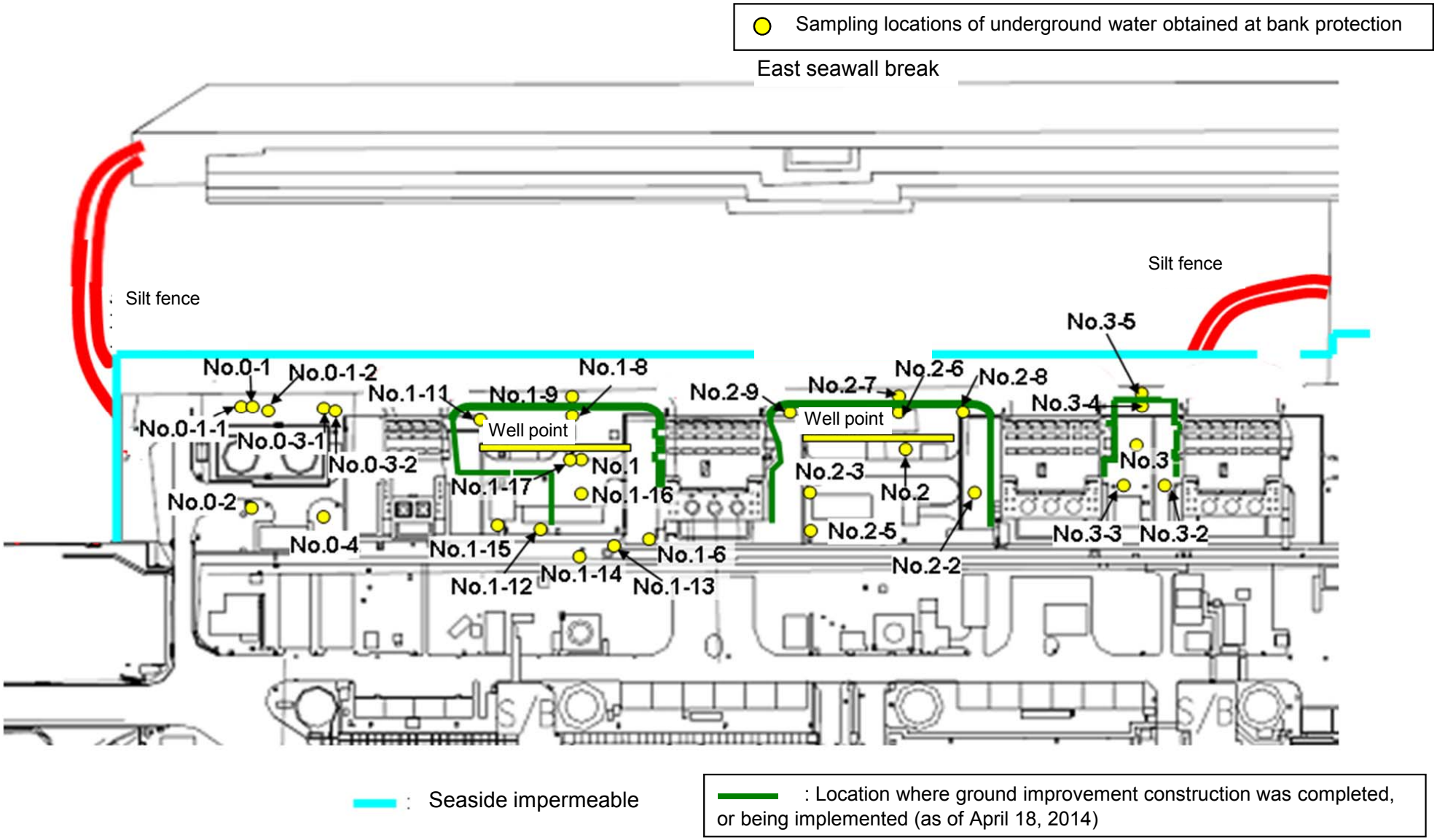
<Reference>
December 8, 2014
Tokyo Electric Power Company

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)



Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (1/2)
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 04, 2014					
Time of sampling										7:13 AM					
Chloride (unit: ppm)										20					
Cs-134 (Approx. 2 years)										–					
Cs-137 (Approx.30 years)										–					
The other γ															
Gross β										ND(18)					
H-3 (Approx. 12 years)										ND(110)					
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 03, 2014	December 03, 2014	December 03, 2014	December 03, 2014	December 04, 2014	December 05, 2014	December 03, 2014	December 03, 2014	December 03, 2014	December 03, 2014	December 03, 2014	December 03, 2014	December 03, 2014
Time of sampling		10:22 AM	12:00 PM	10:56 AM	10:10 AM	10:13 AM	8:43 AM	11:36 AM	10:15 AM	10:15 AM	11:20 AM	11:53 AM	10:36 AM	9:40 AM
Chloride (unit: ppm)		–	–	–	–	–	600	–	–	–	–	–	–	650
Cs-134 (Approx. 2 years)		ND(0.39)	6.1	ND(0.41)	–	ND(0.35)	ND(0.36)	ND(0.39)	ND(0.41)	–	11	43	5.0	–
Cs-137 (Approx.30 years)		ND(0.54)	12	ND(0.49)	–	ND(0.43)	0.70	ND(0.44)	0.61	–	33	110	14	–
The other γ														
Gross β		150	350	690	4,000	970	700	2,700	33,000	ND(21)	2,400	3,100	ND(21)	26
H-3 (Approx. 12 years)		610	360	850	600	830	610	880	2,500	ND(100)	2,000	1,300	ND(100)	ND(100)
Sr-90（Approx. 29 years）		–	–	–	–	–	–	–	–	–	–	–	–	–

* Data announced this time is provided in a thick-frame. The other data was announced on December 4, 5 and 6, 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 samlpled by sampler. Gross β were measured after filtation 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 (2/2)
Underground Water Obtained at Bank Protection

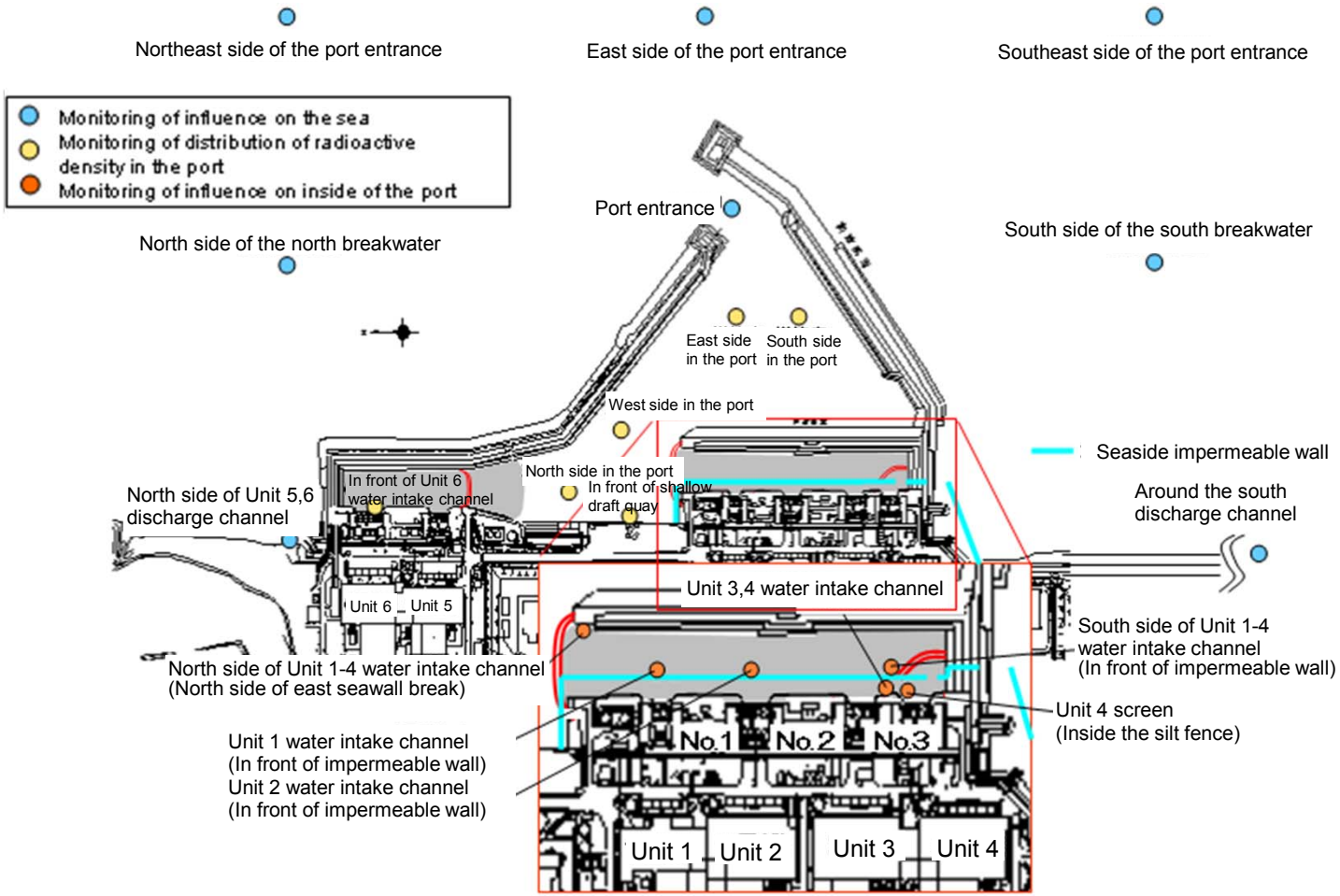
Unit: Bq/L (exclude chloride)

	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 07, 2014	December 07, 2014	December 07, 2014	December 07, 2014		December 07, 2014				December 07, 2014					
Time of sampling	10:59 AM	10:13 AM	9:39 AM	9:57 AM		9:07 AM				7:20 AM					
Chloride (unit: ppm)	–	–	–	–		–				26					
Cs-134 (Approx. 2 years)	19	ND(0.36)	ND(0.36)	ND(0.43)		ND(0.39)				–					
Cs-137 (Approx.30 years)	66	ND(0.49)	ND(0.49)	ND(0.50)		ND(0.50)				–					
The other γ															
Gross β	170	ND(19)	ND(19)	ND(19)		ND(19)				40					
H-3 (Approx. 12 years)	Under analysis	Under analysis	Under analysis	Under analysis		Under analysis				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 07, 2014	December 07, 2014	December 07, 2014			December 07, 2014	December 07, 2014	December 07, 2014					
Time of sampling		8:45 AM	10:15 AM	9:04 AM			9:31 AM	9:55 AM	10:00 AM					
Chloride (unit: ppm)		–	–	–			600	–	–					
Cs-134 (Approx. 2 years)		ND(0.34)	ND(2.0)	ND(0.37)			ND(0.39)	ND(0.37)	ND(0.44)					
Cs-137 (Approx.30 years)		ND(0.49)	3.3	ND(0.50)			0.64	ND(0.48)	0.81					
The other γ														
Gross β		53	260	190			800	2,300	21,000					
H-3 (Approx. 12 years)		Under analysis	Under analysis	Under analysis			Under analysis	Under analysis	Under analysis					
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 samlpled by sampler. Gross β were measured after filtation for references.

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



<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 γ: Ru-106 (Approx. 370 days)	ND	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
The other γ: Mn-54 (Approx. 310 days)	ND	ND	ND	ND	ND	0.64 〈2/20〉	ND	ND	1.0 〔7/5〕	62 〔7/5〕	ND	ND	ND	700 〈10/13〉
The other γ: Co-60 (Approx. 5 years)	ND	ND	ND	ND	ND	ND	ND	0.50 〔7/19〕	ND	3.1 〔7/8〕	ND	ND	ND	3,600 〈10/13〉
The other γ: Sb-125 (Approx. 3 years)	ND	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〕	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〉	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〉	390 〈10/20〉	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 γ: Ru-106 (Approx. 370 days)	ND	ND	－	ND	5.4 〔10/28〕	ND	ND	ND	9.2 〔10/28〕	5.5 〈4/21〉 〈5/1〉	25 〔9/2〕	ND	ND	ND
The other γ: Mn-54 (Approx. 310 days)	12 〈2/3〉	ND	－	ND	ND	ND	3.8 〈12/1〉	ND	11 〈8/25〉	ND	110 〈11/13〉	ND	ND	ND
The other γ: 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	ND
The other γ: Sb-125 (Approx. 3 years)	ND	ND	－	ND	61 〔10/21〕	ND	ND	ND	24 〈6/16〉	2.1 〔11/25〕	ND	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〉 〈12/1〉	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 γ: Ru-106 (Approx. 370 days)	ND	ND	ND	ND	ND	6.5 *2 〈2/11〉	ND	ND	ND	ND	ND	ND	－
The other γ: Mn-54 (Approx. 310 days)	0.29 〔12/6〕	0.95 〈6/4〉	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.54 〔10/30〕	－
The other γ: Co-60 (Approx. 5 years)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	－
The other γ: Sb-125 (Approx. 3 years)	ND	74 〈5/7〉	ND	ND	ND	ND	ND	1.6 〈1/1〉	ND	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〕	2000 〈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 samlpled by sampler. Gross β were measured after filtation 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 fense)	1F, South side of Unit 1-4 water intake channel (in front of impermeable wall)	1F, Around sounth 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〕	140 〈5/5〉 〈7/14〉 〈8/18〉 〈9/1〉 〈11/17〉	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