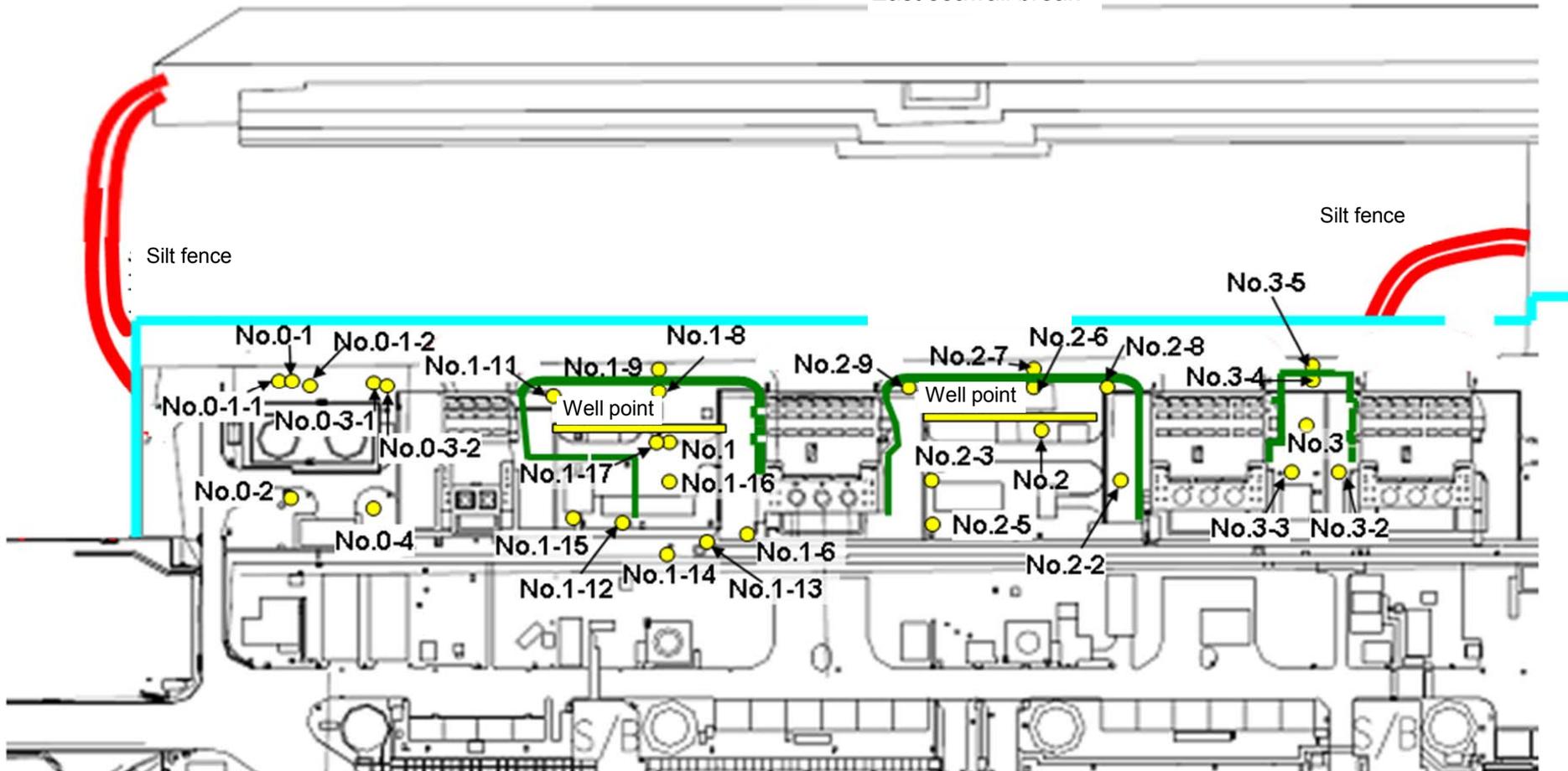


Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (Sampling Locations of Underground Water Obtained at Bank Protection)

● Sampling locations of underground water obtained at bank protection

East seawall break



— : Seaside impermeable

— : Location where ground improvement construction was completed, or being implemented (as of April 18, 2014)

Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (1/3) 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.0-3-2	Underground water observation hole No.0-4	Underground water observation hole No.1	Underground water observation hole No.1-6	Underground water observation hole No.1-8	Underground water observation hole No.1-9 (note)	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	Underground water observation hole No.1-17
Date of sampling	December 14, 2014	December 14, 2014	December 14, 2014	December 14, 2014	December 15, 2014	December 14, 2014	December 15, 2014	December 15, 2014	December 15, 2014	December 16, 2014	December 15, 2014	December 15, 2014	December 15, 2014	December 15, 2014	December 15, 2014
Time of sampling	11:00 AM	10:16 AM	9:41 AM	10:01 AM	9:30 AM	9:00 AM	8:49 AM	10:08 AM	9:24 AM	7:00 AM	9:07 AM	9:15 AM	9:40 AM	9:32 AM	9:41 AM
Chloride (unit: ppm)	—	—	—	—	—	—	—	—	—	18	—	—	—	—	—
Cs-134 (Approx. 2 years)	—	ND(0.34)	ND(0.43)	ND(0.41)	ND(0.40)	ND(0.36)	ND(0.38)	12,000	11	—	ND(0.40)	3.0	—	2.0	ND(0.44)
Cs-137 (Approx.30 years)	—	ND(0.44)	ND(0.55)	ND(0.56)	ND(0.51)	ND(0.41)	0.98	38,000	45	—	1.6	8.4	—	3.2	ND(0.54)
The other γ	Mn-54 (Approx. 310 days)	—	ND	ND	ND	ND	ND	ND	ND	—	ND	ND	—	0.96	ND
	Co-60 (Approx. 5 years)	—	ND	ND	ND	ND	ND	210	ND	—	ND	ND	—	ND	ND
	Ru-106 (Approx. 370 days)	—	ND	ND	ND	ND	3.3	ND	ND	—	ND	ND	—	ND	ND
	Sb-125 (Approx. 3 years)	—	ND	ND	ND	ND	ND	ND	ND	—	ND	ND	—	6.5	ND
Gross β	190	ND(19)	ND(19)	ND(19)	54	ND(21)	61	430,000	17,000	ND(21)	32	140	20,000	470,000	36,000
H-3 (Approx. 12 years)	1,400	9,600	340	ND(100)	13,000	24,000	180,000	6,900	18,000	ND(110)	11,000	29,000	13,000	1,700	32,000
Sr-90 (Approx. 29 years)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

	Groundwater pumped up from the well point (between Unit 1 and 2)	Underground water observation hole No.2	Underground water observation hole No.2-2	Underground water observation hole No.2-3	Underground water observation hole No.2-5 (note)	Underground water observation hole No.2-6	Underground water observation hole No.2-7	Underground water observation hole No.2-8	Groundwater pumped up from the well point (between Unit 2 and 3)	Underground water observation hole No.3	Underground water observation hole No.3-2	Underground water observation hole No.3-3	Underground water observation hole No.3-4	Underground water observation hole No.3-5(note)
Date of sampling	December 15, 2014								December 16, 2014					
Time of sampling	9:50 AM								8:33 AM					
Chloride (unit: ppm)	—								—					
Cs-134 (Approx. 2 years)	22								ND(0.37)					
Cs-137 (Approx.30 years)	68								0.79					
The other γ	Mn-54 (Approx. 310 days)	30							ND					
	Co-60 (Approx. 5 years)	ND							ND					
	Ru-106 (Approx. 370 days)	ND							ND					
	Sb-125 (Approx. 3 years)	ND							ND					
Gross β	1,100,000							520						
H-3 (Approx. 12 years)	91,000							810						
Sr-90 (Approx. 29 years)	—							—						

* Data announced this time is provided in a thick-frame. The other data was announced on December 15, 16 and 17, 2014.

* "ND" indicates that the measurement result is below the detection limit, and the detection limit of each nuclide is provided in parentheses, except "the other γ".

* "-" indicates that the measurement was out of range.

(Note) As for No. 1-9, 2-5, and 3-5, γ was not measured because they are sampled by sampler. Gross β were measured after filtration for references.

*γ was not measured because the water was highly turbid. (Gross β were measured after filtration as references.)

Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (2/3) 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.0-3-2	Underground water observation hole No.0-4	Underground water observation hole No.1 **	Underground water observation hole No.1-6 **	Underground water observation hole No.1-8	Underground water observation hole No.1-9 (note)**	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 **	Underground water observation hole No.1-17**
Date of sampling					December 18, 2014		December 18, 2014	December 18, 2014		December 18, 2014	December 18, 2014	December 18, 2014	December 18, 2014	December 18, 2014	December 18, 2014
Time of sampling					9:30 AM		Sampling ceased	Sampling ceased		Sampling ceased	Sampling ceased	Sampling ceased	Sampling ceased	Sampling ceased	Sampling ceased
Chloride (unit: ppm)					—										
Cs-134 (Approx. 2 years)					ND(0.43)										
Cs-137 (Approx.30 years)					ND(0.48)										
The other γ															
Gross β					42										
H-3 (Approx. 12 years)					Under analysis										
Sr-90 (Approx. 29 years)					—										

	Groundwater pumped up from the well point (between Unit 1 and 2)	Underground water observation hole No.2	Underground water observation hole No.2-2	Underground water observation hole No.2-3	Underground water observation hole No.2-5 (note)	Underground water observation hole No.2-6**	Underground water observation hole No.2-7	Underground water observation hole No.2-8	Groundwater pumped up from the well point (between Unit 2 and 3)	Underground water observation hole No.3*	Underground water observation hole No.3-2	Underground water observation hole No.3-3	Underground water observation hole No.3-4	Underground water observation hole No.3-5(note)
Date of sampling						December 18, 2014								
Time of sampling						Sampling ceased								
Chloride (unit: ppm)														
Cs-134 (Approx. 2 years)														
Cs-137 (Approx.30 years)														
The other γ														
Gross β														
H-3 (Approx. 12 years)														
Sr-90 (Approx. 29 years)														

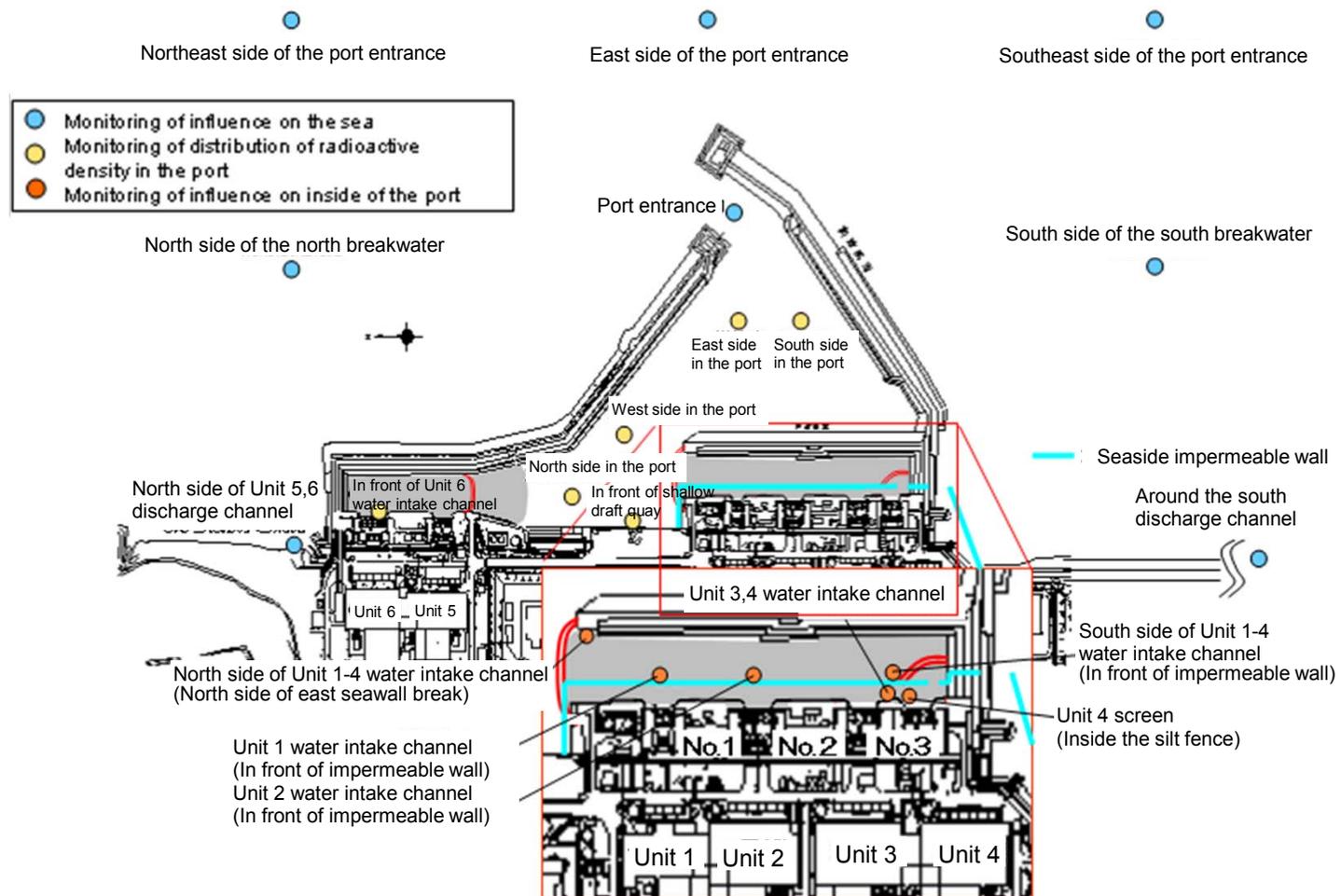
* "ND" indicates that the measurement result is below the detection limit, and the detection limit of each nuclide is provided in parentheses, except "the other γ".

** "-" indicates that the measurement was out of range.

(Note) As for No. 1-9, 2-5, and 3-5, γ was not measured because they are sampled by sampler. Gross β were measured after filtration for references.

** No sampling was taken due to bad weather.

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 (3/3) 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 (north side of East Seawall Break)	1F, In front of Unit 1 water intake channel (in front of impermeable wall)	1F, In front of Unit 2 water intake channel (in front of impermeable wall)	1F, In front of Unit 3 & 4 water intake channel	1F, Unit 4 Screen	1F, South side of Unit 1-4 water intake channel (in front of impermeable wall)	1F, Around the south discharge channel	Density Limit Specified by the Reactor Regulation *	WHO Guidelines for drinking-water quality
Date of Sampling	December 15, 2014	December 15, 2014	December 15, 2014	December 15, 2014	December 15, 2014	December 15, 2014	December 15, 2014	December 15, 2014	December 15, 2014	December 15, 2014		
Time of sampling	7:00 AM	7:20 AM	6:50 AM	7:15 AM	6:57 AM	7:00 AM	7:08 AM	7:05 AM	7:11 AM	5:50 AM		
Cs-134(Approx. 2 years)	ND(0.80)	ND(1.6)	ND(1.6)	8.9	6.8	6.2	9.7	9.5	5.5	ND(0.74)	60	10
Cs-137(Approx.30 years)	0.76	ND(1.9)	2.3	21	22	22	31	33	19	ND(0.60)	90	10
Gross β	10	20	22	140	120	150	300	270	130	13		
H-3 (Approx. 12 years)	3.7	5.7	6.4	370	210	350	930	970	300	2.2	60,000	10,000
Sr-90(Approx. 29 years)	—	—	—	—	—	—	—	—	—	—	30	10

Unit: Bq/L

	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	1F, North side of the north breakwater	1F, Port entrance (north-east side)	1F, Port entrance (east side)	1F, Port entrance (south-east side)	1F, South side of the south breakwater	Density Limit Specified by the Reactor Regulation *	WHO Guidelines for drinking-water quality
Date of Sampling												
Time of sampling												
Cs-134(Approx. 2 years)											60	10
Cs-137(Approx.30 years)											90	10
Gross β												
H-3 (Approx. 12 years)											60,000	10,000
Sr-90(Approx. 29 years)											30	10

* Data announced this time is provided in a thick-frame. The other data was announced on December 16, 2014.

* "ND" indicates that the measurement result is below the detection limit, and the detection limit of each nuclide is provided in parentheses.

* "-" 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/cm³ to Bq/L]).

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

Unit: Bq/L

	Groundwater observation hole No.0-1	Groundwater observation hole No.0-1-1	Groundwater observation hole No.0-1-2	Groundwater observation hole No.0-2	Groundwater observation hole No.0-3-1	Groundwater observation hole No.0-3-2	Groundwater observation hole No.0-4	Groundwater observation hole No.1	Groundwater observation hole No.1-1*	Groundwater observation hole No.1-2*	Groundwater observation hole No.1-3*	Groundwater observation hole No.1-4*	Groundwater observation hole No.1-5*	Groundwater observation hole No.1-6
Cs-134 (Approx. 2 years)	29 <5/25>	ND	0.61 <3/2>	0.61 [10/13]	0.64 <4/6>	1.3 <9/25>	0.70 <6/29>	13 [8/29]	1.9 [7/8]	11,000 [7/9]	10 [9/2]	1.5 [7/8]	310 [8/5]	67,000 <10/17>
Cs-137 (Approx.30 years)	78 <5/25>	ND	1.5 <3/2>	2.2 <1/12>	1.1 <4/6>	5.1 <9/25>	1.6 <6/29>	31 [8/29]	3.6 [7/8]	22,000 [7/9]	24 [9/2]	3.6 [7/8]	650 [8/5]	200,000 <10/16>
The other y	Ru-106 (Approx. 370 days)	ND	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
	Mn-54 (Approx. 310 days)	ND	ND	ND	ND	ND	0.64 <2/20>	ND	1.0 [7/5]	62 [7/5]	ND	ND	ND	700 <10/13>
	Co-60 (Approx. 5 years)	ND	ND	ND	ND	ND	ND	0.50 [7/19]	ND	3.1 [7/8]	ND	ND	ND	3,600 <10/13>
	Sb-125 (Approx. 3 years)	ND	ND	ND	ND	ND	ND	1.7 [7/11]	ND	250 [7/15]	1.4 [7/12] [8/26]	ND	12 [8/8]	34 <5/19>
Gross β	300 [8/29] <5/18>	21 [12/7]	24 <6/22>	87 [10/13]	ND	74 <10/9>	44 <6/22>	1,900 [5/24] [6/7]	4,400 [7/8]	9,300,000 [7/8]	160,000 [8/12] [8/15]	380 [8/19]	56,000 [8/5]	7,800,000 <10/13>
H-3 (Approx. 12 years)	45,000 [8/29]	18,000 [12/7]	74,000 [12/15] <1/19>	6,800 <2/16>	ND	76,000 <2/6>	56,000 <2/23>	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]	110,000 *2 <2/6>
Sr-90(Approx. 29 years)	140 [8/8]	7.9 [12/7]	2.6 [11/10]	0.73 [9/2]	1.5 [11/20]	2.3 [12/6]	ND(0.83) [10/27]	1,300 [8/22]	2,300 [6/28]	5,000,000 [7/5]	130,000 [8/8]	200 [7/8]	5,100 [8/22]	1,100,000 <8/4> <10/2>

Unit: Bq/L

	Groundwater observation hole No.1-8	Groundwater observation hole No.1-9	Groundwater observation hole No.1-10	Groundwater observation hole No.1-11	Groundwater observation hole No.1-12	Groundwater observation hole No.1-13	Groundwater observation hole No.1-14	Groundwater observation hole No.1-15	Groundwater observation hole No.1-16	Groundwater observation hole No.1-17	Groundwater pumped up from the well point (between Unit 1 and 2)	Groundwater observation hole No.2	Groundwater observation hole No.2-1*	Groundwater observation hole No.2-2
Cs-134 (Approx. 2 years)	47 [11/25]	170 [9/3]	-	1.1 <1/13>	74 [10/21]	37,000 <2/13>	130 <10/18> <12/11>	ND	30 <7/28>	1.4 <7/7>	920 <11/13>	0.88 <2/26>	0.66 [9/1]	15 <2/12>
Cs-137 (Approx.30 years)	110 [11/25]	380 [9/3]	-	3.4 <4/28>	170 [10/21]	93,000 <2/13>	430 <12/11>	0.88 <7/10>	86 <7/28>	3.0 <9/29>	3,000 <11/13>	2.5 <2/26>	1.1 [8/29] [9/1]	38 <2/12>
The other y	Ru-106 (Approx. 370 days)	ND	ND	-	ND	5.4 [10/28]	ND	ND	9.2 [10/28]	5.5 <4/21> <5/1>	25 [9/2]	ND	ND	ND
	Mn-54 (Approx. 310 days)	12 <2/3>	ND	-	ND	ND	ND	3.8 <12/1>	ND	11 <8/25>	110 <11/13>	ND	ND	ND
	Co-60 (Approx. 5 years)	1.3 <2/3>	ND	-	ND	0.51 [10/24]	ND	0.44 <5/29>	ND	0.9 [11/7]	0.61 [11/25]	3.0 <11/24>	ND	ND
	Sb-125 (Approx. 3 years)	ND	ND	-	ND	61 [10/21]	ND	ND	ND	24 <6/16>	2.1 [11/25]	ND	ND	ND
Gross β	59,000 <2/3>	2,100 *2 [11/17]	78 *2 <1/27>	2,300 [12/26]	1,100 <5/5>	260,000 <2/12> <2/13>	31,000 <11/20> <11/24> <12/11>	110 <7/10>	3,100,000 <1/20> <1/30> <2/3>	1,200,000 <10/9>	3,200,000 <11/13>	1,700 [7/8]	380 [7/29]	600 <4/16>
H-3 (Approx. 12 years)	71,000 <12/1>	860 *2 [11/14]	270,000 *2 <1/27>	85,000 [9/13]	440,000 [10/31]	88,000 <2/12>	23,000 <2/13>	74,000 <7/10>	43,000 [9/26]	160,000 <10/13> <10/16> <11/3>	460,000 [8/19]	1,000 <2/23>	440 [8/26]	660 <1/8>
Sr-90(Approx. 29 years)	35,000 <2/17>	300 [10/3]	-	170 <8/4>	290 [10/21]	160,000 <2/12>	28,000 <10/2>	Under analysis	2,700,000 <2/13>	990,000 <10/2>	-	54 [5/31]	5.9 [7/25]	320 [12/25]

Unit: Bq/L

	Groundwater observation hole No.2-3	Groundwater observation hole No.2-5	Groundwater observation hole No.2-6	Groundwater observation hole No.2-7	Groundwater observation hole No.2-8	Groundwater observation hole No.2-9	Groundwater pumped up from the well point (between Unit 2 and 3)	Groundwater observation hole No.3	Groundwater observation hole No.3-1*	Groundwater observation hole No.3-2	Groundwater observation hole No.3-3	Groundwater observation hole No.3-4	Groundwater observation hole No.3-5
Cs-134 (Approx. 2 years)	2.2 <2/26>	41 <5/7>	17 <3/11>	3.5 <2/23>	1.3 <7/20>	ND	2.2 <9/7>	3.5 [7/25]	1.2 [7/25] [8/8]	23 <8/27>	180 <7/2>	5.1 <7/23>	100 <7/30>
Cs-137 (Approx.30 years)	5.5 <2/26>	110 <5/7>	50 <3/11>	9.0 <2/23>	3.4 <7/20>	0.58 *2 <2/11>	5.7 <9/7>	5.9 [8/8]	2.6 [8/1]	68 <9/3>	500 <7/2>	16 <8/27>	310 <7/30>
The other y	Ru-106 (Approx. 370 days)	ND	ND	ND	ND	ND	6.5 *2 <2/11>	ND	ND	ND	ND	ND	-
	Mn-54 (Approx. 310 days)	0.29 [12/6]	0.95 <6/4>	ND	ND	ND	ND	ND	ND	ND	ND	0.54 [10/30]	-
	Co-60 (Approx. 5 years)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
	Sb-125 (Approx. 3 years)	ND	74 <5/7>	ND	ND	ND	ND	ND	1.6 <1/1>	ND	ND	ND	-
Gross β	1,500 [12/6] <1/8>	150,000 <2/12>	3,200 [12/5] <11/6>	1,300 <6/20>	5,800 <7/23>	1,700 <2/7>	240,000 [12/12]	1,400 [7/11]	180 [8/1]	3,100 <8/20> <8/28>	8,900 <7/2>	46 <8/13>	510 <7/16>
H-3 (Approx. 12 years)	1,700 [12/6]	7,900 <4/9>	1,900 <8/10>	1,100 <1/19>	1,700 <4/6> <8/6> <8/13>	13,000 *2 <2/7> <2/11>	13,000 <10/19> <10/26> <10/29>	3,200 [2012. 12/12]	460 [8/1]	3,700 <7/9>	8,000 <5/7>	170 [9/18]	170 <1/8>
Sr-90(Approx. 29 years)	1,200 [12/6]	34,000 <5/7>	Under analysis	ND(1.4) [11/21]	3,900 <3/30>	1,200 *2 <2/11>	-	8.3 [2012. 12/12]	4.4 [7/23]	2,000 <4/18>	3,600 <4/30>	ND	200 <5/28>

● Since some samples are still under analysis, the highest dose of the Strontium-90 is among those previously announced.

*1 Analysis result of pumped water.

*2 The results are for reference, since the water was highly turbid. (γ and Gross β were measured after filtration.)

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

* Date of sampling is provided in parentheses. []: 2013, < >: 2014

* *** is provided next to the name of the holes where the sampling could not be performed due to the chemical injection of ground improvement.

(Note) As for No. 1-9, 2-5, and 3-5, since September 17, γ was not measured because they are sampled by sampler. Gross β were measured after filtration for reference.

<Reference> The Highest Dose Until the Previous Measurement* (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 (north side of East Seawall Break)	1F, In front of Unit 1 water intake channel (in front of impermeable wall)	1F, In front of Unit 2 water intake channel (in front of impermeable wall)	1F, Between the water intake channel of Unit 3 and Unit 4	1F, Unit 4 screen (inside the silt fence)	1F, South side of Unit 1-4 water intake channel (in front of impermeable wall)	1F, Around south discharge channel
Cs-134(Approx. 2 years)	1.8 [6/21]	2.8 [12/2]	5.3 [8/5]	32 [10/11]	12 <6/23>	12 <9/8>	50 <9/22>	62 [9/16]	24 <11/3>	1.8 <6/9>
Cs-137(Approx.30 years)	4.5 <3/17>	5.8 [12/2]	8.6 [8/5]	73 [10/11]	33 <5/12>	40 <9/8>	150 <9/22>	140 [9/16] <9/22>	64 <11/3>	4.9 <6/9>
Gross β	17 <1/6>	46 [8/19]	40 [7/3]	320 [8/12]	170 <12/8>	170 <11/24>	660 <6/9>	680 <9/22>	380 <3/10>	16 <6/9> <8/4>
H-3 (Approx. 12 years)	8.7 <5/12>	24 [8/19]	340 [6/26]	600 [8/18]	460 <8/18>	350 <8/18>	2,500 <6/23>	2,200 <7/21>	810 <8/4> <11/3>	5.6 <5/19>
Sr-90(Approx. 29 years)	4.7 [6/26]	—	7.2 [6/26]	220 [8/19]	—	—	660 <6/9>	470 <8/4>	—	0.29 [6/26]

Unit: Bq/L

	1F, East side in the port	1F, West side in the port	1F, North side in the port	1F, South side in the port	1F, Center in the port	1F, North side of the north breakwater	1F, Northeast side of the port entrance	1F, East side of the port entrance	Southeast side of the port entrance	1F, South side of the south breakwater
Cs-134(Approx. 2 years)	3.3 [12/24]	3.3 [10/17]	4.4 [12/24]	5.0 [12/2]	3.5 [10/17]	ND	ND	ND	ND	ND
Cs-137(Approx.30 years)	7.3 [10/11]	9.0 [10/17]	10.0 [12/24]	8.4 [12/2]	7.8 [10/17]	ND	0.7 <10/8>	1.6 [10/18]	ND	ND
Gross β	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)	68 [8/19]	67 [8/19]	59 [8/19]	52 [8/19]	60 [8/19]	4.7 [8/14]	1.8 <10/1>	6.4 [10/8]	1.8 <5/29>	2.8 <4/23>
Sr-90(Approx. 29 years)	49 [8/19]	—	—	—	—	—	—	—	—	—

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

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.

● Since some samples are still under analysis, the highest dose of the Strontium-90 is among those previously announced.

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

* Date of sampling is provided in parentheses. []: 2013, < >: 2014

* "-" indicates that the measurement was out of range.

[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