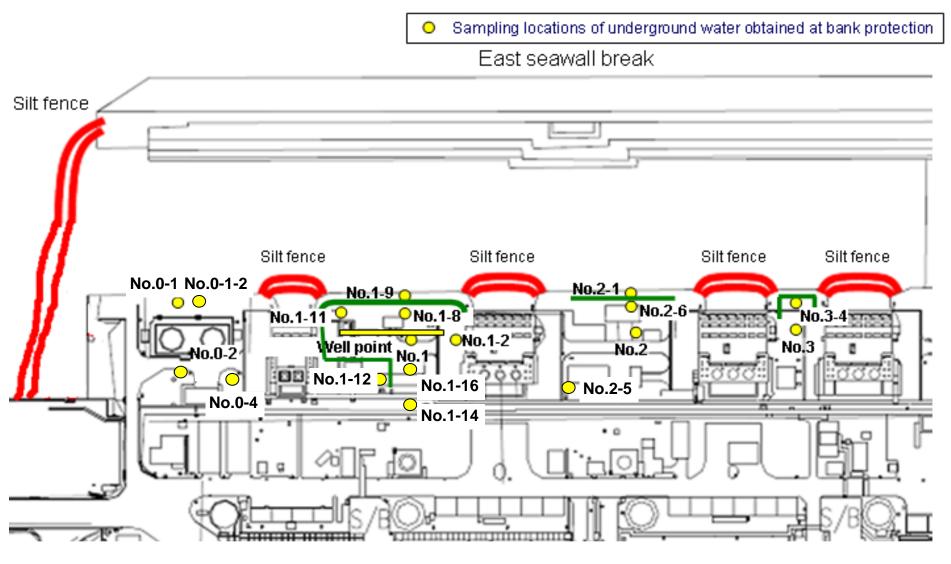
Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (Sampling Locations of Underground Water Obtained at Bank Protection)



 Location where ground improvement work was completed, or being implemented (as of November 6)

Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (1/4) Underground Water Obtained at Bank Protection

Unit: Bq/L (exclude chloride)

		Underground water observation hole No.0-1	Underground water observation hole No.0-1-2	Underground water observation hole No.0-2	Underground water observation hole No.0-3-1	Underground water observation hole No.0-4	Underground water observation hole No.1	Underground water observation hole No.1-8	Underground water observation hole No.1-9	Underground water observation hole No.1-11	Underground water observation hole No.1-12	Underground water observation hole No.1-14	Underground water observation hole No.1-16	Groundwater pumped up from the well point
	Date of sampling	Nov 17, 2013	Nov 17, 2013	Nov 17, 2013	/	Nov 17, 2013	Nov 18, 2013	Nov 18, 2013	Nov 19, 2013	Nov 18, 2013	Nov 18, 2013	Nov 18, 2013	Nov 18, 2013	Nov 18, 2013
	Time of sampling	9:42 AM	10:02 AM	10:42 AM		11:35 AM	10:12 AM	9:11 AM	6:25 AM	9:30 AM	9:17 AM	9:45 AM	9:36 AM	9:13 AM
	Chloride (unit: ppm)	-	-	-		-	-	-	360	-	-	-	-	-
C	s-134 (Approx. 2 years)	5.3	ND(0.40)	ND(0.39)		ND(0.40)	ND(0.50)	41	3.3	0.62	8.5	0.90	ND(1.5)	1.2
Cs	s-137 (Approx.30 years)	12	0.51	ND(0.54)		ND(0.52)	0.70	96	8.8	1.4	19	2.1	1.6	2.7
	Mn-54 (Approx. 310 days)	ND	ND	ND		ND	ND	5.2	ND	ND	ND	ND	ND	ND
The	Co-60 (Approx. 5 years)	ND	ND	ND		ND	ND	0.6	ND	ND	ND	ND	ND	ND
other y	Ru-106 (Approx. 370 days)	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	5.3
	Sb-125 (Approx. 3 years)	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	8.6	ND
	ΑΙΙ β	93	ND(18)	ND(18)		ND(18)	480	14,000	710	53	130	28	750,000	17,000
ŀ	H-3 (Approx. 12 years)	28,000	48,000	130		16,000	220,000	4,900	510	18,000	330,000	3,600	23,000	75,000
Sr	r-90 (Approx. 29 years)	-	-	-		-	-	-	-	-	-	-	-	-

		Underground water observation hole No.2	Underground water observation hole No.2-5	Underground water observation hole No.2-6	Underground water observation hole No.2-7	Underground water observation hole No.3	Underground water observation hole No.3-4
	Date of sampling	/	/	/	/	/	/
	Time of sampling						
Cs	-134 (Approx. 2 years)	/					
Cs	-137 (Approx.30 years)						
The other y							
·							
	ΑΙΙ β						
Н	I-3 (Approx. 12 years)						
Sr-	-90 (Approx. 29 years)	<u> </u>	<u>/</u>	/			

^{*} Data announced this time is provided in a thick-frame. The other data was announced on November 17, 19 and 21.

^{* &}quot;ND" indicates that the measurement result is below the detection limit, and the detection limit of each nuclide is provided in parentheses.

^{* &}quot;-" indicates that the measurement was out of range.

Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (2/4) Underground Water Obtained at Bank Protection

Unit: Bq/L (exclude chloride)

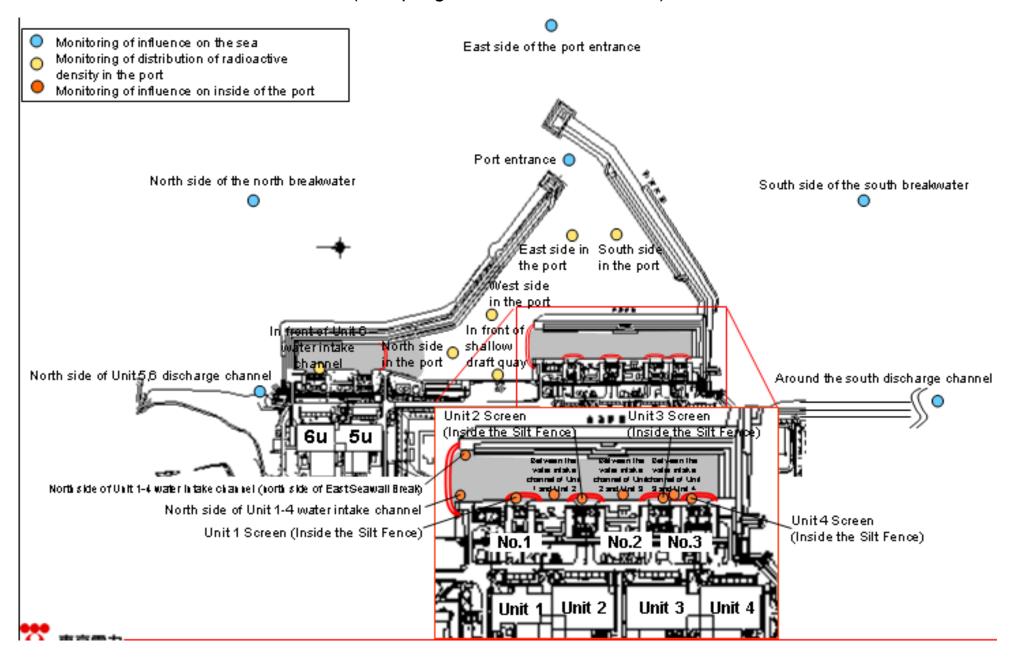
		Underground water observation hole No.0-1	Underground water observation hole No.0-1-2	Underground water observation hole No.0-2	Underground water observation hole No.0-3-1	Underground water observation hole No.0-4	Underground water observation hole No.1	Underground water observation hole No.1-8	Underground water observation hole No.1-9	Underground water observation hole No.1-11	Underground water observation hole No.1-12	Underground water observation hole No.1-14	Underground water observation hole No.1-16	Groundwater pumped up from the well point
	Date of sampling	/	/	/	/	1 /	Nov 21, 2013	/	Nov 21, 2013	Nov 21, 2013	Nov 21, 2013	Nov 21, 2013	Nov 21, 2013	/
	Time of sampling						10:50 AM		6:48 AM	11:10 AM	9:46 AM	10:25 AM	10:15 AM	/
	Chloride (unit: ppm)						-		330	-	-	-	-	
C	s-134 (Approx. 2 years)						0.47		3.0	0.49	8.0	0.78	ND(1.2)	
Cs	s-137 (Approx.30 years)						1.2		7.7	1.7	17	2.3	1.8	
	Co-60 (Approx. 5 years)						ND		ND	ND	ND	ND	0.63	
	Ru-106 (Approx. 370 days)						2.8		ND	ND	ND	ND	ND	
	Sb-125 (Approx. 3 years)						ND		ND	ND	ND	ND	7.0	
	All β						430		900	ND(17)	89	160	750,000	
ŀ	H-3 (Approx. 12 years)						Under analysis		Under analysis	Under analysis	Under analysis	Under analysis	Under analysis	/
Sr	r-90 (Approx. 29 years)	/	/	/	/		-		-	-	-	-	-	/

		Underground water observation hole No.2	Underground water observation hole No.2-5	Underground water observation hole No.2-6	Underground water observation hole No.2-7	Underground water observation hole No.3	Underground water observation hole No.3-4
	Date of sampling	/	/	/	/	/	/
	Time of sampling						
Cs	s-134 (Approx. 2 years)						
Cs	-137 (Approx.30 years)						
The other y							
	ΑΙΙ β						
H	H-3 (Approx. 12 years)						
Sr	-90 (Approx. 29 years)						

^{* &}quot;ND" indicates that the measurement result is below the detection limit, and the detection limit of each nuclide is provided in parentheses.

^{* &}quot;-" indicates that the measurement was out of range.

Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (Sampling Locations of Seawater)



Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (3/4) Seawater

Unit: Bq/L

	1F, North side of Unit 5,6 discharge channel	1F, In front of Unit 6 water intake channel	1F, In front of shallow draft quay	1F, North side of Unit 1-4 water intake channel	1F, North side of Unit 1-4 water intake channel (north side of East Seawall Break)	1F, Unit 1 Screen (Inside the Silt Fence)	water intake channel of Unit 1	1F, Between the water intake channel of Unit 1 and Unit 2 (lower layer)	1F, Unit 2 Screen	1F, Between the water intake channel of Unit 2 and Unit 3	Screen	1F, Between the water intake channel of Unit 3 and Unit 4	Specified by the	WHO Guideline s for drinking- water quality
Date of Sampling	Nov 18, 2013	Nov 18, 2013	Nov 18, 2013	Nov 19, 2013	Nov 18, 2013	Nov 18, 2013	Nov 19, 2013	Nov 19, 2013	Nov 18, 2013	Nov 18, 2013	Nov 18, 2013	Nov 18, 2013		
Time of sampling	6:05 AM	6:20 AM	5:45 AM	6:19 AM	6:22 AM	5:53 AM	6:24 AM	6:24 AM	5:58 AM	6:05 AM	6:10 AM	6:14 AM		
Cs-134(Approx. 2 years)	ND(1.2)	ND(2.0)	2.1	22	7.2	25	23	15	28	13	20	10	60	10
Cs-137(Approx.30 years)	ND(1.6)	ND(2.2)	5.9	58	16	60	48	32	49	35	47	30	90	10
All β	ND(16)	ND(17)	22	580	96	340	410	200	320	220	120	130		
H-3 (Approx. 12 years)	ND(2.0)	6.5	18	1,300	220	1,000	1,000	490	910	540	190	370	60,000	10,000
Sr-90 (Approx. 29 years)	-	-	-	-	-	-	-	-	-	-	-	-	30	10

Unit: Bq/L

	(Inside the Silt Fence) south discharge entrance the port			1F, West side in the port	1F, North side in the port		North side of the north breakwater	of the nort	East side of the port entrance	Southeast side of the port entrance	South side of the south breakwater	Density Limit Specified by the Reactor Regulatio n *	s for drinking-	
Date of Sampling	Nov 18, 2013	Nov 18, 2013		/	/	/	/		/	/	/	1		
Time of sampling	6:13 AM	5:20 AM		/					/	/				
Cs-134(Approx. 2 years)	33	ND(1.3)			/								60	10
Cs-137(Approx.30 years)	77	ND(1.3)		/									90	10
All β	150	ND(18)	. /											
H-3 (Approx. 12 years)	200	ND(2.0)		/	/				/	/			60,000	10,000
Sr-90 (Approx. 29 years)		-	/	/	/	V	V	V	V	V	V	V	30	10

^{*} Data announced this time is provided in a thick-frame. The other data was announced on November 19 and 21.

^{* &}quot;ND" indicates that the measurement result is below the detection limit, and the detection limit of each nuclide is provided in parentheses.

^{* &}quot;-" indicates that the measurement was out of range.

^{*} Density Limit Specified by the Rule for the Installation, Operation, etc. of Commercial Nuclear Power Reactors (the density limit in the water outside the surrounding monitored areas is provided in section 6 of Appendix 2 [the amount is converted from Bq/cm to Bq/L]).

Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (4/4) Seawater

Unit: Bq/L

	1F, North side of Unit 5,6 discharge channel	1F, In front of Unit 6 water intake channel	1F, In front of shallow draft quay	1F, North side of Unit 1-4 water intake channel	1F, North side of Unit 1-4 water intake channel (north side of East Seawall Break)	1F, Unit 1 Screen (Inside the Silt Fence)	water intake channel of Unit 1	1F, Between the water intake channel of Unit 1 and Unit 2 (lower layer)	1F, Unit 2 Screen	1F, Between the water intake channel of Unit 2 and Unit 3	Screen	1F, Between the water intake channel of Unit 3 and Unit 4	Specified by the	WHO Guideline s for drinking- water quality
Date of Sampling				Nov 21, 2013		/	Nov 21, 2013	Nov 21, 2013			/			
Time of sampling				6:37 AM			6:43 AM	6:43 AM		/				
Cs-134(Approx. 2 years)				26		/	24	12			/		60	10
Cs-137(Approx.30 years)) /			58			57	31					90	10
ΑΙΙ β				690			420	170						
H-3 (Approx. 12 years)				Under analysis			Under analysis	Under analysis					60,000	10,000
Sr-90 (Approx. 29 years)	/			-			-	-	/	/	/	/	30	10

ι	Jnit: Bq/L
ity	WHO
ι	Outstall and

	1F, Unit 4 Screen (Inside the Silt Fence)	1F, Around the south discharge channel	1 PORT	1F, East side in the port	1F, West side in the port	1F, North side in the port	1F, South side in the port	North side of the north breakwater	Northeast side of the port entrance	East side of the port entrance	Southeast side of the port entrance	South side of the south breakwater	Density Limit Specified by the Reactor Regulatio n *	WHO Guideline s for drinking- water quality
Date of Sampling	/		/	/	/	/		Nov 20, 2013	Nov 20, 2013	Nov 20, 2013	Nov 20, 2013	Nov 20, 2013		
Time of sampling	/				/			9:04 AM	9:08 AM	8:56 AM	8:44 AM	8:50 AM		
Cs-134(Approx. 2 years)							/	ND(0.67)	ND(0.70)	ND(0.66)	ND(0.80)	ND(0.61)	60	10
Cs-137(Approx.30 years)								ND(0.68)	ND(0.70)	ND(0.50)	ND(0.81)	ND(0.84)	90	10
All β								ND(16)	ND(16)	ND(16)	ND(16)	ND(16)		
H-3 (Approx. 12 years)								Under analysis	Under analysis	Under analysis	Under analysis	Under analysis	60,000	10,000
Sr-90 (Approx. 29 years)	V	V	V	V	V	V	V	-	-	-	-	-	30	10

^{* &}quot;ND" indicates that the measurement result is below the detection limit, and the detection limit of each nuclide is provided in parentheses.

^{* &}quot;-" indicates that the measurement was out of range.

^{*} Density Limit Specified by the Rule for the Installation, Operation, etc. of Commercial Nuclear Power Reactors (the density limit in the water outside the surrounding monitored areas is provided in section 6 of Appendix 2 [the amount is converted from Bq/cm to Bq/L]).

<Reference> The Highest Dose Until the Previous Measurement (Groundwater Obtained at Bank Protection)

Unit:	Bq/L

		Groun observa No.	tion hole	observa	ndwater ation hole 0-1-2	observa	ndwater ation hole .0-2	observa	ndwater ation hole 0-3-1	observa	idwater ition hole .0-4	observa	dwater tion hole o.1	Ground observati No.	tion hole	Groun observa No.	tion hole	Ground observati No.	tion hole	observa	dwater tion hole 1-4*	observa	dwater tion hole 1-5*	observa	ndwater ation hole 0.1-8
	s-134 (Approx. 2 years)	6.3	[11/10]	ND		0.61	[10/13]	ND		ND		13	[8/29]	1.9	[7/8]	11,000	[7/9]	10	[9/2]	1.5	[7/8]	310	[8/5]	43	[10/28]
С	s-137 (Approx.30 years)	14	[11/10]	0.51	[11/17]	1.6	[10/13]	0.86	[11/20]	0.48	[11/10]	31	[8/29]	3.6	[7/8]	22,000	[7/9]	24	[9/2]	3.6	[7/8]	650	[8/5]	96	[11/18]
	Ru-106 (Approx. 370 days)	ND		ND		ND		ND		ND		26	[5/24]	7.9	[7/8]	160	(8/15)	17	(7/22) (8/8)	3.1	[8/8]	ND		ND	
The	Mn-54 (Approx. 310 days)	ND		ND		ND		ND		ND		ND		1.0	[7/5]	62	[7/5]	ND		ND		ND		5.2	[11/18]
other \	Co-60 (Approx. 5 years)	ND		ND		ND		ND		ND		0.50	[7/19]	ND		3.1	[7/8]	ND		ND		ND		0.58	[11/18]
	Sb-125 (Approx. 3 years)	ND		ND		ND		ND		ND		1.7	[7/11]	ND		250	(7/15)	1.4	(7/12) (8/26)	ND		12	[8/8]	ND	
	ΑΙΙ β	300	[8/22]	21	[11/10]	87	[10/13]	ND		ND		1,900	[5/24]	4,400	[7/8]	900,000	(7/5) (7/9)	160,000	(8/12) (8/15)	380	[8/19]	56,000	[8/5]	14,000	[11/18]
	H-3 (Approx. 12 years)	45,000	[8/29]	36,000	[11/10]	ND		ND		19,000	[11/10]	500,000	(5/24) (6/7)	630,000	[7/8]	430,000	[9/16]	290,000	[7/12]	98,000	[7/11]	72,000	(8/15)	2,700	[11/11]
:	Sr-90(Approx. 29 years)	Under analysis		Under analysis		Under analysis		Under analysis		1,200	[6/7]	Under analysis		Under analysis		Under analysis		Under analysis		Under analysis		Under analysis		Under analysis	

		observa	dwater tion hole .1-9	observa	dwater tion hole 1-11	observa	dwater tion hole 1-12	observa	dwater tion hole 1-14	observa	dwater tion hole 1-16	Ground pumped the we	
Cs	s-134 (Approx. 2 years)	170	[9/3]	0.94	[10/31]	74	[10/21]	1.2	[11/14]	1.6	[11/14]	110	[9/23]
Cs	-137 (Approx.30 years)	380	[9/3]	2.0	(10/10) (11/11)	170	[10/21]	2.1	[11/18]	3.4	[10/10]	250	[9/23]
	Ru-106 (Approx. 370 days)	ND		ND		5.4	[10/28]	ND		9.2	[10/28]	25	[9/2]
The	Mn-54 (Approx. 310 days)	ND		ND									
other y	Co-60 (Approx. 5 years)	ND		ND		0.51	[10/24]	ND		0.9	[11/7]	ND	
	Sb-125 (Approx. 3 years)	ND		ND		61	[10/21]	ND		8.6	[11/18]	ND	
	ΑΙΙ β	2,100	[11/17]	72	[10/3]	730	[10/21]	33	[11/10]	880,000	[10/14]	700,000	[9/23]
H	H-3 (Approx. 12 years)	860	[11/14]	85,000	(9/13)	440,000	[10/31]	3,600	[11/14]	43,000	(9/26)	460,000	[8/19]
S	r-90(Approx. 29 years)	Under analysis		Under analysis		Under analysis	[10/21]	Under analysis		Under analysis		-	

																ι	Jnit: Bq/L
			Groundwater observation hole No.2		Groundwater observation hole No.2-1*		Groundwater observation hole No.2-5*1		Groundwater observation hole No.2-6		Groundwater observation hole No.2-7		Groundwater observation hole No.3		Groundwater observation hole No.3-1		dwater ion hole 3-4
Cs	Cs-134 (Approx. 2 years)		[7/9]	0.66	(9/1)	3.9	[11/7]	0.56	[10/30]	1.3	[11/21]	3.5	[7/25]	1.2	(7/25) (8/8)	1.8	[10/30]
Cs	Cs-137 (Approx.30 years)		(7/11) (8/1)	1.1	(8/29) (9/1)	10	[9/29]	0.61	[10/13]	3.1	[11/21]	5.9	(8/8)	2.6	(8/1)	3.8	[10/30]
	Ru-106 (Approx. 370 days)	ND		ND		ND		ND		ND		ND		ND		ND	
The	Mn-54 (Approx. 310 days)	ND		ND		0.77	[9/29]	ND		ND		ND		ND		0.54	[10/30]
other y	Co-60 (Approx. 5 years)	ND		ND		ND		ND		ND		ND		ND		ND	
	Sb-125 (Approx. 3 years)	ND		ND		26	[9/29]	ND		ND		1.1	[9/5]	ND		ND	
	ΑΙΙ β		[7/8]	380	[7/29]	46,000	[9/29]	2,100	[11/17]	18	[11/21]	1,400	[7/11]	180	[8/1]	ND	
-	H-3 (Approx. 12 years)		[6/26]	440	[8/26]	3,100	[11/7]	1,100	(10/13) (10/17) (11/6) (11/10) (11/13)	Under analysis		3,200	(2012/12/ 12)	460	[8/1]	170	(9/18)
s	Sr-90(Approx. 29 years)		[5/31]	Under analysis		Under analysis		Under analysis		Under analysis		8.3	(2012/12/ 12)	Under analysis		Under analysis	

^{*1} Although we previously announced the analysis result of γ and all β on September 29, we have reanalyze the sample.

The analysis result of No.2-5 is the reference value, since we could not sample groundwater by a regular procedure.

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

^{*} Date of sampling is provided in parentheses.

^{* &}quot;*" is provided next to the name of the holes where the sampling could not be performed due to the chemical injection of ground improvement.

<Reference> The Highest Dose Until the Previous Measurement* (Seawater)

Unit: Bq/L

		side of Unit rge channel		nt of Unit 6 ake channel		t of shallow quay	1F, North : 1-4 wate cha	er intake	1-4 wa channel (r	side of Unit ter intake north side of wall Break)		: 1 Screen e Silt Fence)	intake cha 1 and Un	en the water annel of Unit it 2 (surface yer)	intake cha 1 and Ur	en the water innel of Unit nit 2 (lower yer)	1F, Unit	2 Screen e Silt Fence)	intake cha	en the water nnel of Unit Unit 3	1F, Unit	3 Screen Silt Fence)	1F, Betwee intake char 3 and	
Cs-134(Approx. 2 years)	1.8	[6/21]	2.4	[8/19]	5.3	(8/5)	89	[10/10]	32	[10/11]	73	[10/10]	87	[10/10]	93	[10/10]	370	[10/9]	46	[10/11]	350	(7/15)	28	(9/16)
Cs-137(Approx.30 years)	3.3	[6/26]	4.7	[8/19]	8.6	[8/5]	190	[10/10]	73	[10/11]	170	[10/10]	200	[10/10]	200	[10/10]	830	[10/9]	110	[10/11]	770	(7/15)	50	(9/16)
All β	ND		46	(8/19)	<u>40</u>	[7/3]	1,400	[11/7]	320	[8/12]	740	[10/28]	740	[8/15] [10/13] [10/31]	450	(7/16)	1,700	[10/9]	480	[10/7]	1,000	[7/15]	390	[8/12]
H-3 (Approx. 12 years)	8.6	[6/26]	24	[8/19]	340	[6/26]	4,800	[11/7]	510	[9/2]	2,800	[10/28]	2,700	[11/7]	1,600	(9/1)	2,100	[10/28]	1,200	[10/7]	410	[9/2]	650	[8/12]
Sr-90 (Approx. 29 years)	5.8	[6/26]	-		7.4	[6/26]	Under analysis		Under analysis		Under analysis		Under analysis		Under analysis		Under analysis		Under analysis		Under analysis		Under analysis	

Unit: Bq/L

	1F, Unit 4 Screen (Inside the Silt Fence)		1F, Around the south discharge channel		1F, Port entrance		1F, East side in the port		1F, West side in the port		1F, North side in the port		1F, South side in the port		North side of the north breakwater	Northeast side of the port entrance	East side of the south breakwater	Southeast side of the north breakwater	South side of the south breakwater
Cs-134(Approx. 2 years)	62	(9/16)	ND		2.7	[10/11]	3.3	[10/17]	2.6	(8/19)	2.5	(10/17)	3.5	(10/17)	ND	ND	ND	ND	ND
Cs-137(Approx.30 years)	140	(9/16)	3.0	(7/15)	7.3	[10/11]	9.0	[10/17]	6.5	[8/19]	5.8	[10/17]	7.8	[10/17]	ND	ND	1.6 [10/18]	ND	ND
ΑΙΙ β	360	[10/7]	ND		69	[8/19]	74	(8/19)	60	[7/4]	69	[8/19]	79	[8/19]	ND	ND	ND	ND	ND
H-3 (Approx. 12 years)	400	[8/12] [10/7]	ND		68	[8/19]	67	(8/19)	59	(8/19)	52	[8/19]	60	[8/19]	4.7 [8/14]	ND	6.4 (10/8)	ND	ND
Sr-90 (Approx. 29 years)	Under analysis		0.36	[6/26]	3.5	[6/20]	Under analysis		Under analysis		-		-		-	-	-	-	-

^{*} The highest result announced in "Detailed Analysis Results in the Port of Fukushima Dailchi NPS, around Discharge Channel and Bank Protection" or the other handouts is provided.

The underlined part was corrected on January 10, 2014.

[Reference] Standard values

Unit: Bq/L

	Cs-134	Cs-137	H-3	Sr-90
Density Limit Specified by the Rule for the Installation, Operation, etc. of Commercial Nuclear Power Reactors (the density limit in the water outside the surrounding monitored areas is provided in section 6 of Appendix 2)	60	90	60,000	30
WHO Guidelines for drinking-water quality	10	10	10,000	10

As for "1F, North side of Unit 1-4 water intake channel", the data is obtained since January 14, 2013. For the other locations, the data is obtained since June 14.

^{* &}quot;ND" indicates that the measurement result is below the detection limit.

^{*} Date of sampling is provided in parentheses.

 $^{^{\}star}$ "-" indicates that the measurement was out of range.