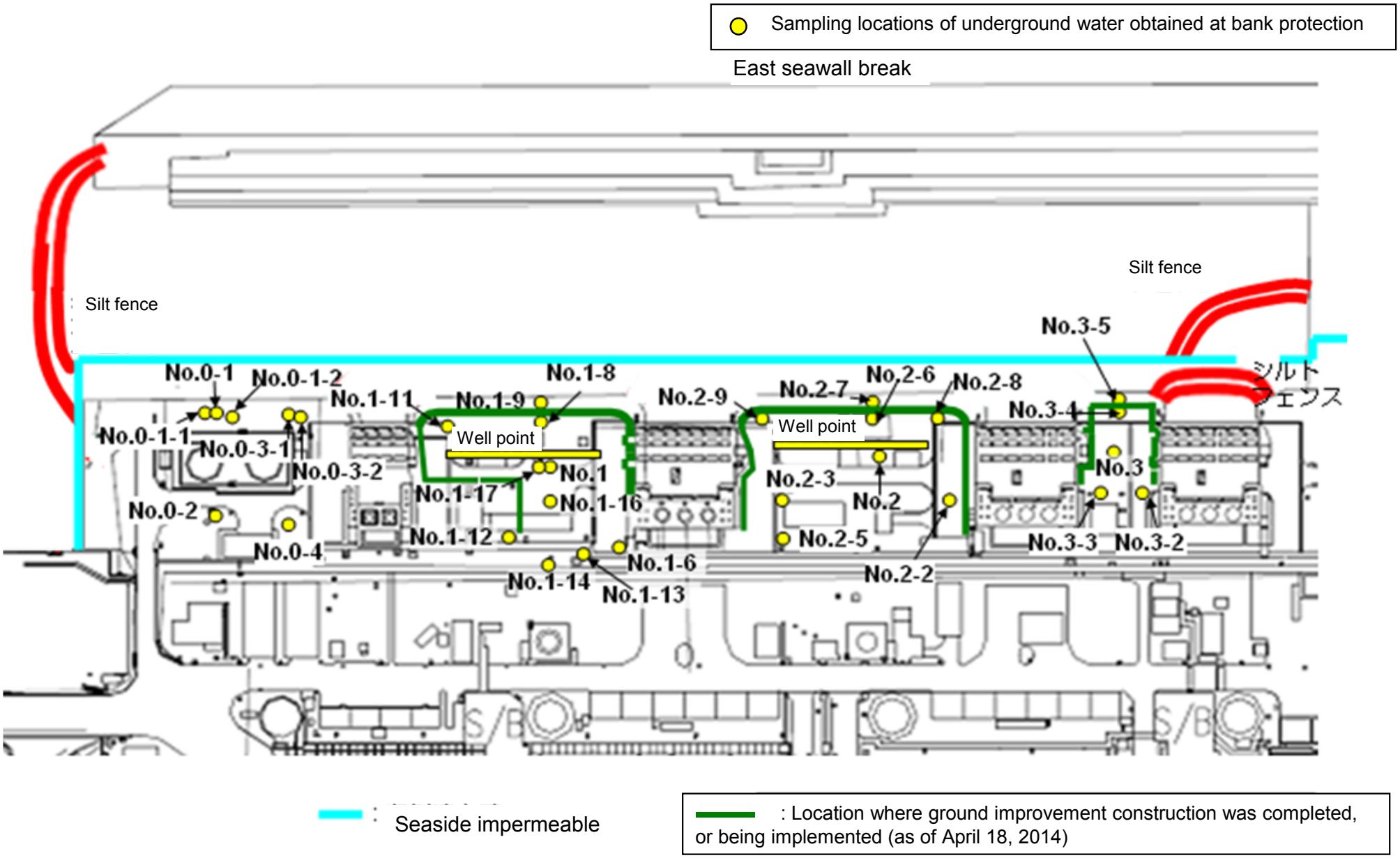
<Reference>
May 29, 2014
Tokyo Electric Power Company

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	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															
Time of sampling															
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）															

	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	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
Date of sampling		May 25, 2014	May 25, 2014	May 25, 2014			May 25, 2014	May 25, 2014	May 25, 2014					
Time of sampling		9:43 AM	11:57 AM	9:18 AM			10:49 AM	11:12 AM	10:00 AM					
Chloride (unit: ppm)		-	-	-			850	-	-					
Cs-134 (Approx. 2 years)		ND(0.42)	11	ND(0.47)			ND(0.37)	ND(0.38)	ND(0.58)					
Cs-137 (Approx.30 years)		ND(0.55)	28	0.55			1.9	ND(0.47)	1.3					
The other γ														
Gross β		270	540	1,100			830	3,800	110,000					
H-3 (Approx. 12 years)		650	440	770			750	1,200	4,700					
Sr-90（Approx. 29 years）		-	-	-			-	-	-					

* Data announced this time is provided in a thick-frame. The other data was announced on May 26.
* "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.

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	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															
Time of sampling															
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）															

	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	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
Date of sampling		May 28, 2014	May 28, 2014	May 28, 2014			May 28, 2014	May 28, 2014	May 28, 2014	May 28, 2014	May 28, 2014	May 28, 2014	May 28, 2014	May 28, 2014
Time of sampling		9:48 AM	11:13 AM	9:24 AM			10:06 AM	10:22 AM	10:00 AM	10:08 AM	11:13 AM	11:36 AM	10:28 AM	10:30 AM
Chloride (unit: ppm)		-	-	-			930	-	-	-	-	-	-	1,900
Cs-134 (Approx. 2 years)		ND(0.41)	9.8	ND(0.35)			0.51	ND(0.44)	ND(0.56)	1.9	12*1	31	3.2	17
Cs-137 (Approx.30 years)		ND(0.55)	28	0.54			1.3	ND(0.55)	ND(0.69)	2.1	33*1	84	9.4	47
The other γ Sb-125 (Approx. 3 years)		ND	ND	ND			ND	ND	ND	1.4	ND	ND	ND	ND
Gross β		280	560	1,000			1,000	3,900	110,000	ND(18)	2,800＊1	2,700	ND(18)	350＊1
H-3 (Approx. 12 years)		Under analysis	Under analysis	Under analysis			Under analysis	Under analysis	Under analysis	Under analysis	Under analysis	Under analysis	Under analysis	Under analysis
Sr-90（Approx. 29 years）		-	-	-			-	-	-	-	-	-	-	Under analysis

* "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.
* The results obtained on in the observation hole No.2-2 are for a reference, since the water was highly turbid. (γ and Gross β will be measured after filtration. If filtration takes a long time, γ will not be measured.)
*1 The highest measurement value (compared to the previous values provided in the handouts published in 'Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection')

<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>	0.61 <3/2>	ND	0.61 〔10/13〕	0.64 <4/6>	0.82 <1/14>	ND	13 〔8/29〕	1.9 〔7/8〕	11,000 〔7/9〕	10 〔9/2〕	1.5 〔7/8〕	310 〔8/5〕	6,300 <3/31>
Cs-137 (Approx.30 years)	78 <5/25>	1.5 <3/2>	0.51 〔11/17〕	2.2 <1/12>	1.1 <4/6>	2.1 <1/14>	1.4 <1/12>	31 〔8/29〕	3.6 〔7/8〕	22,000 〔7/9〕	24 〔9/2〕	3.6 〔7/8〕	650 〔8/5〕	16,000 <3/31>
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	320 <2/13> <2/17>
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	830 <2/20>
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〕	ND
Gross β	300 〔8/22〕	21 〔12/7〕	21 〔11/10〕	87 〔10/13〕	ND	67*1 〔12/11〕	29 〔12/29〕	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〕	860,000 <5/8>
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〕	*2 110,000 <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〕	-

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.1-16	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	Groundwater observation hole No.2-3
Cs-134 (Approx. 2 years)	47 〔11/25〕	170 〔9/3〕	-	1.1 <1/13>	74 〔10/21〕	37,000 <2/13>	88 *2 <2/27>	3.1 *1 〔12/13〕	1.2 〔12/5〕	110 〔9/23〕	0.88 <2/26>	0.66 〔9/1〕	15 <2/12>	2.2 <2/26>
Cs-137 (Approx.30 years)	110 〔11/25〕	380 〔9/3〕	-	3.4 <4/28>	170 〔10/21〕	93,000 <2/13>	230 *2 <2/27>	4.7 <2/17>	2.8 <4/28>	250 〔9/23〕	2.5 <2/26>	1.1 〔8/29〕〔9/1〕	38 <2/12>	5.5 <2/26>
The other γ Ru-106 (Approx. 370 days)	ND	ND	-	ND	5.4 〔10/28〕	ND	ND	9.2 〔10/28〕	5.5 <4/21>	25 〔9/2〕	ND	ND	ND	ND
The other γ Mn-54 (Approx. 310 days)	12 <2/3>	ND	-	ND	ND	ND	ND	ND	ND	8.5 <4/28>	ND	ND	ND	0.29 〔12/6〕
The other γ Co-60 (Approx. 5 years)	1.3 <2/3>	ND	-	ND	0.51 〔10/24〕	ND	ND	0.9 〔11/7〕	0.61 〔11/25〕	ND	ND	ND	ND	ND
The other γ Sb-125 (Approx. 3 years)	ND	ND	-	ND	61 〔10/21〕	ND	ND	16 <5/15>	2.1 〔11/25〕	ND	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>	4,200 <5/22>	3,100,000 <1/20> <1/30> <2/3>	9,600 <5/26>	700,000 〔9/23〕	1,700 〔7/8〕	380 〔7/29〕	600 <4/16>	1,500 〔12/6〕
H-3 (Approx. 12 years)	19,000 <5/12>	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>	43,000 〔9/26〕	32,000 <1/20>	460,000 〔8/19〕	1,000 <2/23>	440 〔8/26〕	660 <1/8>	1,700 〔12/6〕
Sr-90(Approx. 29 years)	20,000 〔12/9〕	300 〔10/3〕	—	18 〔10/21〕	290 〔10/21〕	Under analysis	98 〔12/9〕	1,400,000 〔12/9〕	9.5 〔12/9〕	—	54 〔5/31〕	5.9 〔7/25〕	320 〔12/25〕	1,200 〔12/6〕

Unit: Bq/L

	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)	41 <5/7>	17 <3/11>	3.5 <2/23>	0.47 <4/9>	-	2.0 <4/23>	3.5 〔7/25〕	1.2 〔7/25〕〔8/8〕	11 <5/14>	73 <5/21>	3.3 <5/14>	64 <1/15>
Cs-137 (Approx.30 years)	110 <5/7>	50 <3/11>	9.0 <2/23>	1.3 <4/9>	0.58 *2 <2/11>	4.7 <4/23>	5.9 〔8/8〕	2.6 〔8/1〕	29 <5/14>	200 <5/21>	9.4 <5/14>	170 <1/15>
The other γ Ru-106 (Approx. 370 days)	ND	ND	ND	ND	6.5 *2 <2/11>	ND	ND	ND	ND		ND	-
The other γ Mn-54 (Approx. 310 days)	0.94 <1/8>	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	-
The other γ Sb-125 (Approx. 3 years)	74 <5/7>	ND	ND	ND	-	ND	1.6 <1/1>	ND	ND	ND	ND	-
Gross β	150,000 <2/12>	3,200 〔12/5〕	1,000 <5/14>	4,200 <4/9> <4/27>	1,700 *2 <2/7>	240,000 〔12/12〕	1,400 〔7/11〕	180 〔8/1〕	2,700 *2 <5/21>	4,900 <4/30>	28 <4/30>	300 <4/2>
H-3 (Approx. 12 years)	7,900 <4/9>	1,200 〔11/24〕〔11/27〕	1,100 <1/19>	1,700 <4/6>	*2 13,000 <2/7>	5,900 <5/21>	3,200 〔2012/12/12〕	460 〔8/1〕	2,800 <5/14>	8,000 <5/7>	170 〔9/18〕	170 <1/8>
Sr-90(Approx. 29 years)	Under analysis	Under analysis	ND(1.4) 〔11/21〕	-	-	-	8.3 〔2012/12/12〕	4.4 〔7/23〕	Under analysis	-	ND	-

● 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 a 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.