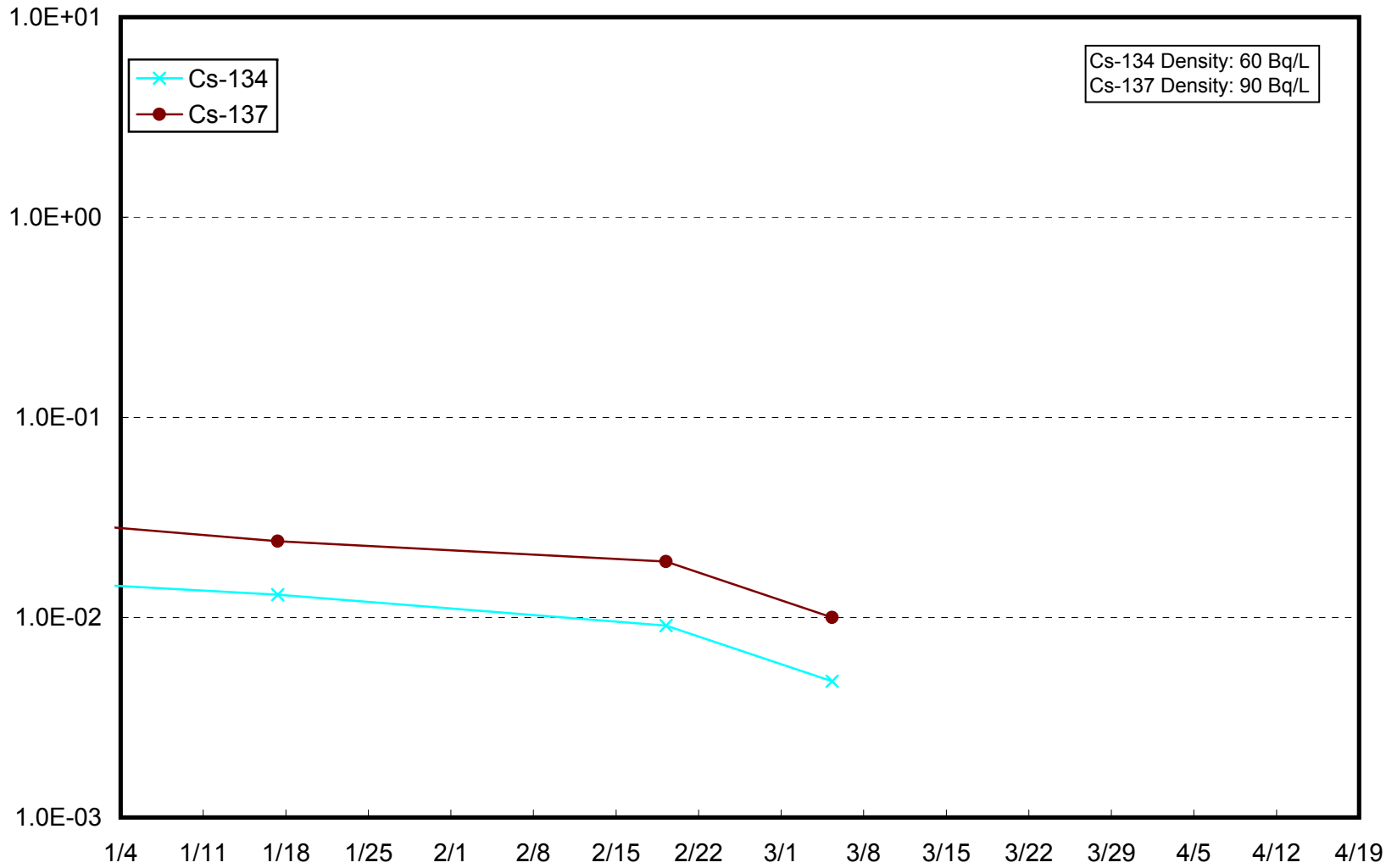




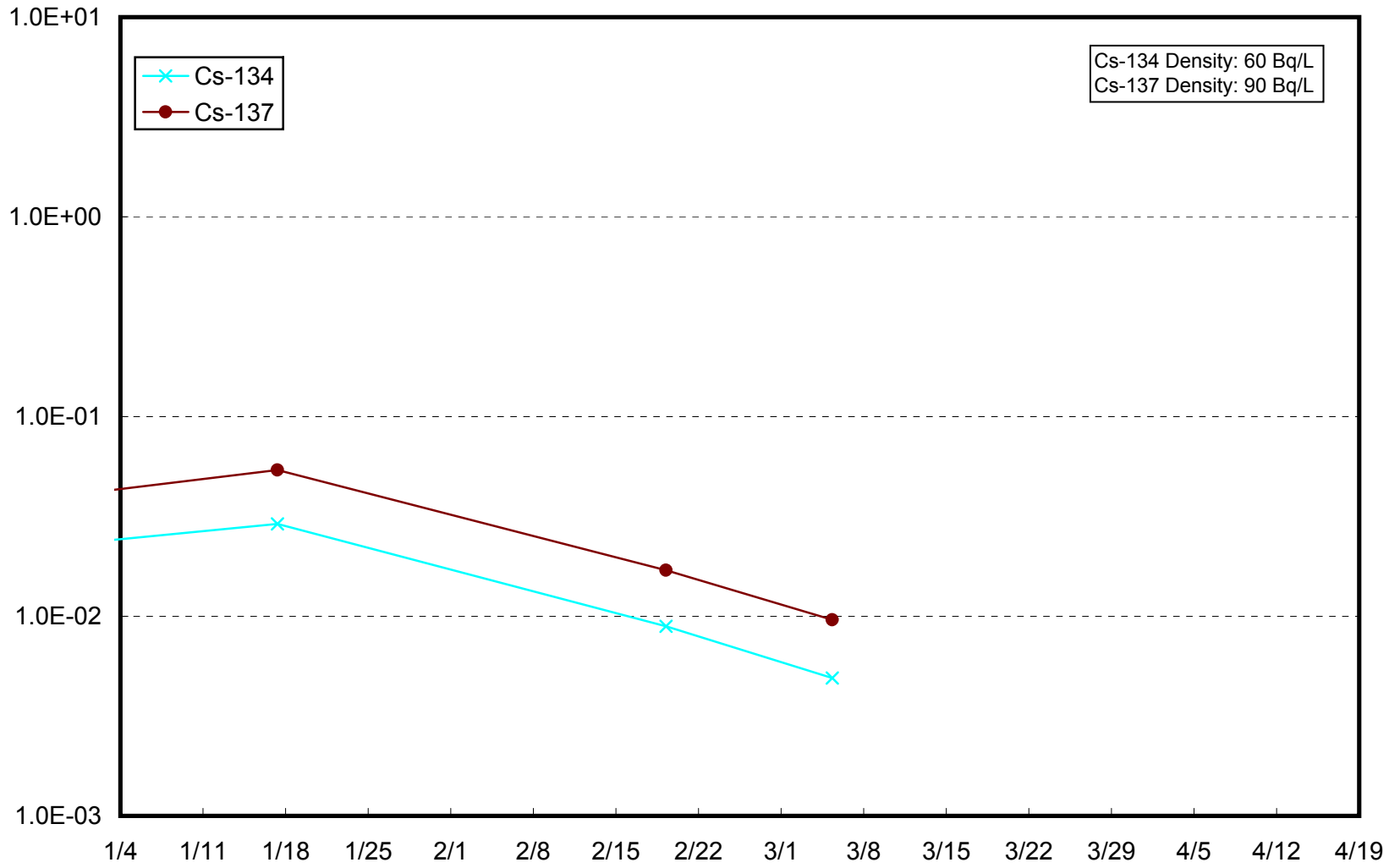
Radioactivity Density of the Seawater at 1km Offshore of Nida River (T-13-1) Lower Layer (Bq/L)



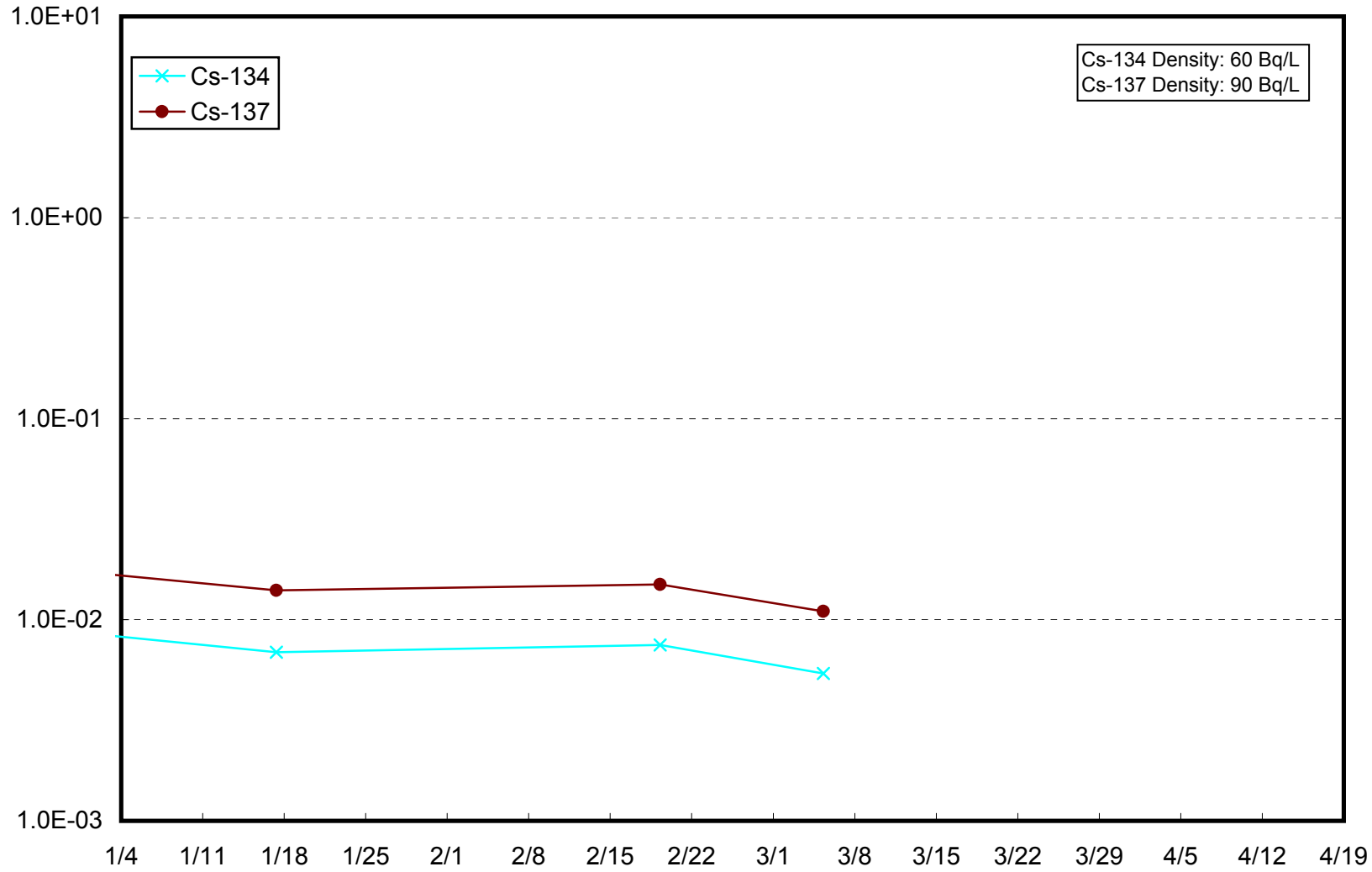
Radioactivity Density of the Seawater at 3km Offshore of Soma (T-22) Upper Layer (Bq/L)



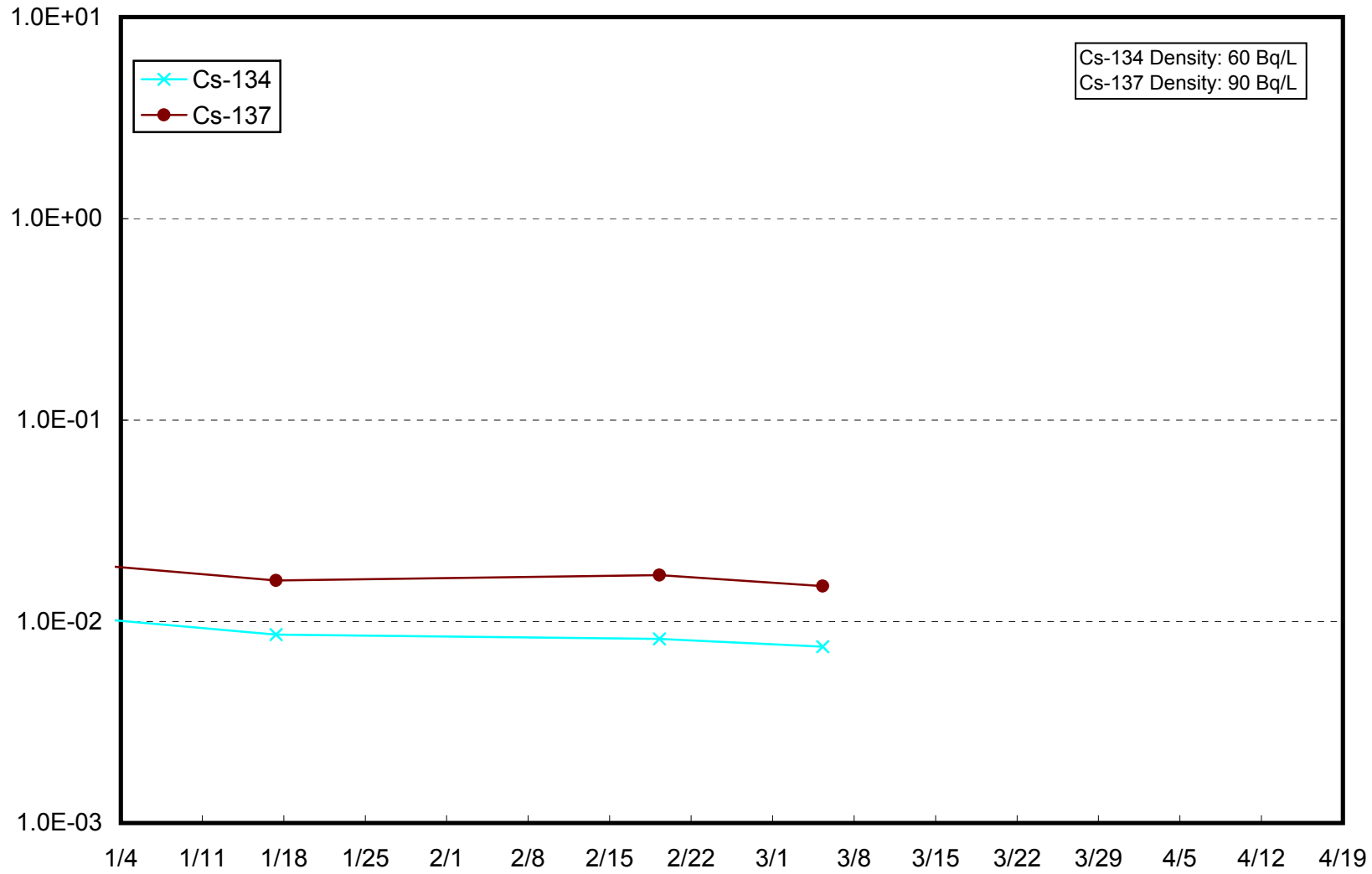
Radioactivity Density of the Seawater at 3km Offshore of Soma (T-22) Lower Layer (Bq/L)



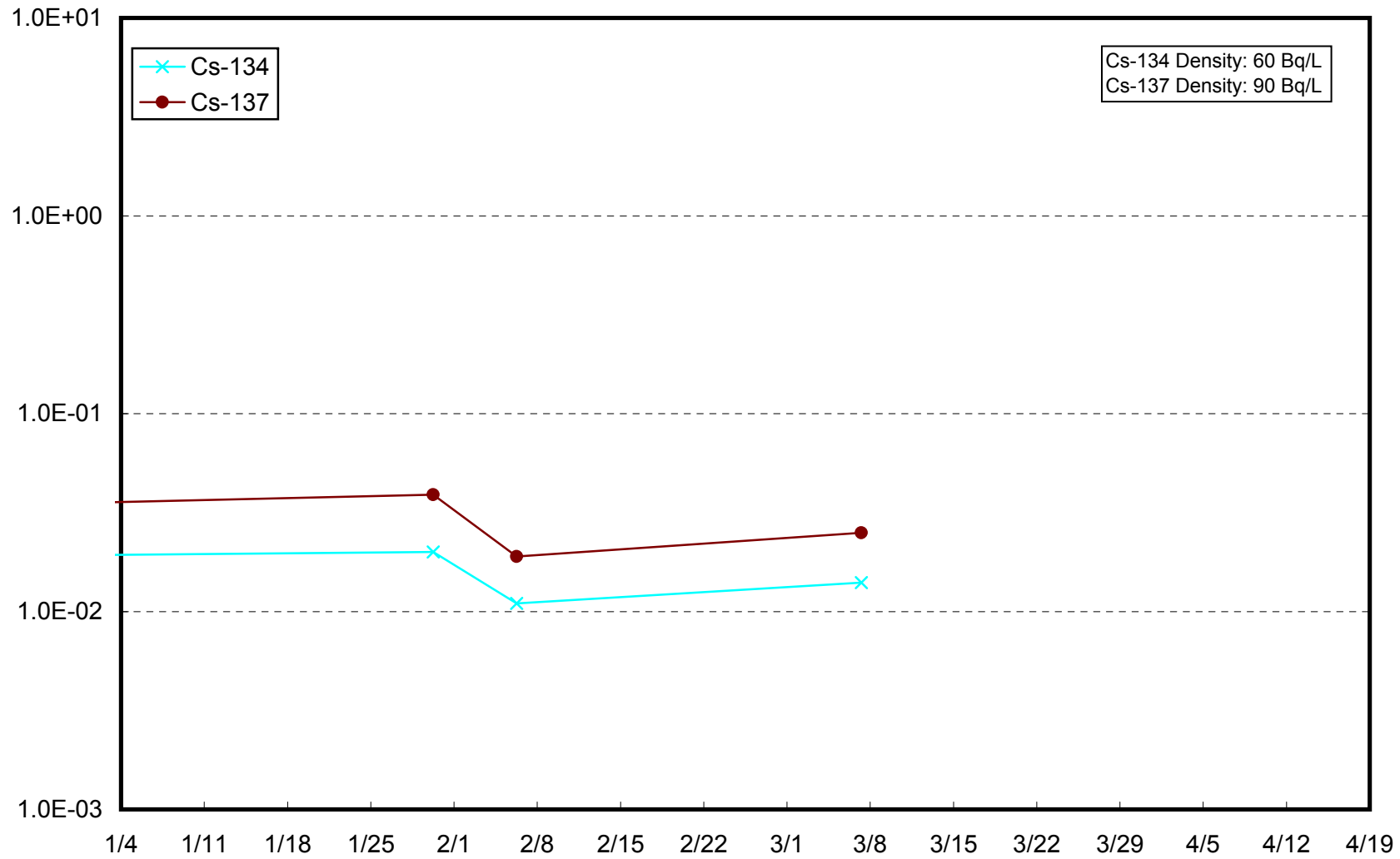
Radioactivity Density of the Seawater at 5km Offshore of Kashima (T-MA) Upper Layer (Bq/L)



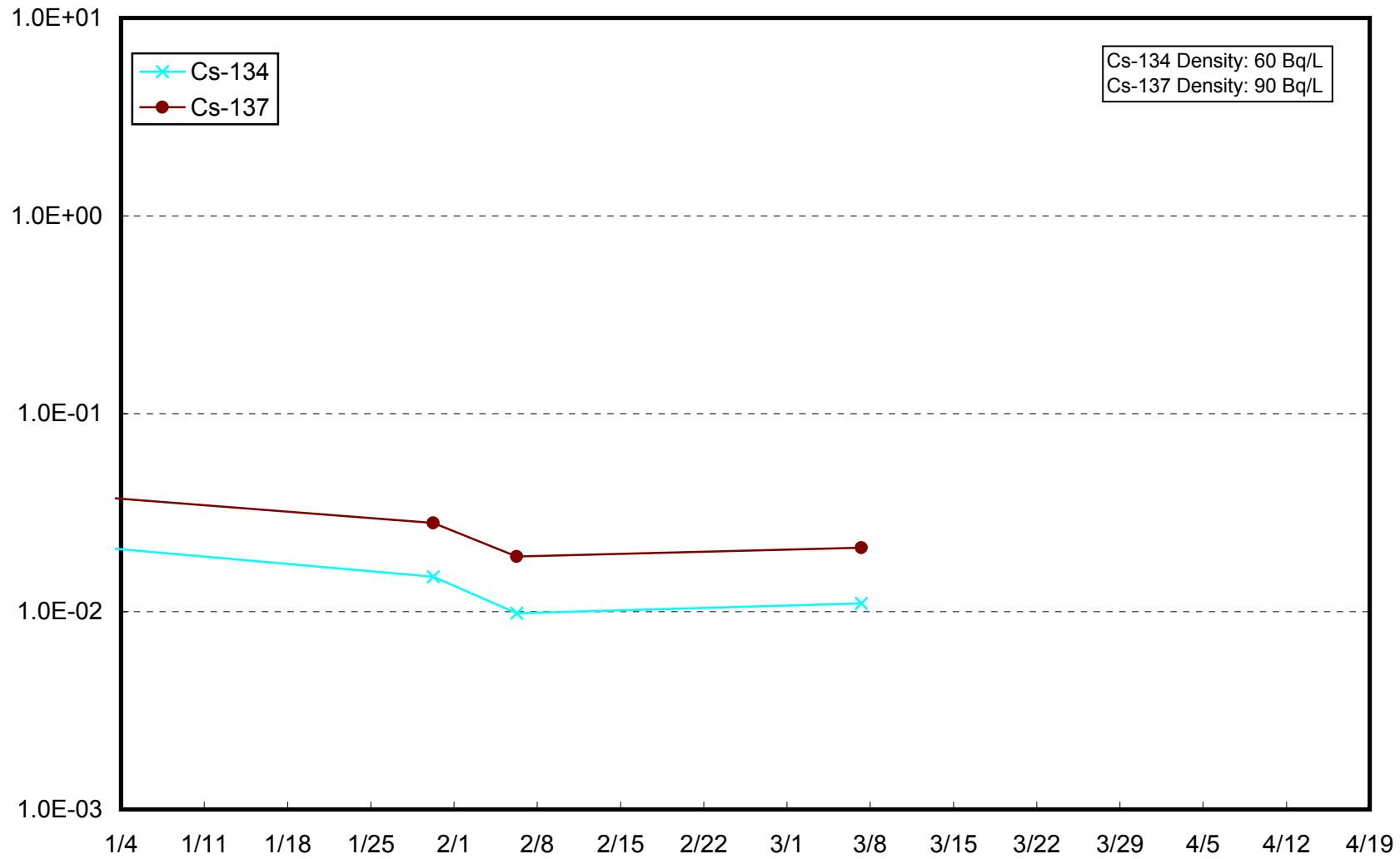
Radioactivity Density of the Seawater at 5km Offshore of Kashima (T-MA) Lower Layer (Bq/L)



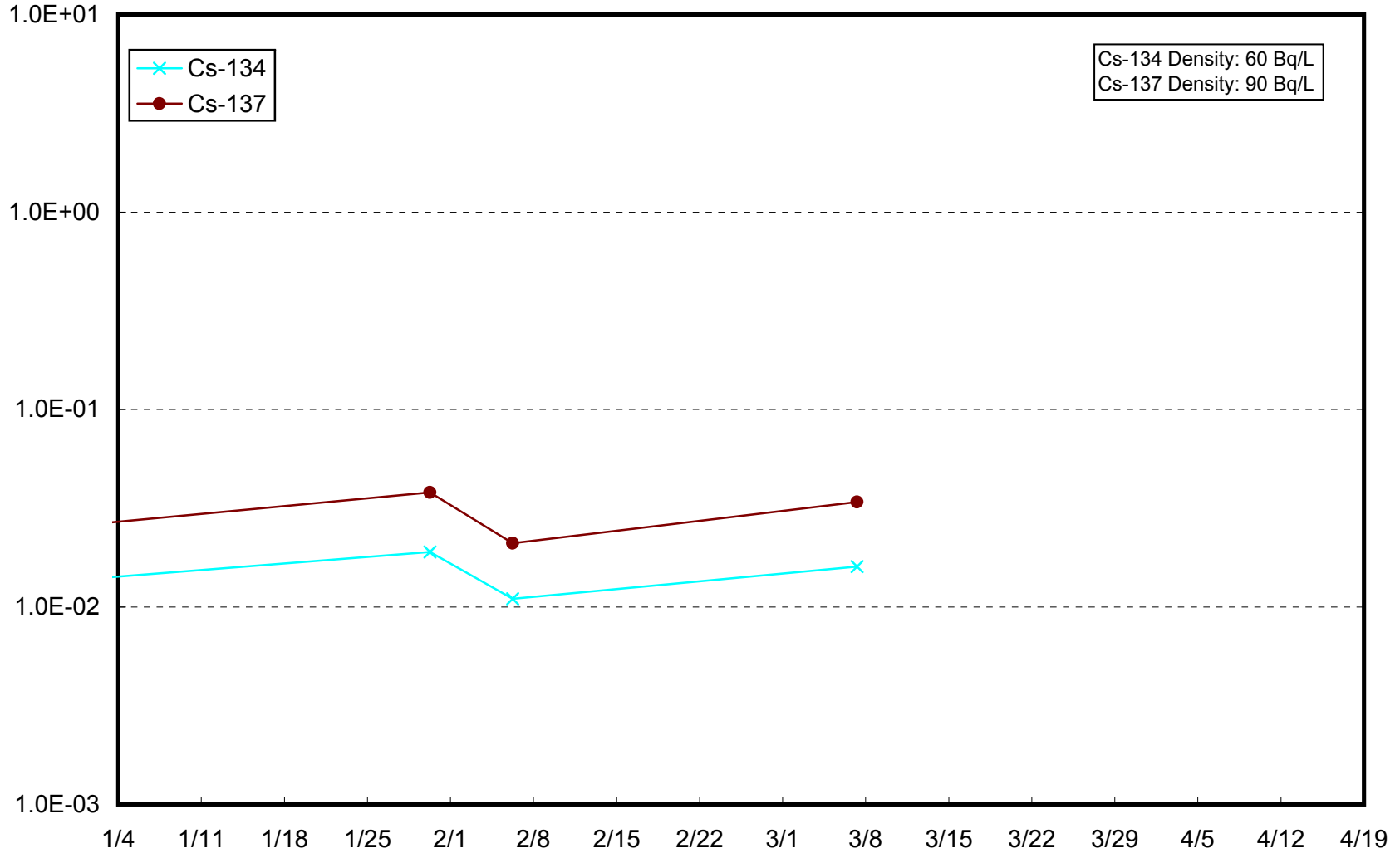
Radioactivity Density of the Seawater Around 1km Offshore of Ota River (T-S1) Upper Layer (Bq/L)



Radioactivity Density of the Seawater Around 1km Offshore of Ota River (T-S1) Lower Layer (Bq/L)



Radioactivity Density of the Seawater Around 3km Offshore of Odaka Ward (T-S2) Upper Layer (Bq/L)





Radioactivity Density of the Seawater Around 3km Offshore of Odaka Ward (T-S2) Lower Layer (Bq/L)

