Reference

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

Place of Sampling	North of Unit 5-6 Discharge Daiichi N (Approx. 30m North of Unit 5	IPS	Around South Discharge C Daiichi N (Appox. 1.3km South of Unit	IPS	the Reactor Regulation (Bq/L)		
Time of Sampling	Apr 10, 2 7:50 A		Apr 10, 2 5:57 A		(The density limit in the water outside the surrounding monitored areas is provided in section 6 of Appendix 2.)		
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(0.74)	-	ND(0.66)	-	40		
Cs-134 (Approx. 2 years)	ND(0.85)	-	ND(0.70)	-	60		
Cs-137 (Approx. 30 years)	ND(0.82)	-	ND(0.58)	-	90		

<sup>\*</sup> The density specified by the Reactor Regulation is converted from Bq/cm³ to Bq/L.

<sup>\*</sup> Data of other nuclides is under evaluation.

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

<sup>\* &</sup>quot;ND" indicates that the measurement result is below the detection limit, which is provided in parentheses.

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

Place of Sampling		N	Channel at Fukus PS it 5-6 Discharge			N	nannel of Fukush PS nit 1-4 Discharge		② Density Limit Specified by the Reactor Regulation (Bq/L)	
Time of Sampling	Mar 10, 6:25 <i>F</i>		Mar 17, 6:13 <i>A</i>		Mar 10, 5:40 <i>A</i>		Mar 17, 5:35 <i>A</i>		(The density limit in the water outside the surrounding monitored	
Detected Nuclides (Half-life)	①Density of Sample (Bq/L)	Scaling Factor (1)/2)	①Density of Scaling Sample Factor (Bq/L) (①/②)		①Density of Sample (Bq/L)	Scaling Factor (1)/2)	①Density of Scaling Sample Factor (Bq/L) (①/②)		areas is provided in section 6 of Appendix 2.)	
Cs-134 (Approx. 2 years)	0.42	0.01	0.84	0.01	0.11	0.00	0.13	0.00	60	
Cs-137 (Approx. 30 years)	1.0	0.01	2.1	0.02	0.30	0.00	0.30	0.00	90	

<sup>\*</sup> The density specified by the Reactor Regulation is converted from Bq/cm³ to Bq/L.

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

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

<sup>\*</sup> Analyzed by: Tokyo Power Tecnology Ltd.

Reference

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

Place of Sampling		ind Unit 3-4 D	n Discharge Char Discharge Channo km from 1F)			n South of Un	Side of Asamigav it 1 & 2 Discharg km from 1F)		② Density Limit Specified by the Reactor Regulation (Bq/L)
Time of Sampling	Mar 11, 9:40 <i>F</i>		Mar 18, 10:00		Mar 11, 11:40		Mar 18, 7:20 <i>F</i>		(The density limit in the water outside the surrounding
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)	monitored areas is provided in section 6 of Appendix 2.)
Cs-134 (Approx. 2 years)	0.040	0.00	0.049	0.00	0.032	0.00	0.041	0.00	60
Cs-137 (Approx. 30 years)	0.091	0.00	0.12	0.00	0.092	0.00	0.12	0.00	90

<sup>\*</sup> The density specified by the Reactor Regulation is converted from Bq/cm³ to Bq/L.

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

<sup>\*</sup> Analysis results by detail analysis (Phosphomolybdic acid ammonium adsorption sampling method) are noted. Analyzed by Tokyo Power Technology Ltd.

Reference

# Nuclides Analysis Result of the Radioactive Materials in the Seawater < Coast, Fukushima Daiichi Nuclear Power Station, Within 20km Radius >

Place of Sampling	(A		the Ukedo Port nit 5-6 Discharge Channel)		② Density Limit Specified by the Reactor Regulation (Bq/L) (The density limit in the water								
Time of Sampling	· ·	Mar 11, 2014 Mar 18, 2014 8:40 AM 8:20 AM											
Detected Nuclides (Half-life)	①Density of Sample (Bq/L)	Scaling Factor (1)/2)	①Density of Sample (Bq/L)	Scaling Factor (①/②)	section 6 of Appendix 2.)								
Cs-134 (Approx. 2 years)	0.019	0.00	0.026	0.00	60								
Cs-137 (Approx. 30 years)	0.053	0.00	90										

<sup>\*</sup> The density specified by the Reactor Regulation is converted from Bq/cm³ to Bq/L.

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

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

<sup>\*</sup> Analyzed by: Tokyo Power Tecnology Ltd.

### Nuclides Analysis Result of Radioactive Materials in the Seawater < Offshore 1/4>

Place of Sampling (Place No.)	3km Offs	shore of C	daka Ward (T-	*1 14)	3km Offs	shore of C	daka Ward (T-	*1 14)	3km Offs	shore of U	kedo River (T-[	*2 01)	② Density Limit Specified by the Reactor Regulation
	Upper La	ayer	Lower La	ıyer	Upper La	ayer	Lower Layer		Upper La	ayer	Lower La	iyer	(Bq/L)
Time of Sampling	Mar 4, 20 9:16 Al	_	Mar 4, 20 9:16 Al		Mar 11, 2 9:13 Al		Mar 11, 2 9:13 A	-	Mar 4, 20 9:39 A	_	14 Mar 4, 2		(The density limit in the water outside the surrounding monitored
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)	areas is provided in section 6 of Appendix 2.)
Cs-134 (Approx. 2 years)	0.0095	0.00	0.0048	0.00	0.0041	0.00	0.0058	0.00	0.0039	0.00	0.0049	0.00	60
Cs-137 (Approx. 30 vears)	0.025	0.00	0.016	0.00	0.012	0.00	0.020	0.00	0.015	0.00	0.013	0.00	90

Place of Sampling (Place No.)	3km Offs	shore of U	kedo River (T-I	*2 D1)	3km Off	shore of U	kedo River (T-I	*2 D1)	3km Offshore	of Fukush	ima Daiichi NP	*2 S (T-D5)	② Density Limit Specified by the Reactor Regulation
	Upper La	ayer	Lower La	ayer	Upper La	ayer	Lower La	ayer	Upper La	ayer	Lower La	ayer	(Bq/L)
Time of Sampling	Mar 11, 2 9:52 Al		Mar 11, 2 9:52 A		Mar 19, 2 9:45 A	2014 Mar 19, 201			Mar 4, 2014 10:55 AM		Mar 4, 2014 10:55 AM		(The density limit in the water outside the surrounding monitored
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)	areas is provided in section 6 of Appendix 2.)
Cs-134 (Approx. 2 years)	0.0056	0.00	0.0063	0.00	0.0074	0.00	0.0069	0.00	0.0073	0.00	0.0089	0.00	60
Cs-137 (Approx. 30 vears)	0.012	0.00	0.020	0.00	0.021	0.00	0.014	0.00	0.018	0.00	0.023	0.00	90

<sup>\*</sup> The density specified by the Reactor Regulation is converted from Bq/cm³ to Bq/L.

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

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

 $<sup>^* \</sup> Analyzed \ by: \ ^*1 \ THE \ GENERAL \ ENVIRONMENTAL \ TECHNOS \ Co., \ LTD., \ ^*2 \ Tokyo \ Power \ Technology \ Ltd.$ 

### Nuclides Analysis Result of Radioactive Materials in the Seawater < Offshore 2/4>

Place of Sampling (Place No.)	3km Offshore	of Fukush	nima Daiichi NP	*2 S (T-D5)	3km Offshore	of Fukush	nima Daiichi NP	*2 S (T-D5)	3km Offshore	e of Fukus	hima Daini NPS	*2 S (T-D9)	② Density Limit Specified by the Reactor Regulation
	Upper La	ayer	Lower La	Upper La	ayer	Lower La	ayer	Upper La	ayer	Lower La	ayer	(Bq/L)	
Time of Sampling	Mar 11, 2 10:51 A		Mar 11, 2 10:51 A		Mar 19, 2014 8:38 AM		Mar 19, 2014 8:38 AM		Mar 3, 2014 8:33 AM		Mar 3, 20 8:33 A		(The density limit in the water outside the surrounding monitored
Detected Nuclides (Half-life)	①Density of Sample (Bq/L)	Scaling Factor (1)/2)	areas is provided in section 6 of Appendix 2.)										
Cs-134 (Approx. 2 years)	0.0072	0.00	0.0069	0.00	0.0073	0.00	0.0091	0.00	0.0058	0.00	0.0067	0.00	60
Cs-137 (Approx. 30 vears)	0.022	0.00	0.018	0.00	0.026	0.00	0.026	0.00	0.014	0.00	0.020	0.00	90

Place of Sampling (Place No.)	3km Offshore	e of Fukus	hima Daini NPS	*2 S (T-D9)	3km Offshore	e of Fukus	shima Daini NP\$	*2 S (T-D9)	15km Offshor	e of Fukus	shima Daiichi N	*1 PS (T-5)	② Density Limit Specified by the Reactor Regulation	
	Upper La	,			Upper La	ayer	Lower La	ayer	Upper La	ayer	Lower La	ayer	(Bq/L)	
Time of Sampling	Mar 11, 2 9:18 A		Mar 11, 2 9:18 A		Mar 19, 2 8:11 A		Mar 19, 2 8:11 A	-	Mar 5, 2014 8:30 AM		Mar 5, 2014 8:30 AM		(The density limit in the water outside the surrounding monitored	
Detected Nuclides (Half-life)	①Density of Sample (Bq/L)	Scaling Factor (1)/2)	Factor Sample Fa		areas is provided in section 6 of Appendix 2.)									
Cs-134 (Approx. 2 years)	0.0081	0.00	0.0074	0.00	0.0092	0.00	0.010	0.00	0.0016	0.00	0.0014	0.00	60	
Cs-137 (Approx. 30 vears)	0.018	0.00	0.019	0.00	0.025	0.00	0.025	0.00	0.0042	0.00	0.0071	0.00	90	

<sup>\*</sup> The density specified by the Reactor Regulation is converted from Bq/cm³ to Bq/L.

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

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

 $<sup>^* \</sup> Analyzed \ by: \ ^*1 \ THE \ GENERAL \ ENVIRONMENTAL \ TECHNOS \ Co., \ LTD., \ ^*2 \ Tokyo \ Power \ Technology \ Ltd.$ 

#### Nuclides Analysis Result of Radioactive Materials in the Seawater < Offshore 3/4>

(Data summarized on April 11)

Place of Sampling (Place No.)	15km Offshor	Offshore of Fukushima Daiichi NPS (T-5)			15km Offshor	e of Fukus	shima Daiichi NF	PS (T-5)	3km Offsl	nore of Iwa	asawa Shore (T	-11)	② Density Limit Specified by the Reactor Regulation
	Upper La	ayer	Lower Layer		Upper Layer		Lower Layer		Upper La	yer	Lower La	ayer	(Bq/L)
Time of Sampling	Mar 11, 2 8:25 Al	-	Mar 11, 2014 8:25 AM		平成26年3月第4週分 *1 (Not sampled)		平成26年3月第4週分 *1 (Not sampled)		Mar 3, 2014 7:53 AM		Mar 3, 20 7:53 Al		(The density limit in the water outside the surrounding monitored
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)	areas is provided in section 6 of Appendix 2.)
Cs-134 (Approx. 2 years)	ND	-	0.0021	0.00	-	-	-	-	0.016	0.00	0.018	0.00	60
Cs-137 (Approx. 30 years)	0.0058	0.00	0.0065	0.00	-	-	-	-	0.037	0.00	0.046	0.00	90

Place of Sampling (Place No.)	3km Oπsi	3km Offshore of Iwasawa Shore (T-11)  Upper Layer Lower Layer					vasawa Shore (	,			nahama Port (T		② Density Limit Specified by the Reactor Regulation
	Upper La	yer Lower Layer		ayer	Upper Layer		Lower Layer		Upper La	ayer	Lower La	ayer	(Bq/L)
Time of Sampling	Mar 11, 2 10:04 A	-	Mar 11, 2014 10:04 AM		Mar 5, 2014 7:45 AM		Mar 5, 2014 7:45 AM		Mar 5, 2014 11:07 AM		Mar 5, 2 11:07 <i>A</i>		(The density limit in the water outside the surrounding monitored
Detected Nuclides (Half-life)	①Density of Sample (Bq/L)	Scaling Factor (1)/2)	①Density of Sample (Bq/L)	①Density of Scaling Sample Factor		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)	areas is provided in section 6 of Appendix 2.)
Cs-134 (Approx. 2 years)	0.011	0.00	0.012	0.00	ND	-	0.0023	0.00	0.016	0.00	0.012	0.00	60
Cs-137 (Approx. 30 years)	0.031	0.00	0.032	0.00	0.0059	0.00	0.0056	0.00	0.039	0.00	0.031	0.00	90

<sup>\*</sup> The density specified by the Reactor Regulation is converted from Bq/cm³ to Bq/L.

Cs-134: Approx.0.0015Bq/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.

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

 $<sup>\</sup>ensuremath{^{*}}$  "ND" indicates that the measurement result is below the detection limit.

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

<sup>\*</sup> Analyzed by: THE GENERAL ENVIRONMENTAL TECHNOS Co., LTD.

<sup>\*1</sup> The sampling could not be performed due to the bad weather.

#### Nuclides Analysis Result of Radioactive Materials in the Seawater < Offshore 4/4>

Place of Sampling (Place No.)		5km Offshore of Numanouchi (T-M10)  Upper Layer Lower Layer					nern Iwaki City Lower La		1km Offs Upper La		atsui River (T-17 Lower La	,	② Density Limit Specified by the Reactor Regulation (Bq/L)		
T' ( O 1'	Mar 5, 20	, 2014 Mar 5, 2014			Upper La Mar 2, 2		Mar 2, 2014		Mar 2, 2014		Mar 2, 20	,	(The density limit in the		
Time of Sampling	9:41 Al	9:41 AM 9:41 AM		М	7:43 A	М	7:43 AM		7:11 AM		7:11 Al	М	water outside the surrounding monitored		
Detected Nuclides (Half-life)	①Density of Sample (Bq/L)	Scaling Factor (1)/2)	ling ①Density of Scaling Sample Factor		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)	areas is provided in section 6 of Appendix 2.)		
Cs-134 (Approx. 2 years)	0.0017	0.00	0.0022	0.00	0.016	0.00	0.016	0.00	0.019	0.00	0.016	0.00	60		
Cs-137 (Approx. 30 years)	0.0052	0.00	0.0069	0.00	0.038	0.00	0.040	0.00	0.053	0.00	0.044	0.00	90		

Place of Sampling (Place No.)	3km (	3km Offshore of Toyoma (T-20)  Upper Layer Lower Layer			Around	10km Offs	shore of 1F (T-B	33)	Around	10km Offs	shore of 2F (T-B	34)	② Density Limit Specified by the Reactor Regulation
	Upper La	ayer	Lower Layer		Upper Layer		Lower Layer		Upper La	ayer	Lower La	ayer	(Bq/L)
Time of Sampling	Mar 2, 20 6:41 Al		Mar 2, 2014 6:41 AM		Mar 15, 2014 5:30 AM		Mar 15, 2014 5:30 AM		Mar 15, 2014 6:13 AM		Mar 15, 2 6:13 A		(The density limit in the water outside the surrounding monitored
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)	areas is provided in section 6 of Appendix 2.)
Cs-134 (Approx. 2 years)	0.022	0.00	0.017	0.00	0.0025	0.00	ND	-	0.0015	0.00	0.0015	0.00	60
Cs-137 (Approx. 30 years)	0.057	0.00	0.045	0.00	0.0074	0.00	0.0059	0.00	0.0046	0.00	0.0049	0.00	90

<sup>\*</sup> The density specified by the Reactor Regulation is converted from Bq/cm³ to Bq/L.

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

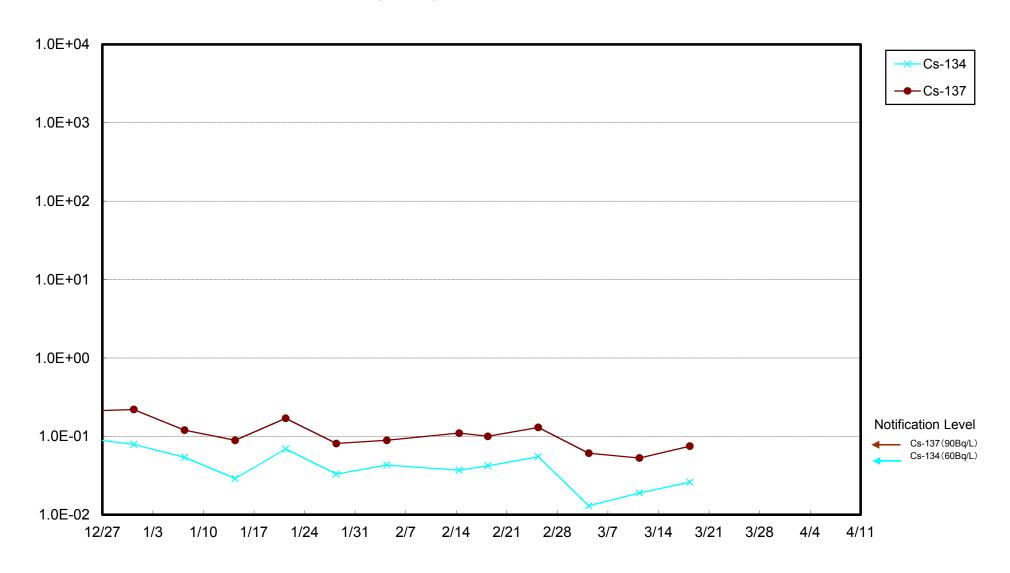
 $<sup>^{\</sup>star}$  "ND" indicates that the measurement result is below the detection limit.

Cs-134: Approx.0.0016Bq/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.

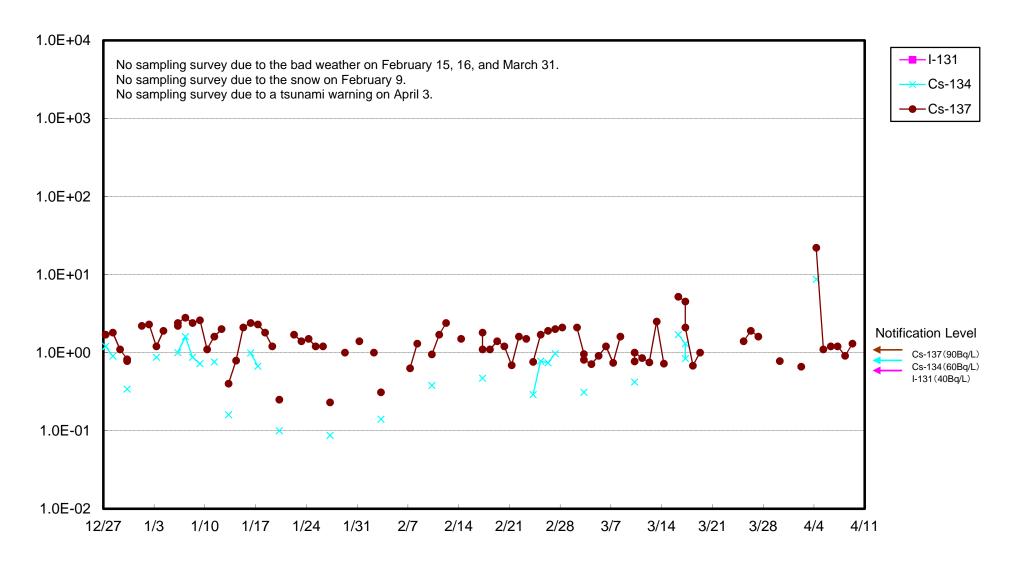
<sup>\*</sup> Analysis results by detail analysis (Phosphomolybdic acid ammonium adsorption sampling method) are noted.

<sup>\*</sup> Analyzed by: THE GENERAL ENVIRONMENTAL TECHNOS Co., LTD.

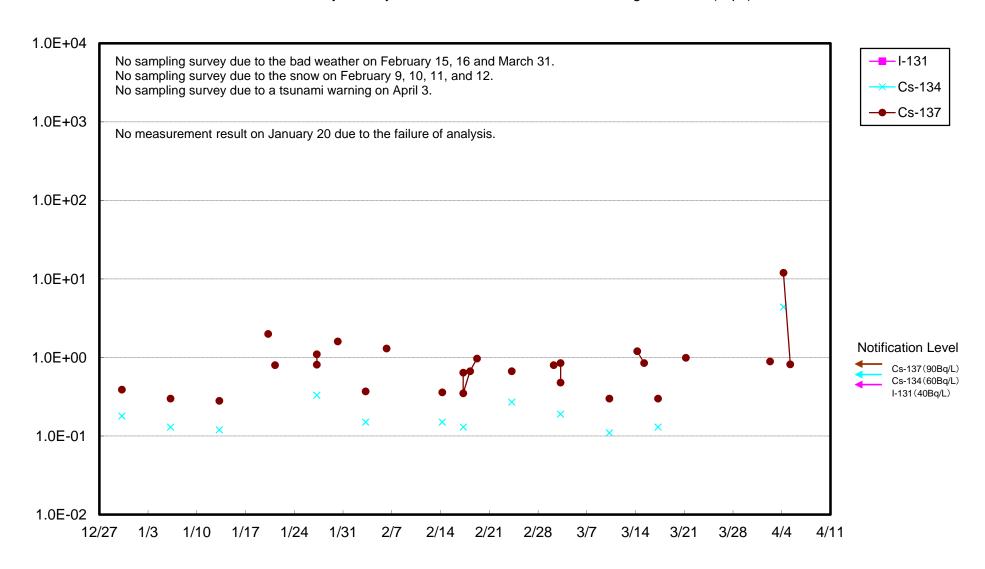
### Radioactivity Density of the South Side of the Ukedo Port (Bq/L)



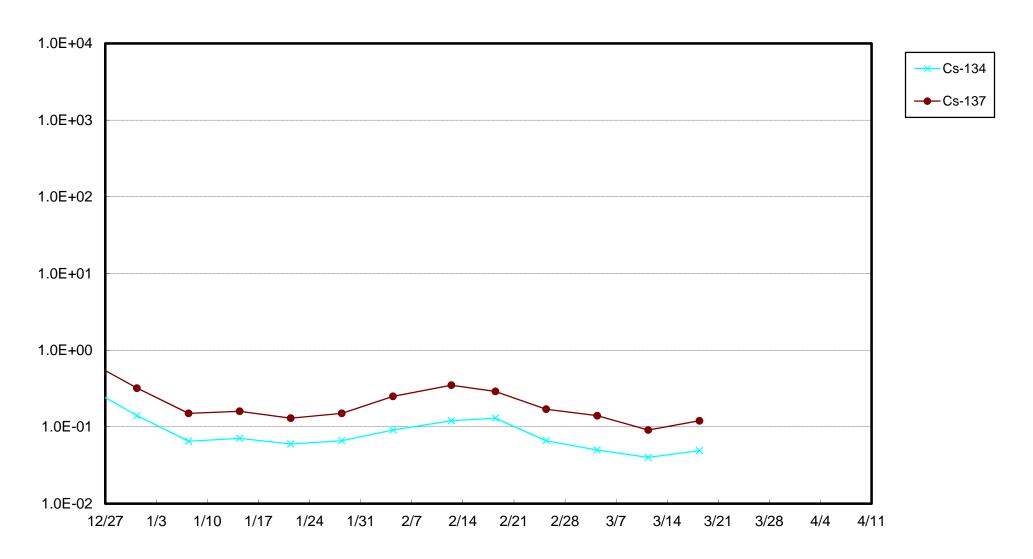
### Radioactivity Density of the Seawater at 1F Units 5-6 North Discharge Channel (Bq/L)

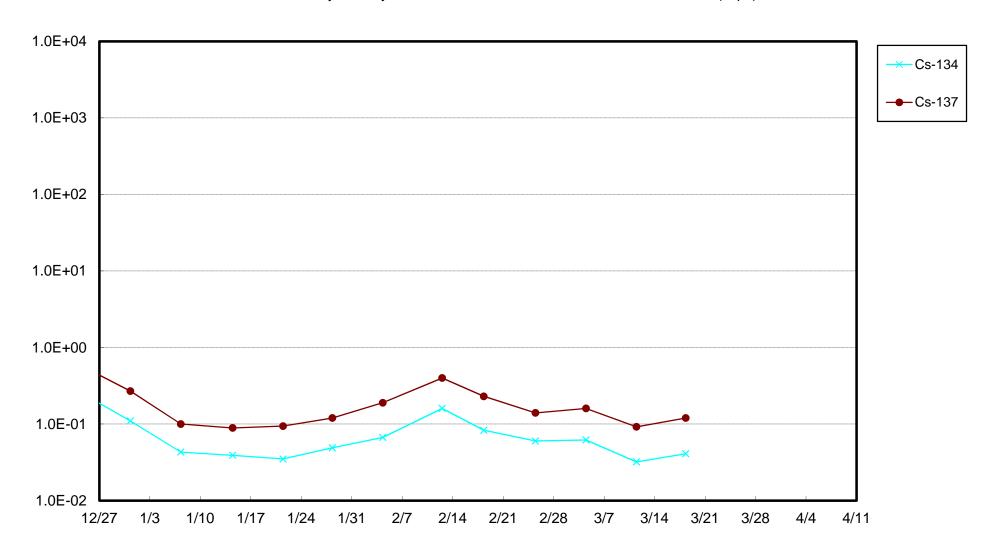


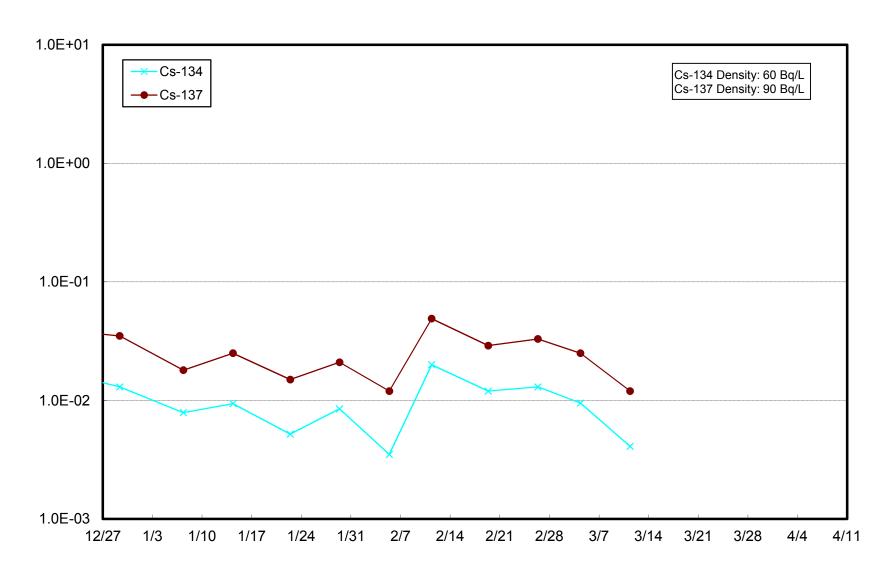
#### Radioactivity Density of the Seawater at 1F South Discharge Channel (Bq/L)

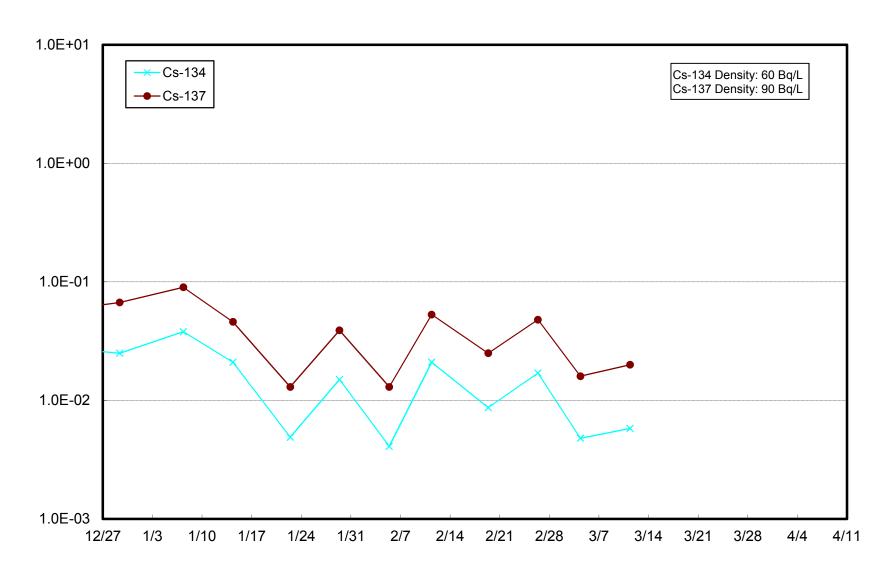


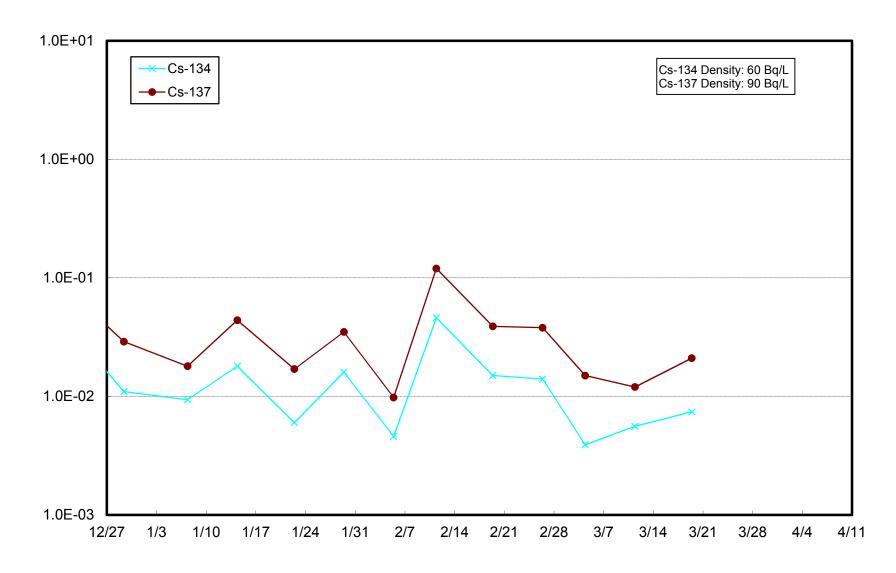
### Radioactivity Density of the Seawater at 2F North Discharge Channel (Bq/L)

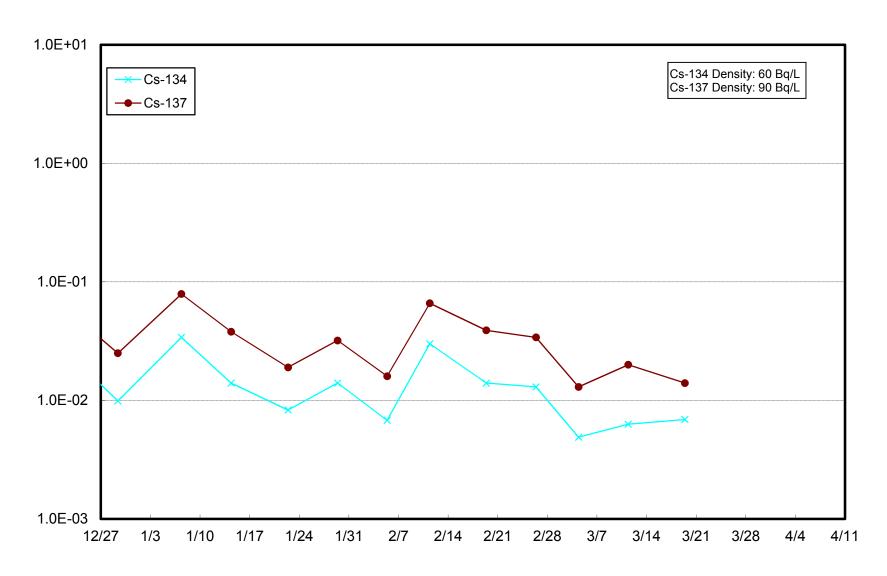


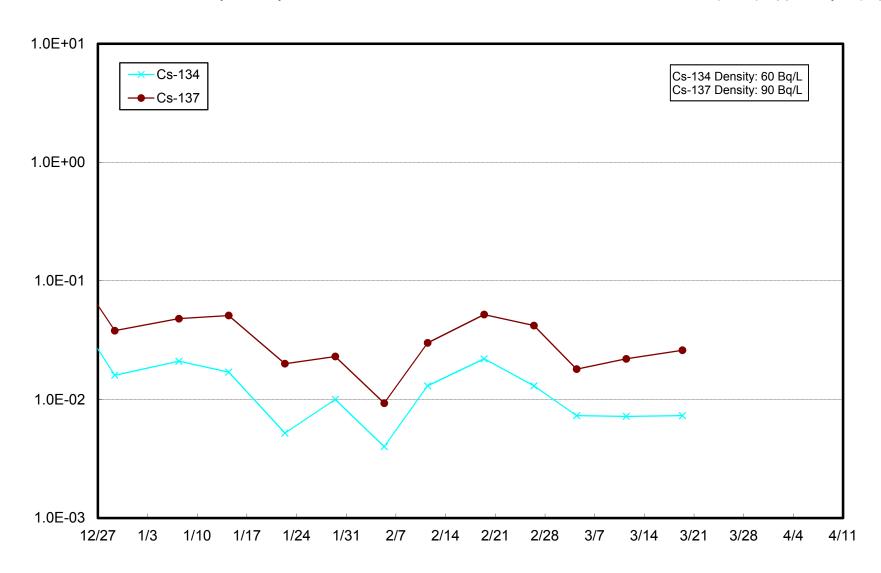


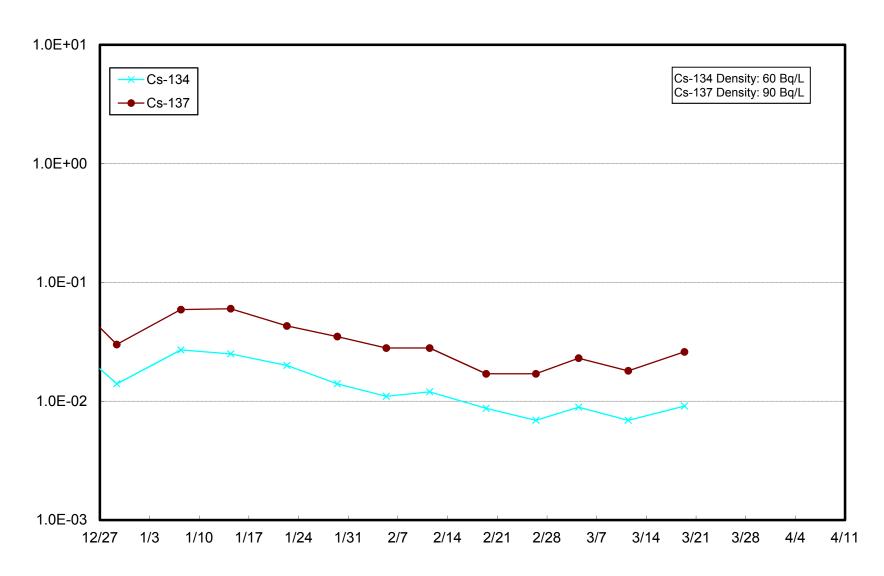


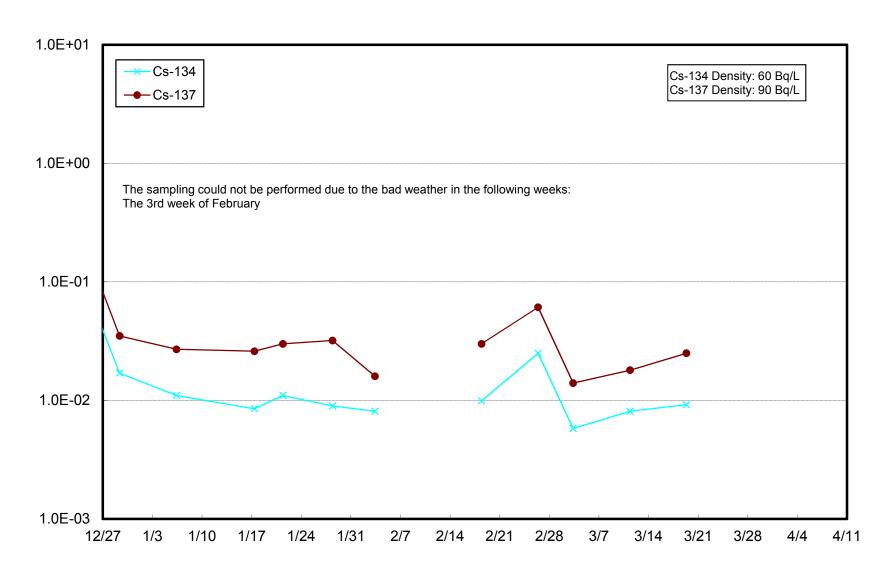


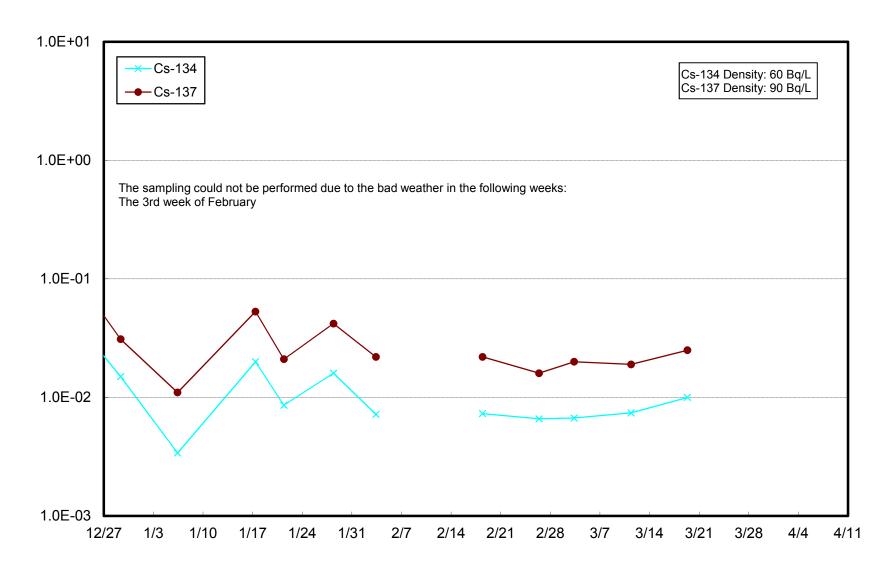


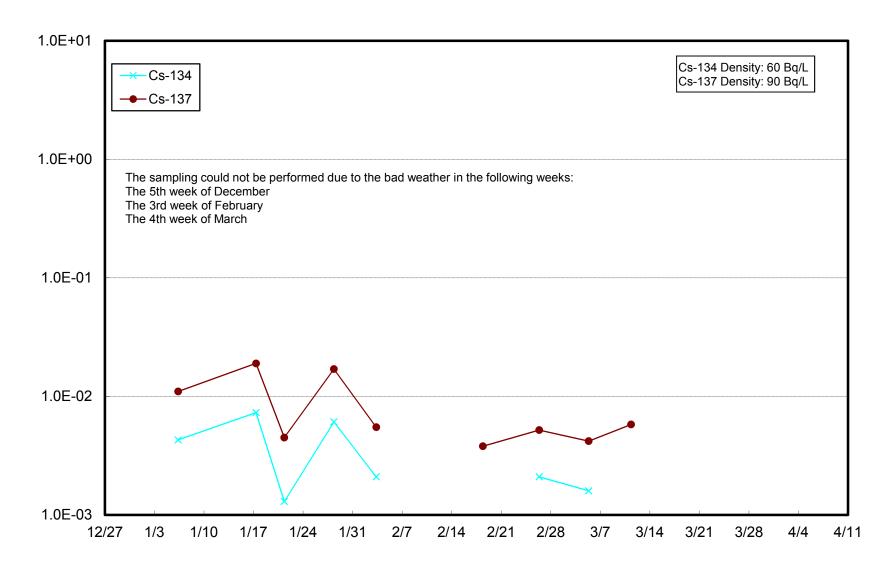


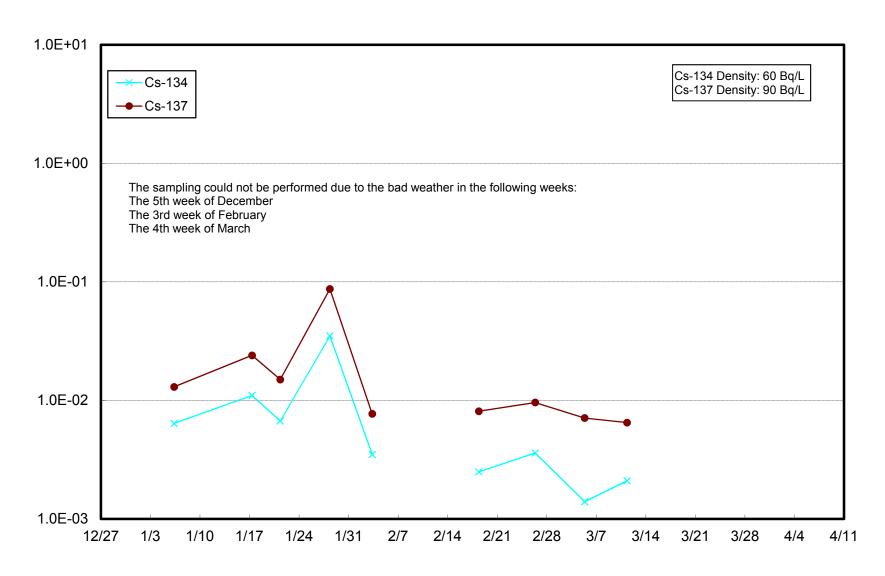


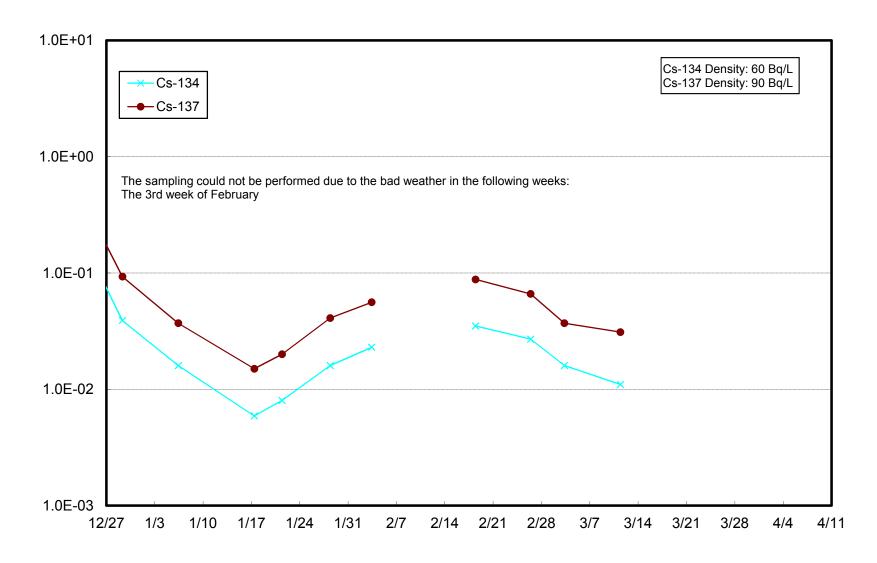


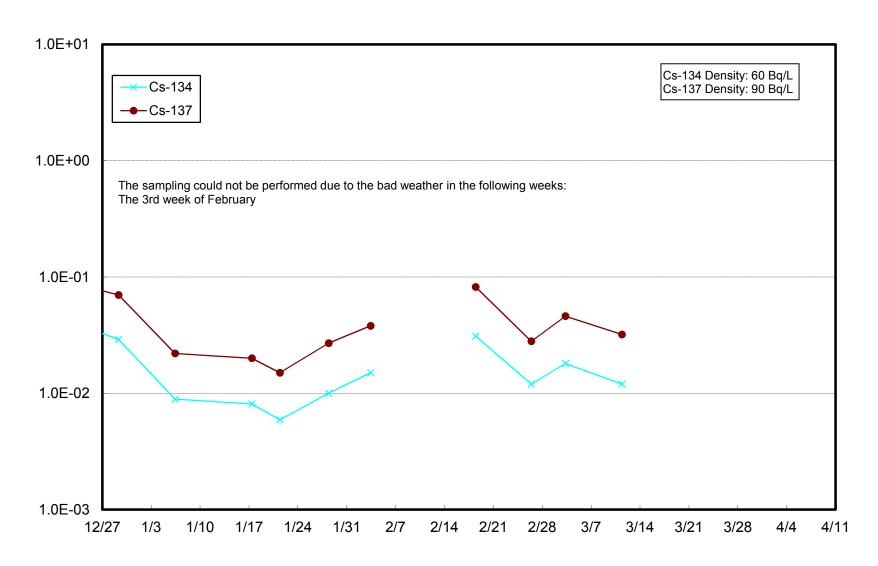


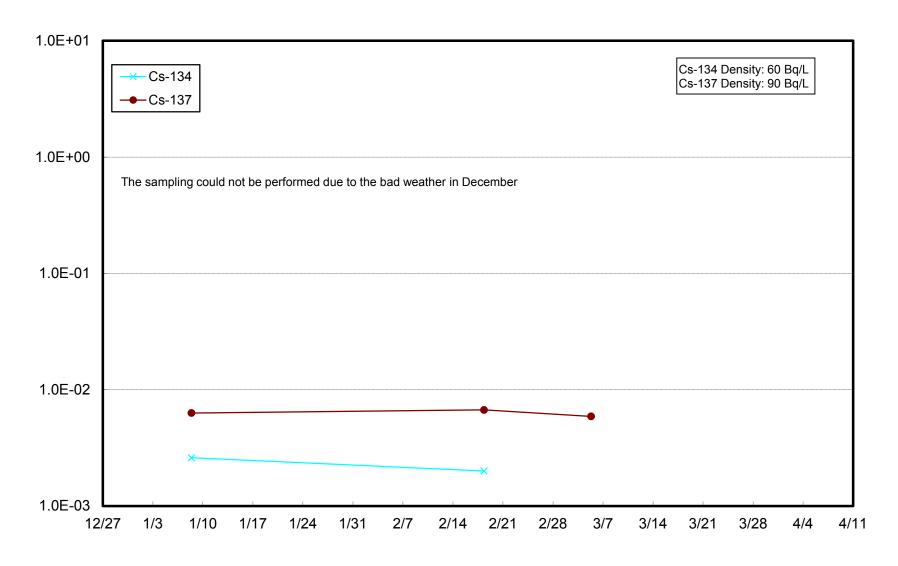


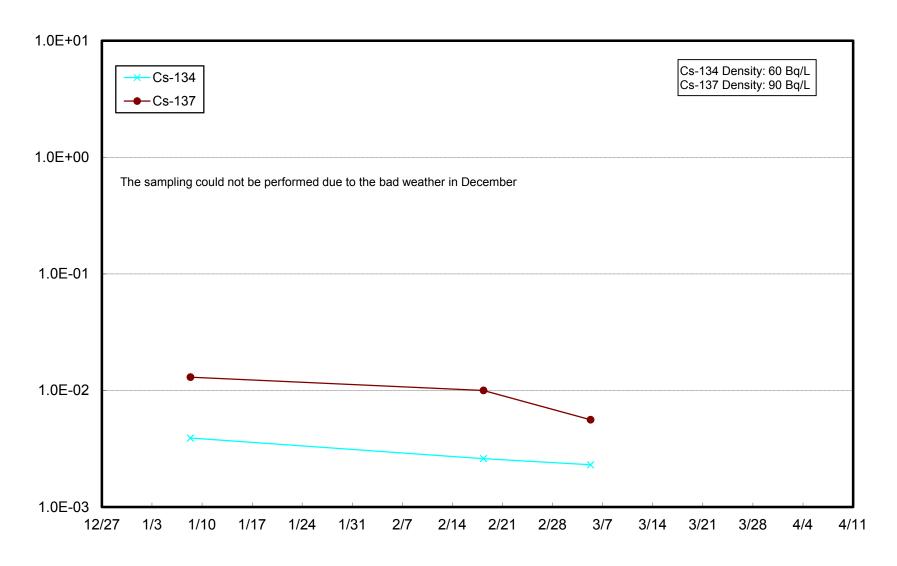


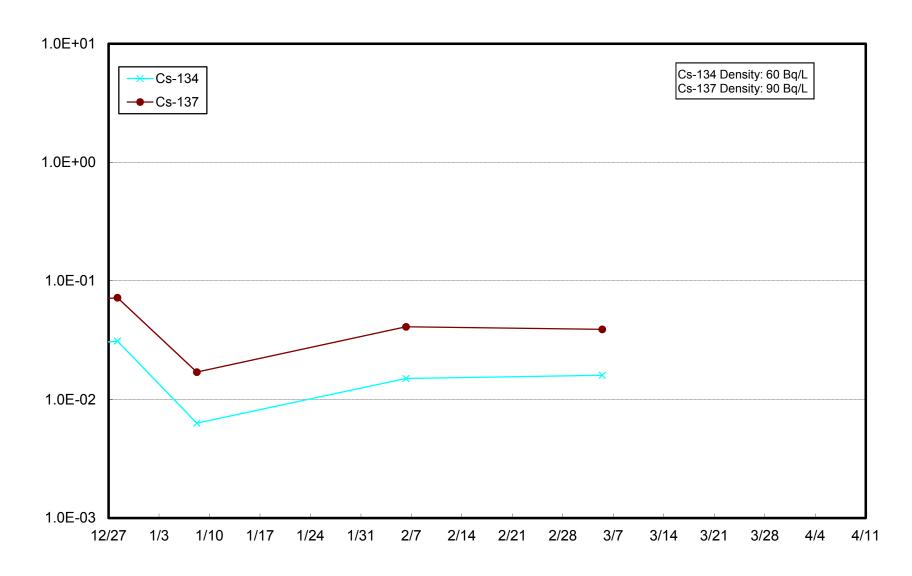


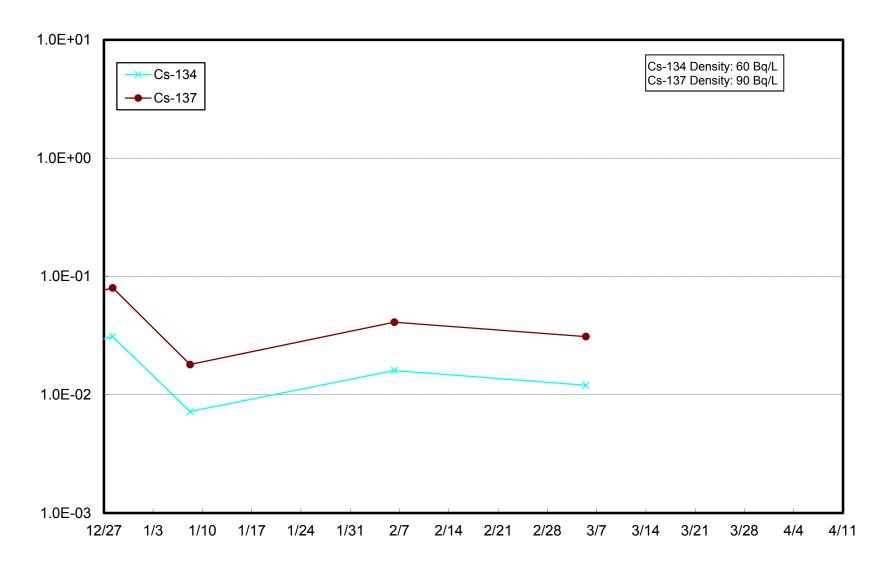


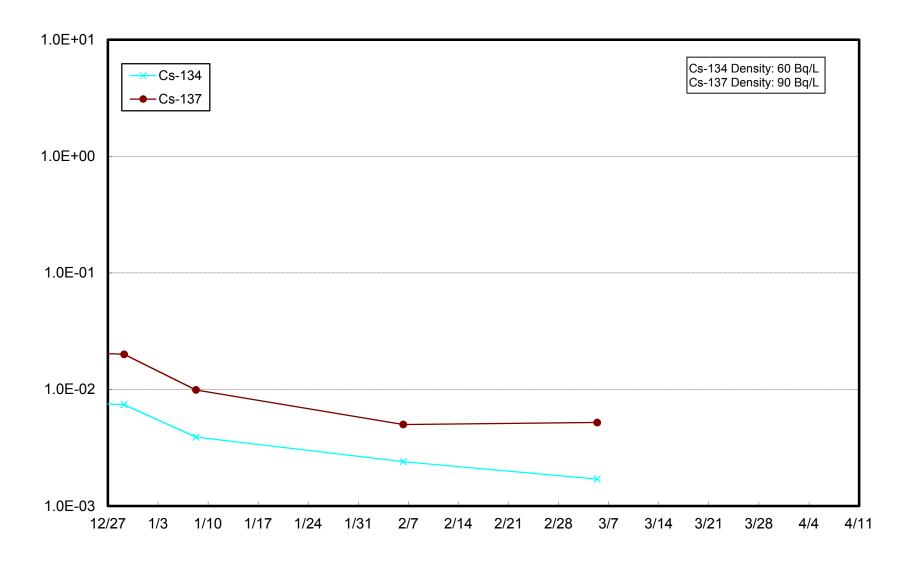


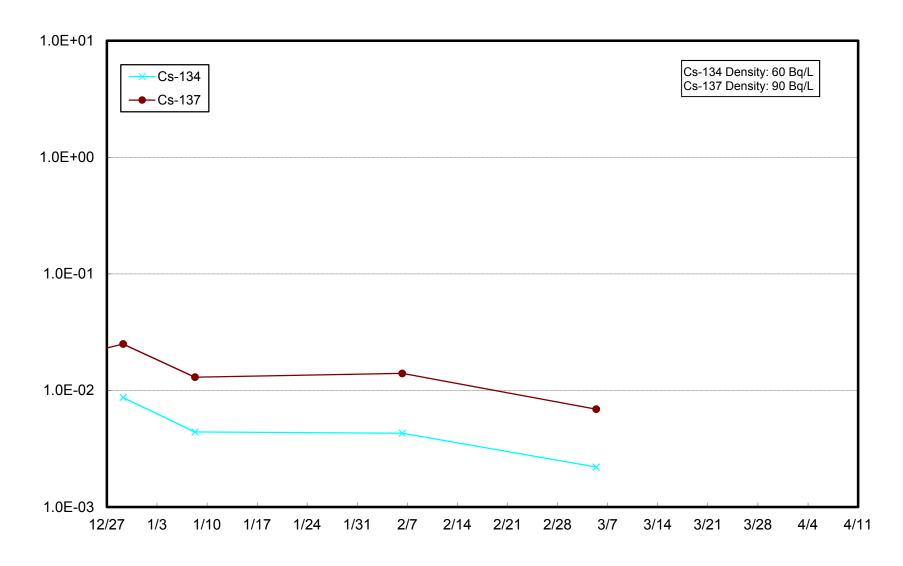


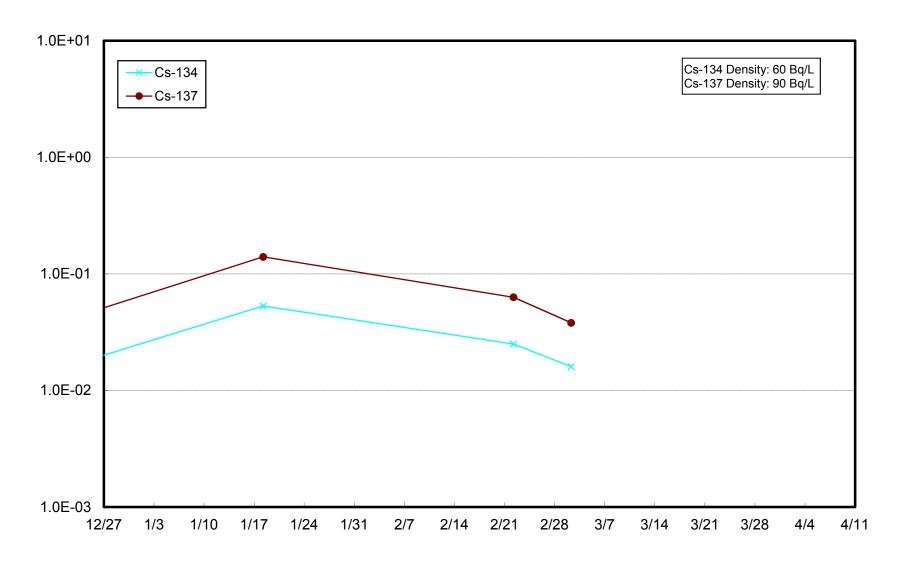


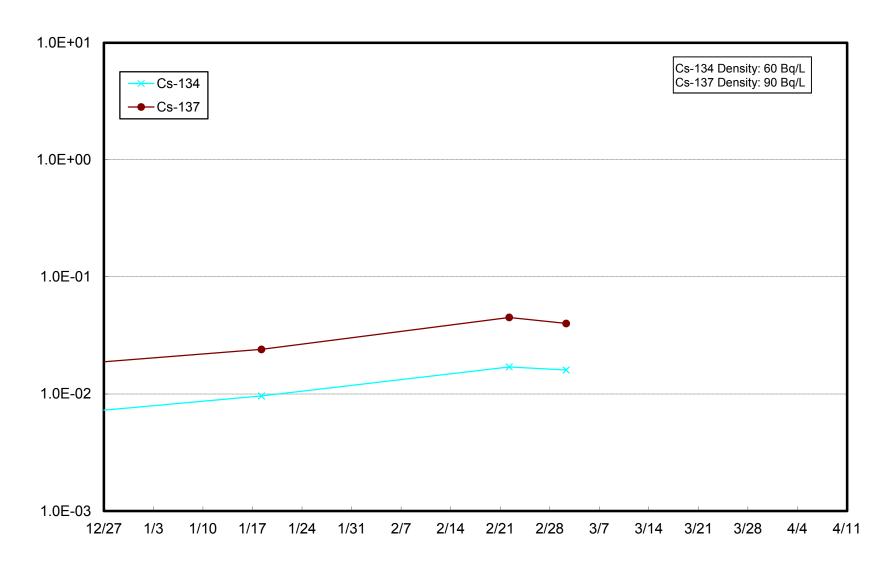


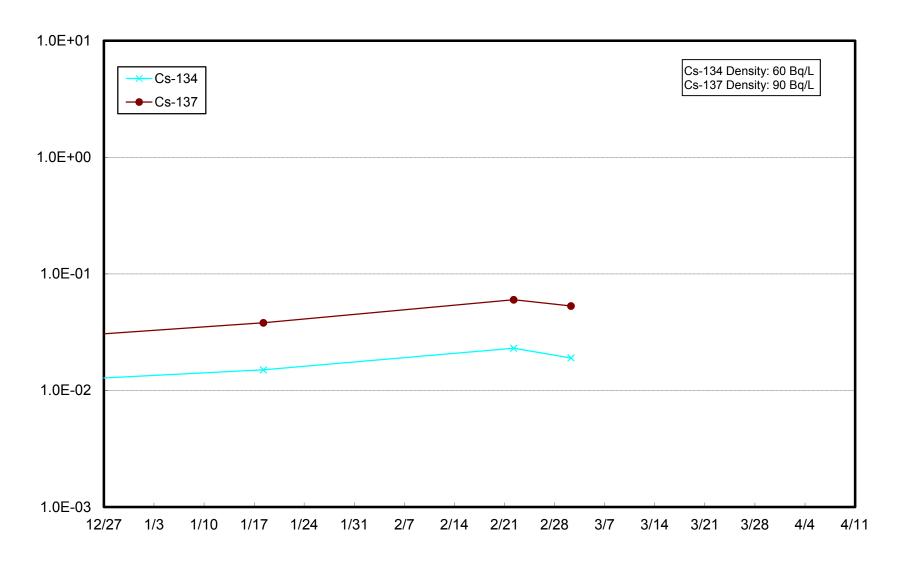


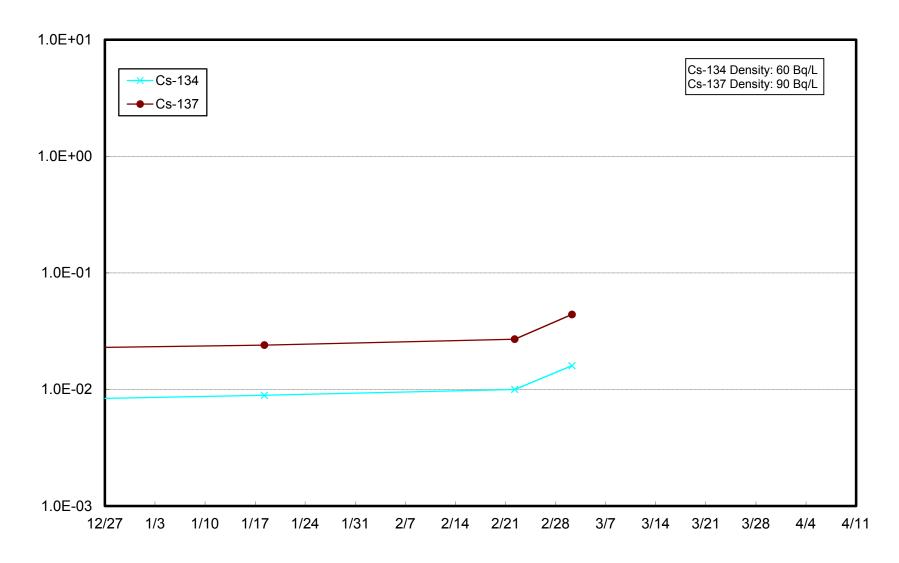


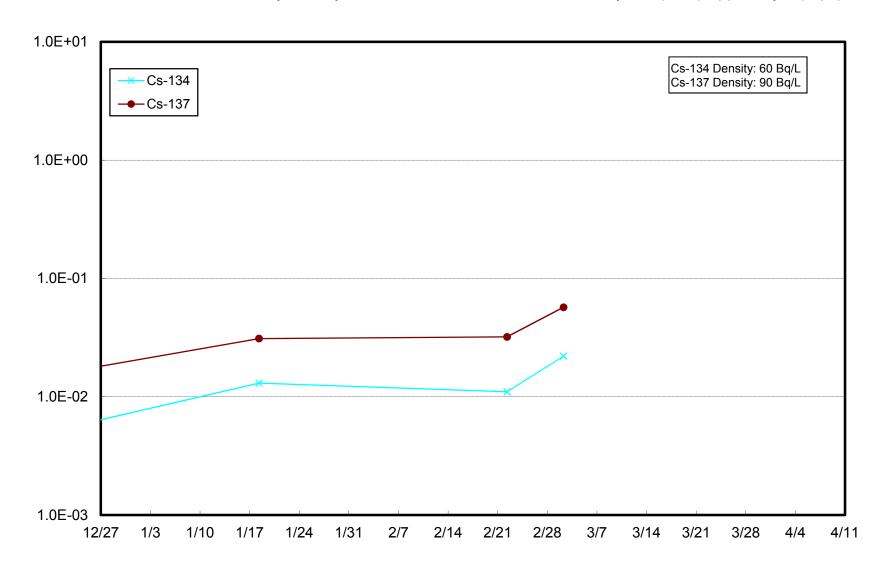


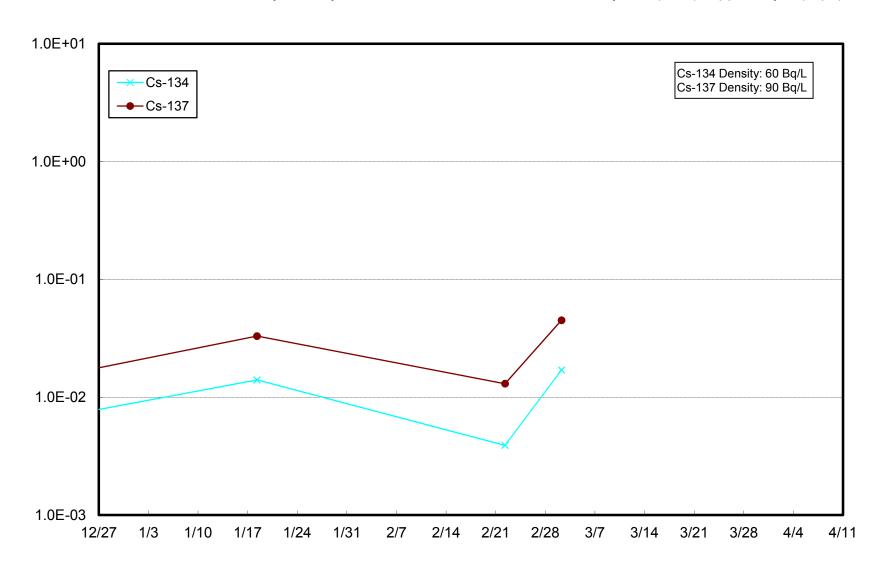




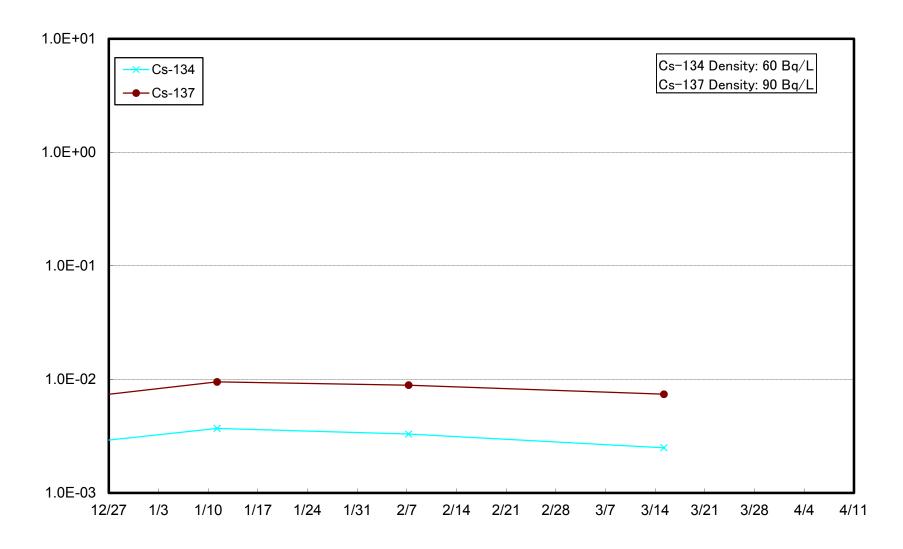








Radioactivity Density of the Seawater Around 10km Offshore of Fukushima Daiichi NPS (T-B3) Upper Layer (Bq/L)



Radioactivity Density of the Seawater Around 10km Offshore of Fukushima Daiichi NPS (T-B3) Lower Layer (Bq/L)

