<Reference>

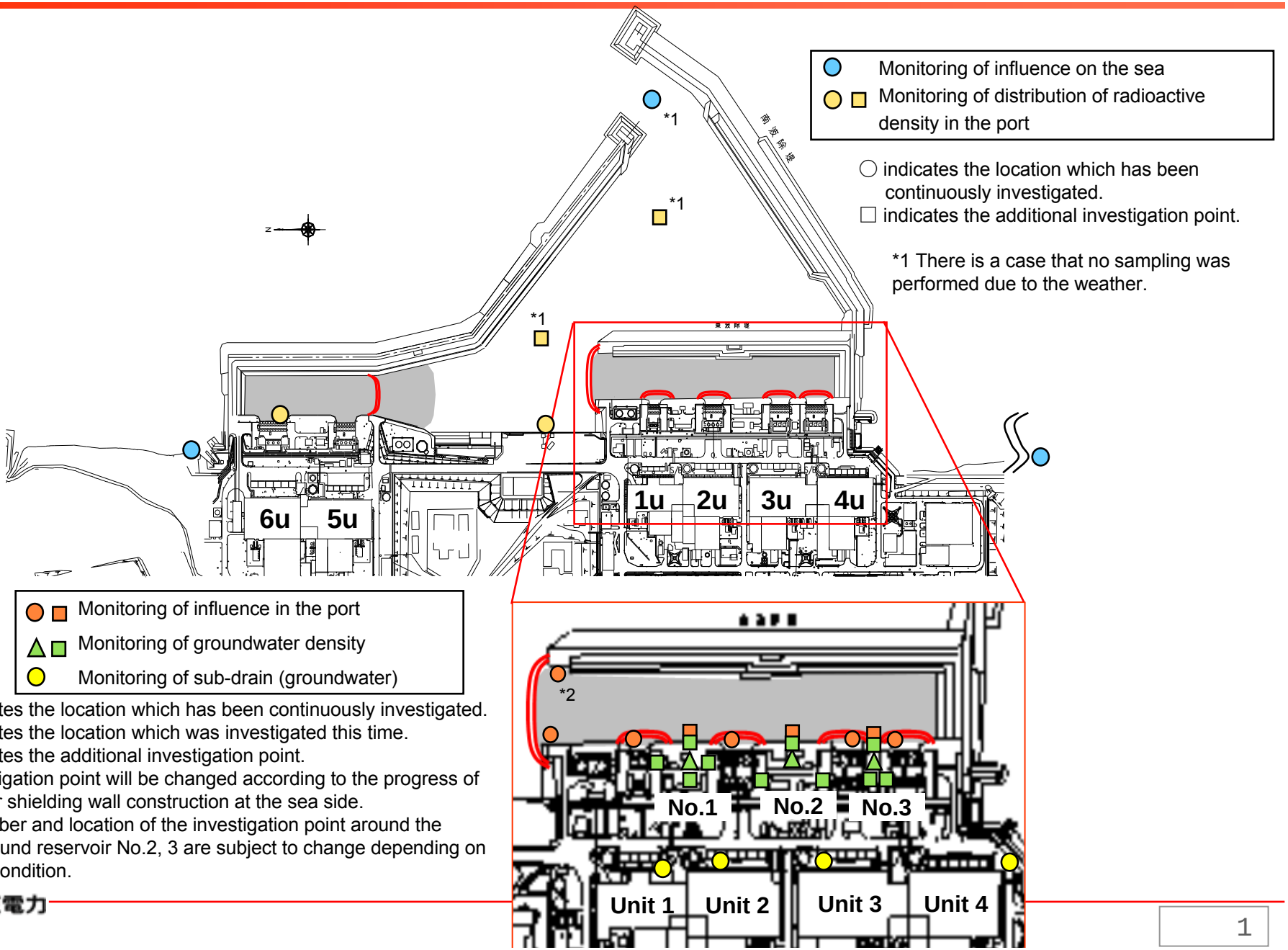
Condition of Radioactive Density of the Groundwater and the Seawater at the East Side of Turbine Buildings

July 12, 2013

Tokyo Electric Power Company

TEPCO 東京電力

Monitoring Plan (Sampling Locations)



Monitoring of influence on the sea

Monitoring of distribution of radioactive density in the port

○ indicates the location which has been continuously investigated.
□ indicates the additional investigation point.

*1 There is a case that no sampling was performed due to the weather.

Monitoring of influence in the port

Monitoring of groundwater density

Monitoring of sub-drain (groundwater)

○ indicates the location which has been continuously investigated.
△ indicates the location which was investigated this time.
□ indicates the additional investigation point.

*2 Investigation point will be changed according to the progress of the water shielding wall construction at the sea side.
The number and location of the investigation point around the underground reservoir No.2, 3 are subject to change depending on the site condition.

Monitoring Plan (Analysis Item, Frequency)

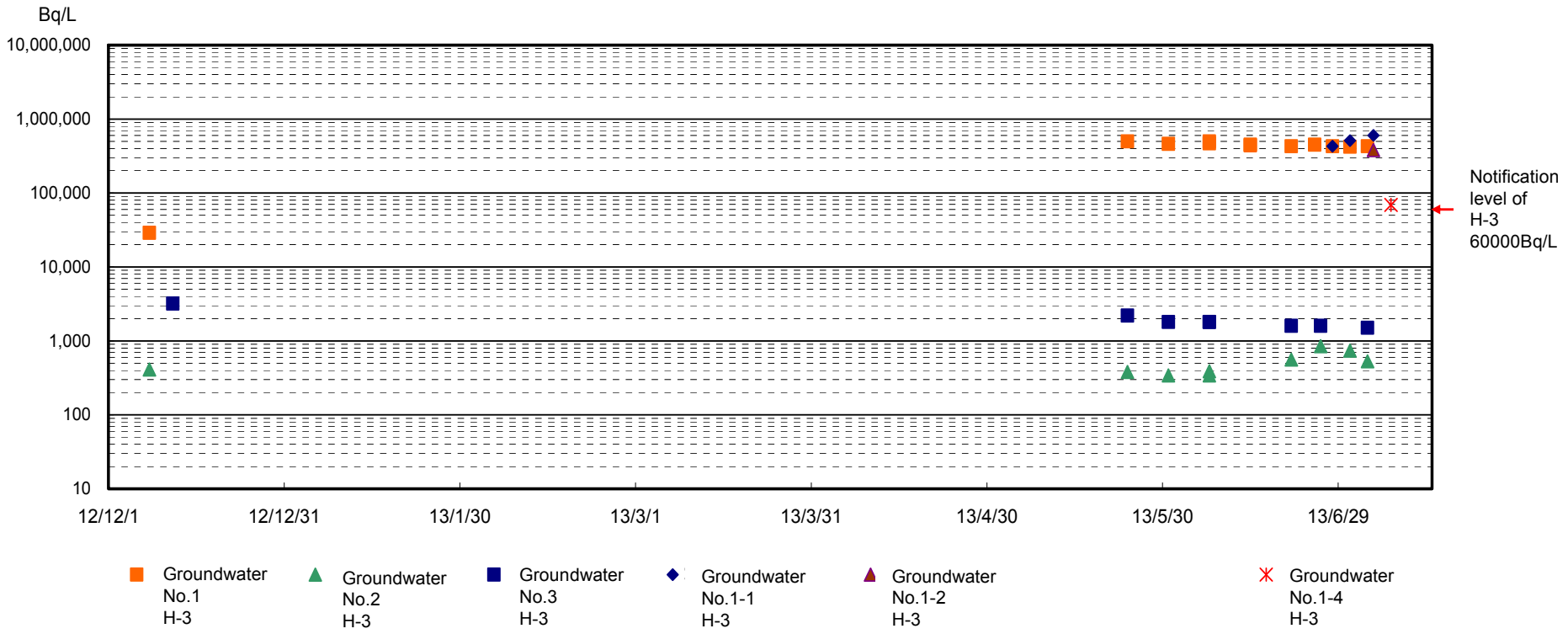
Area	Sampling location	Current analysis item and frequency				Contents of the change[*4]			
		γ ray	Tritium (3H)	All β	Sr-90	γ ray	H-3	All β	Sr-90
Around Unit 1-4 water intake channel	Between the water intake channel of Unit 1 and Unit 2 (surface layer)	-	-	-	-	1 time a week (3 times a week[*5])	1 time a week (3 times a week[*5])	1 time a week (3 times a week[*5])	1 time a month
	Between the water intake channel of Unit 1 and Unit 2 (lower layer)	-	-	-	-				
	Inside the silt fence of Unit 1	1 time a day	-	-	-	1 time a day	1 time a week	1 time a week	1 time a month
	Inside the silt fence of Unit 2								
	North side of Unit 1-4 water intake channel[*1]	1 time a day	1 time a month	1 time a week	2 times a month	1 time a day	1 time a week	1 time a week	1 time a month[*6]
	Outside the silt fence of Unit 1	1 time a day	-	-	-	1 time a day	-	-	-
	Outside the silt fence of Unit 2								
	Between the water intake channel of Unit 2 and Unit 3 (surface layer)	-	-	-	-	1 time a week	1 time a week	1 time a week	1 time a month
	Between the water intake channel of Unit 3 and Unit 4 (surface layer)					1 time a week	1 time a week	1 time a week	1 time a month
	Inside the silt fence of Unit 3	1 time a day	-	-	2 times a month	1 time a day	1 time a week	1 time a week	1 time a month[*6]
	Inside the silt fence of Unit 4								
	Outside the silt fence of Unit 3	1 time a day	-	-	-	1 time a day	-	-	-
	Outside the silt fence of Unit 4								
	South side of Unit 1-4 water intake channel								
In the port	In front of shallow draft quay	1 time a day	-	-	-	1 time a day	1 time a week	1 time a week	1 time a month
	In front of Unit 6 water intake channel	1 time a week	-	-	-	1 time a week	1 time a week	1 time a week	-
	West side in the port[*2]	-	-	-	-	1 time a week	1 time a week	1 time a week	-
	East side in the port[*2]								
	Port entrance[*2]	Non-regular[*3]	-	-	-	1 time a week	1 time a week	1 time a week	1 time a month
Around the north/south discharge channel	North side of Unit 5,6 discharge channel	1 time a day	1 time a month	1 time a month	1 time a month	1 time a day	1 time a week	1 time a week	1 time a month
	Around the south discharge channel	1 time a day	1 time a month	1 time a day	1 time a month	1 time a day	1 time a week	1 time a day	1 time a month
Land area (sea side of Unit 1-4 Turbine Building)	Underground reservoir No.1 (includes additional boring)	-	-	-	-	1 time a week (2 times a week[*5])	1 time a week (2 times a week[*5])	1 time a week (2 times a week[*5])	1 time a month
	Underground reservoir No.2 (includes additional boring)	-	-	-	-	1 time a week	1 time a week	1 time a week	Only for the first time
	Underground reservoir No.3 (includes additional boring)								
	Unit 1 sub-drain	3 times a week	2 times a year	2 times a year	2 times a year	3 times a week	2 times a year	2 times a year	2 times a year
	Unit 2 sub-drain	3 times a week	1 time a month	1 time a month	1 time a month	3 times a week	1 time a month	1 time a month	1 time a month
	Unit 3 sub-drain	3 times a week	2 times a year	2 times a year	2 times a year	3 times a week	2 times a year	2 times a year	2 times a year
	Unit 4 sub-drain								

←Measurement of tritium (3H) and all **β** will be performed "3 times a week" for a while due to the rising trend of tritium (3H).

←Measurement of **γ** ray, tritium (3H) and all **β** will be performed "2 times a week" for a while at the underground reservoir No.2 due to the rising trend of all **β**.

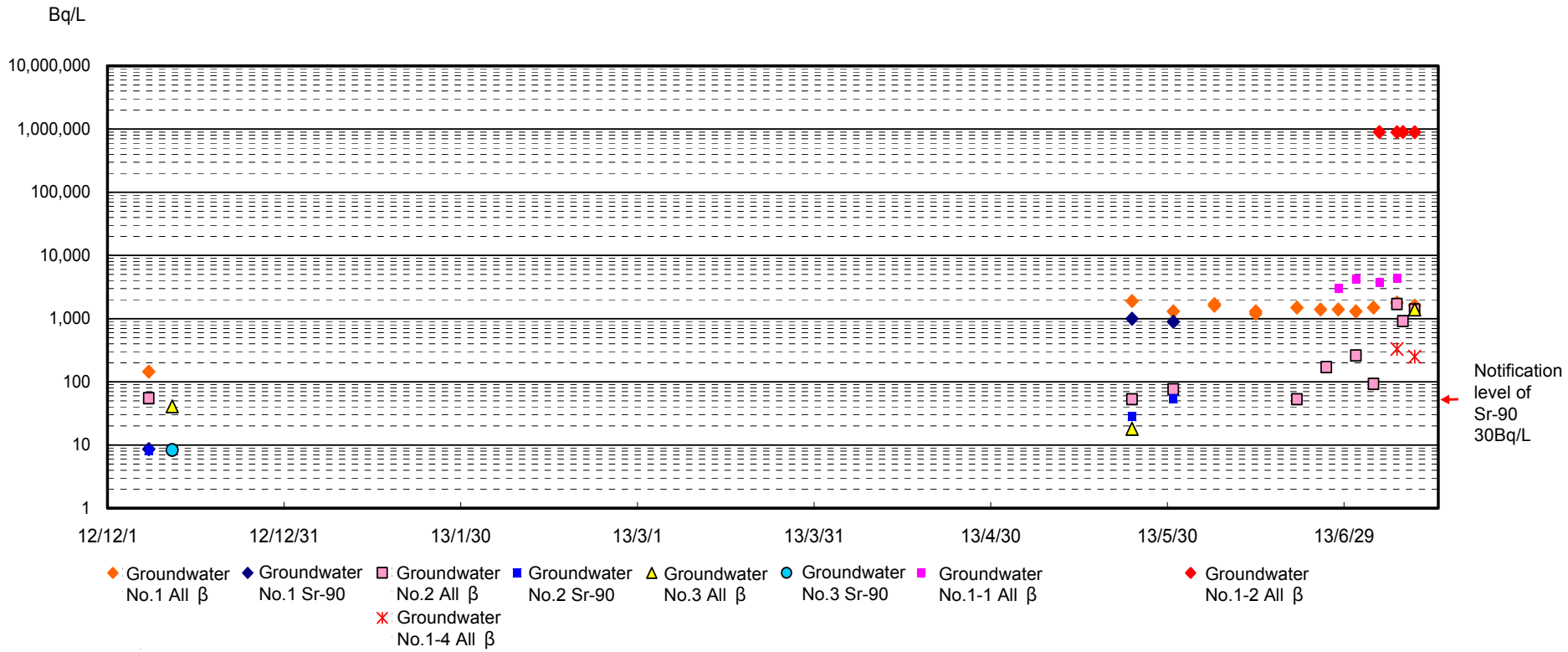
*1 Sampling point will be changed according to the progress of the water shielding wall construction at the sea side.
*2 There is a case that we cannot sample due to the weather.
*3 Sampling and measurement will be performed in case vessel enters the water intake channel.
*4 Measurement of γ ray, 3H and all β will be performed in order to monitor leakage to the sea. Measurement of strontium will be performed in order to compare with the notification level and to evaluate the exposure dose.
*5 Monitoring will be enhanced until ground improvement at the bank protection between the water intake channel of Unit 1 and Unit 2 will be finished.
*6 All β will be substituted for the monitoring of strontium taking analysis capacity into consideration.

Density Transition of Tritium in the Groundwater



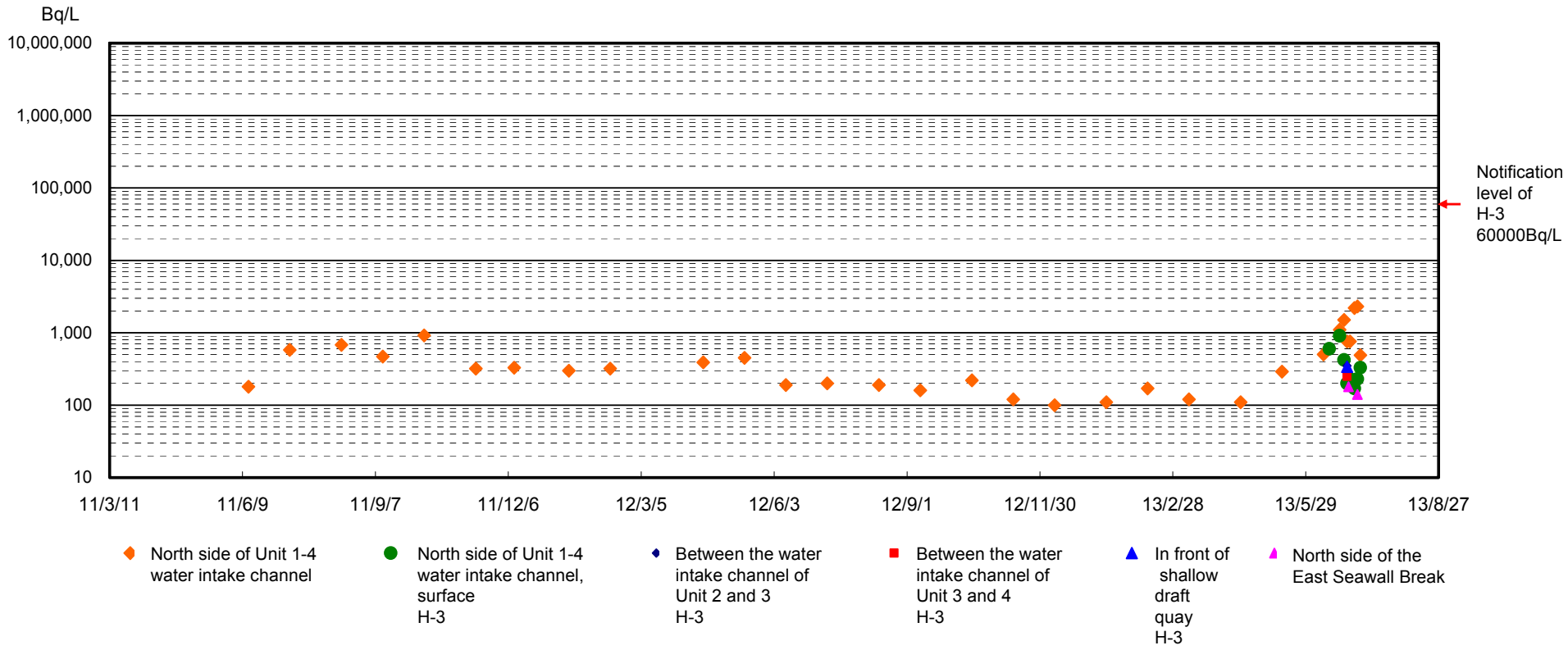
- Density of the groundwater No.1-1 and No.1-2 is equivalent to that of the groundwater No.1.
- Monitoring of density at the groundwater No.2 will be enhanced since the rising trend has been found.

Density Transition of All β and Strontium in the Groundwater



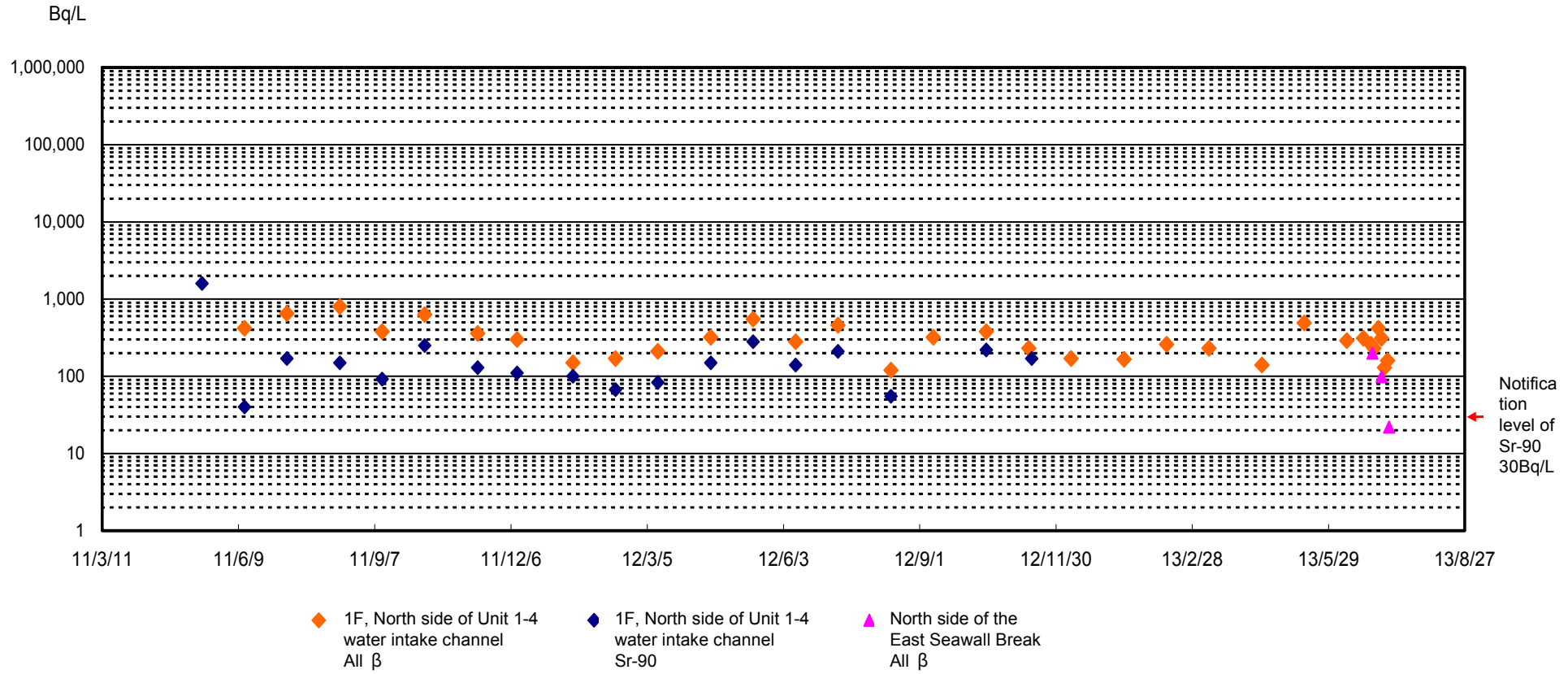
- No rising trend of density at the groundwater No.1 has been found.
- Density of the groundwater No.1-1 is evaluated to be equivalent to that of the groundwater No.1 at present.
- Monitoring of density at the groundwater No.2 will be enhanced since the rising trend has been found.
- Density of the groundwater No.1-2 has stayed at high level.

Density Transition of Tritium in the Seawater



- Monitoring of density is enhanced, since rising trend of tritium density in the seawater has been found since May though the density had shifted around 200 Bq/L.
- Density of the north side of the East Seawall Break is equivalent to that of the north side of Unit 1-4 water intake channel before May.

Density Transition of All β and Strontium in the Seawater

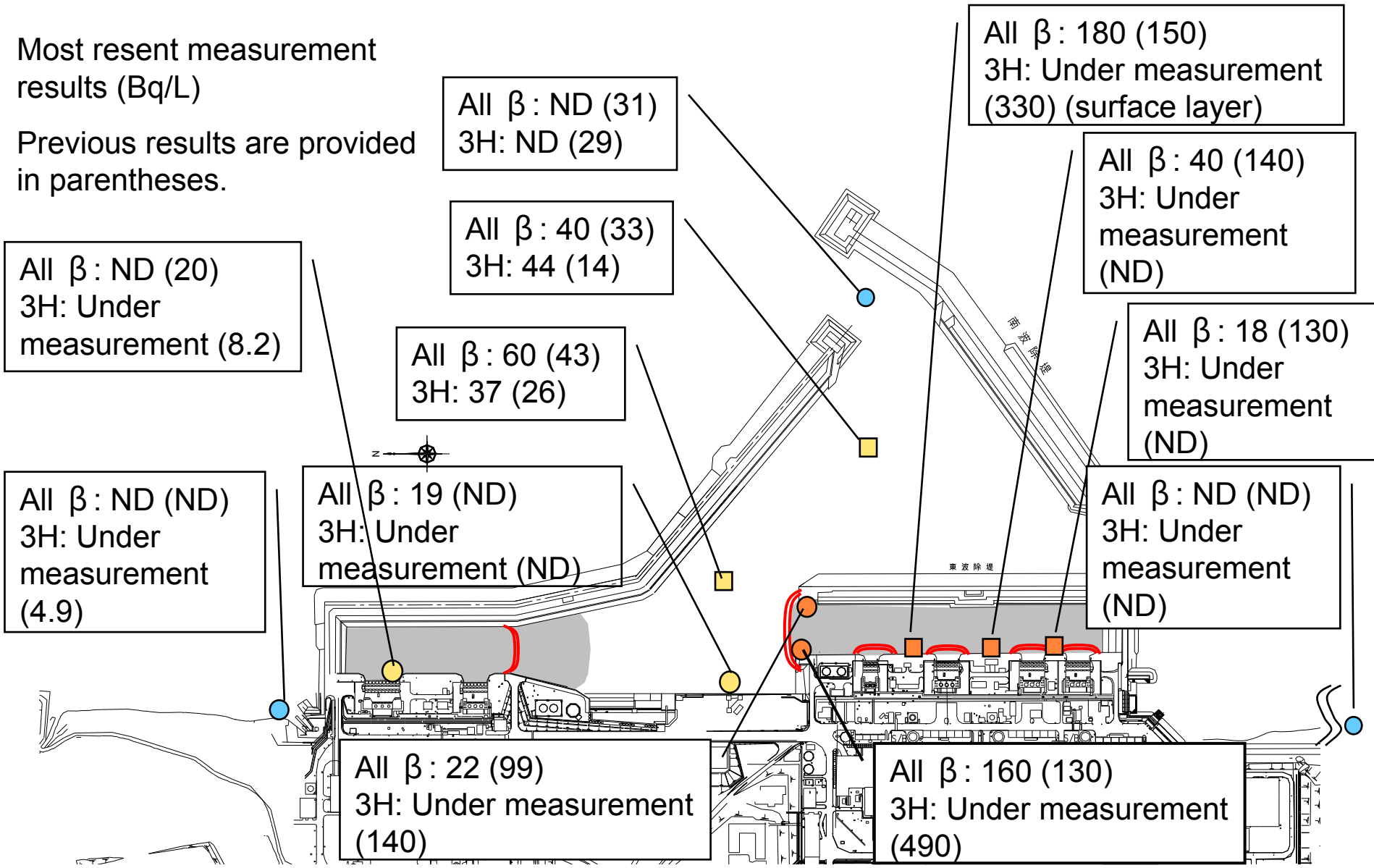


- Change of all β density in the seawater is small, and strontium density is estimated to be the same trend as all β.

Measurement Results of the Seawater Inside/Outside the Port

Most resent measurement results (Bq/L)

Previous results are provided in parentheses.



Transition of Radioactive Density After Filtration Treatment of the Samples Obtained in the Groundwater Observation Hole No.1-2

	Groundwater observation hole No.1-2
Date of sampling	Jul 5, 2013
Time of sampling	12:10 PM
Treatment	Without filtration
Cs-134 (Approx. 2 years)	99
Cs-137 (Approx.30 years)	210
All β	900,000

- As for the cause of rising trend of only cesium, there is a possibility that particles of soil, which was contaminated by the water leakage in the past, was mixed into the groundwater. Therefore, filtration was performed in order to check the condition.
- Radioactivity measurement of soil around the observation hole No.1-2 is scheduled.

	Groundwater observation hole No.1-2		Comparison
Date of sampling	Jul 8, 2013		
Time of sampling	2:00 PM		
Treatment	Without filtration (①)	Filtration* (②)	②/①
Cs-134 (Approx. 2 years)	9,000	94	0.01
Cs-137 (Approx.30 years)	18,000	190	0.01
All β	890,000	-	-

	Groundwater observation hole No.1-2		Comparison
Date of sampling	Jul 9, 2013		
Time of sampling	1:00 PM		
Treatment	Without filtration (①)	Filtration* (②)	②/①
Cs-134 (Approx. 2 years)	11,000	130	0.01
Cs-137 (Approx.30 years)	22,000	270	0.01
All β	900,000	890,000	

Reference
Groundwater observation hole No.1-2
Jul 9, 2013
1:00 PM
Residue after filtration
10,000
20,000
-

* 0.45μm filter is used in the filtration,
* "-" indicates that the measurement was out of range.

(Unit: Bq/L)

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[Reference] Measurement Results of the Groundwater Observation Hole No.1 (Includes Additional Sampling)

Groundwater observation hole No.1 (Bq/L)

Sampling date	2012/12/8*2	2013/5/24	2013/5/31	2013/6/7 ①	2013/6/7 ②	2013/6/14 ①	2013/6/14 ②	2013/6/21	2013/6/25	2013/6/28	2013/7/1	2013/7/4	2013/7/8	2013/7/11
Sampling time	11:00 AM	4:19 PM	3:01 PM	3:45 PM	3:45 PM	2:29 PM	2:29 PM	9:01 AM	1:39 PM	5:50 PM	3:05 PM	11:50 AM	1:30 PM	12:51 PM
Cs-134	ND (0.59)	ND (0.45)	0.53	ND (0.42)	ND (0.40)	ND (0.37)	ND (0.37)	ND (0.36)	ND (0.39)	ND (0.40)	1.1	ND (0.64)	ND (0.50)	ND (0.61)
Cs-137	ND (0.72)	ND (0.45)	0.57	ND (0.53)	0.49	ND (0.43)	0.51	0.53	ND (0.49)	ND (0.43)	1.5	ND (0.47)	ND (0.47)	1.0
Ru-106	ND	26	19	19	21	18	19	16	20	16	ND	24	16	15
All β	150	1,900	1,300	1,700	1,600	1,200	1,300	1,500	1,400	1,400	1,300	1,500	1,800	1,600
H-3	29,000	500,000	460,000	500,000	470,000	450,000	440,000	430,000	450,000	430,000	420,000	430,000	Under measurement	Under measurement
Sr-90	8.6	1,000	890	1,200	1,200	Under measurement	Under measurement	Under measurement	–	–	–	–	–	–

*1 "ND" indicates that the measurement result is below the detection limit, and the detection limit of each nuclide is provided in parentheses.
*2 As of γ nuclide measurement, the amount is lower than true value since the high BG is in use.

Groundwater observation hole No.1-1 (Bq/L)

Sampling date	2013/6/28	2013/7/1	2013/7/5	2013/7/8
Sampling time	4:40 PM	4:05 PM	11:00 AM	2:35 PM
Cs-134	ND (0.41)	ND (0.44)	ND (0.42)	1.9
Cs-137	ND (0.51)	0.98	0.55	3.6
Ru-106	–	7.8	7.7	7.9
Mn-54	0.52	0.92	1.0	0.78
All β	3,000	4,300	3,800	4,400
H-3	430,000	510,000	600,000	Under measurement
Sr-90	Under measurement	–	–	–

[Reference] Measurement Results of the Groundwater Observation Hole No.1 (Includes Additional Sampling)

Groundwater observation hole No.1-2 (Bq/L)

Sampling date	2013/7/5	2013/7/8	2013/7/9	2013/7/11
Sampling time	12:10 PM	2:00 PM	1:00 PM	1:25 PM
Cs-134	99	9,000	11,000	8,200
Cs-137	210	18,000	22,000	17,000
Ru-106	95	ND	-	ND
Mn-54	62	25	-	-
Co-60	1.2	3.1	-	-
Sb-125	35	62	-	ND
All β	900,000	890,000	900,000	890,000
H-3	380,000	360,000	370,000	Under measurement
Sr-90	Under measurement	-	-	-

Groundwater observation hole No.1-4 (Bq/L)

Sampling date	2013/7/8	2013/7/11
Sampling time	3:30 PM	12:25 PM
Cs-134	1.5	0.91
Cs-137	3.6	2
Ru-106	ND	ND
Mn-54	ND	-
Co-60	ND	-
Sb-125	ND	ND
All β	330	250
H-3	69,000	Under measurement
Sr-90	Under measurement	-

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

[Reference] Measurement Results of the Groundwater Observation Hole No.2 and No.3

Groundwater observation hole No.2 (Bq/L)

Sampling date	2012/12/8*2	2013/5/24	2013/5/31	2013/6/7 ①	2013/6/7 ②	2013/6/21	2013/6/26	2013/7/1	2013/7/4	2013/7/8	2013/7/9	2013/7/11
Sampling time	11:00 AM	4:12 PM	3:16 PM	4:05 PM	4:05 PM	5:44 PM	2:30 PM	4:55 PM	1:05 PM	1:00 PM	12:25 PM	11:30 AM
Cs-134	ND (0.61)	ND (0.37)	ND (0.41)	0.47	ND (0.37)	ND (0.32)	ND (0.40)	0.48	ND (0.39)	ND (0.49)	0.50	ND (0.47)
Cs-137	ND (0.81)	ND (0.41)	0.95	0.73	ND (0.48)	ND (0.37)	ND (0.48)	0.66	ND (0.46)	0.74	0.74	1.2
Ru-106	ND	ND	ND	ND	ND	ND	–	ND	ND	ND	–	ND
All β	55	53	76	ND (18)	ND (18)	53	170	260	93	1,700	910	1,400
H-3	410	380	340	390	340	560	850	740	530	730	670	Under measurement
Sr-90	8.2	28	54	5.2	5.1	Under measurement	–	–	–	–	–	–

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

*2 As of γ nuclide measurement, the amount is lower than true value since the high BG is in use.

Groundwater observation hole No.3 (Bq/L)

Sampling date	2012/12/12*2	2013/5/24	2013/5/31	2013/6/7 ①	2013/6/7 ②	2013/6/21	2013/6/26	2013/7/4	2013/7/11
Sampling time	11:00 AM	4:52 PM	3:32 PM	3:58 PM	3:58 PM	5:01 PM	3:50 PM	2:00 PM	10:55 AM
Cs-134	ND (0.60)	0.87	1.6	0.9	0.5	1.7	0.96	1.5	1.9
Cs-137	ND (0.79)	1.4	2.7	2.0	1.6	2.9	2.9	2.8	4.9
Ru-106	ND	ND	ND	ND	ND	ND	–	ND	ND
All β	41	18	ND (17)	ND (18)	ND (18)	ND (17)	ND (21)	ND (18)	1,400
H-3	3,200	2,200	1,800	1,800	1,800	1,600	1,600	1,500	Under measurement
Sr-90	8.3	ND (1.0)	0.25	ND (0.24)	ND (0.27)	Under measurement	–	–	–

[Reference] Measurement Results of between the Water Intake Channel of Unit 1 and Unit 2

Between the water intake channel of Unit 1 and Unit 2 (Surface layer) (Bq/L)

Sampling date	2013/6/14	2013/6/21	2013/6/24	H25.6.26	H25.6.28	H25.7.1	H25.7.3	H25.7.5	H25.7.7	H25.7.9
Sampling time	1:20 PM	11:00 AM	6:00 PM	4:55 PM	11:34 AM	6:04 AM	6:15 AM	6:25 AM	6:22 AM	6:18 AM
Cs-134	–	9.4	–	6.2	8.5	4.9	5.3	5.6	6.8	ND (2.1)
Cs-137	–	19	–	11	19	11	9.3	12	15	3.4
All β	–	330	–	260	180	200	130	150	180	65
H-3	600	910	420	200	230	170	230	330	570	Under measurement
Sr-90	–	Under measurement	–	–	–	–	–	–	–	–

Between the water intake channel of Unit 1 and Unit 2 (Lower layer) (Bq/L)

Sampling date	H25.6.26	H25.6.28	H25.7.1	H25.7.3	H25.7.5	H25.7.7	H25.7.9
Sampling time	4:55 PM	11:36 AM	6:04 AM	6:15 AM	6:25 AM	6:22 AM	6:18 AM
Cs-134	6.2	7.5	5.7	3.0	6.8	4.9	2.0
Cs-137	9.3	17	14	8.9	14	6.9	3.6
All β	210	180	180	120	180	220	51
H-3	360	340	ND (120)	ND (120)	170	210	Under measurement
Sr-90	Under measurement	–	–	–	–	–	–

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

[Reference] Measurement Results of between the Water Intake Channel of Unit 2 and Unit 3, Unit 3 and Unit 4

Between the water intake channel of Unit 2 and Unit 3 (Bq/L)

Sampling date	2013/6/26	2013/7/3	2013/7/8
Sampling time	6:51 AM	6:30 AM	5:56 AM
Cs-134	8.8	6.0	4.6
Cs-137	18	14	15
All β	220	140	40
H-3	350	ND (120)	Under measurement
Sr-90	Under measurement	–	–

Between the water intake channel of Unit 3 and Unit 4 (Bq/L)

Sampling date	2013/6/26	2013/7/3	2013/7/8
Sampling time	6:47 AM	6:38 AM	6:06 AM
Cs-134	9.9	7.3	2.6
Cs-137	23	16	7.0
All β	230	130	18
H-3	250	ND (120)	Under measurement
Sr-90	Under measurement	–	–

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

[Reference] Measurement Results of Inside the Silt Fence at Unit 1-4

Inside the silt fence at Unit 1 (Bq/L)

Sampling date	2013/6/21	2013/6/26	2013/7/3	2013/7/8
Sampling time	6:23 AM	6:18 AM	6:13 AM	5:45 AM
Cs-134	6.9	8.9	5.4	3.4
Cs-137	15	20	13	12
All β	160	170	140	89
H-3	480	530	420	Under measurement
Sr-90	Under measurement	–	–	–

Inside the silt fence at Unit 2 (Bq/L)

Sampling date	2013/6/21	2013/6/26	2013/7/3	2013/7/8
Sampling time	6:29 AM	6:24 AM	6:27 AM	5:51 AM
Cs-134	7.1	11	16	ND (1.8)
Cs-137	14	23	34	5.1
All β	230	260	220	26
H-3	290	320	250	Under measurement
Sr-90	Under measurement	–	–	–

Inside the silt fence at Unit 3 (Bq/L)

Sampling date	2013/6/21	2013/6/26	2013/7/3	2013/7/8
Sampling time	6:33 AM	6:30 AM	6:36 AM	6:01 AM
Cs-134	64	59	32	8.3
Cs-137	110	120	68	16
All β	270	310	230	72
H-3	220	190	ND (120)	Under measurement
Sr-90	Under measurement	–	–	–

Inside the silt fence at Unit 4 (Bq/L)

Sampling date	2013/6/21	2013/6/26	2013/7/3	2013/7/8
Sampling time	6:37 AM	6:35 AM	6:42 AM	6:04 AM
Cs-134	31	34	17	46
Cs-137	70	65	36	93
All β	250	220	160	130
H-3	ND (210)	260	ND (120)	Under measurement
Sr-90	Under measurement	–	–	–

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

[Reference] Measurement Results of the North Side of the Water Intake Channel

North side of Unit 1-4 water intake channel (Bq/L)

Sampling date	2013/1/14	2013/2/11	2013/3/11	2013/4/15	2013/5/13	2013/6/10	2013/6/21	2013/6/24	2013/6/26	2013/6/28	2013/7/1	2013/7/3	2013/7/5	2013/7/7	2013/7/9
Sampling time	7:00 AM	6:32 AM	6:27 AM	6:12 AM	5:59 AM	6:01 AM	6:18 AM	5:50 PM	6:13 AM	6:27 AM	6:26 AM	6:08 AM	6:17 AM	6:11 AM	6:09 AM
Cs-134	3.5	3.7	31	ND (2.5)	9.2	7.3	12	–	18	15	13	13	6.3	8.0	11
Cs-137	5.7	10	56	6.0	16	14	28	–	28	33	28	23	17	18	24
All β	170	260	230	140	490	290	310	–	260	230	420	310	130	160	230
H-3	110	170	120	110	290	500	1,100	1500	760	760	2,200	2,300	490	760	Under measurement
Sr-90	–	–	–	–	–	–	Under measurement	–	–	–	–	–	–	0	–

North side of the East Seawall Break (Bq/L)

Sampling date	2013/6/27	2013/7/3	2013/7/8
Sampling time	9:50 AM	6:50 AM	6:17 AM
Cs-134	6.1	3.3	ND (1.4)
Cs-137	13	8.2	ND (1.7)
All β	200	99	22
H-3	180	140	Under measurement
Sr-90	Under measurement	–	–

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

[Reference] Measurement Results of Inside the Port

In front of shallow draft quay (Bq/L)

Sampling date	2013/6/26	2013/7/3	2013/7/8
Sampling time	6:06 AM	6:03 AM	5:31 AM
Cs-134	ND (1.8)	1.9	ND (1.8)
Cs-137	2.3	5.6	5.1
All β	ND (18)	40	19
H-3	340	ND (120)	Under measurement
Sr-90	Under measurement	–	–

In front of Unit 6 water intake channel (Bq/L)

Sampling date	2013/6/25	2013/7/2	2013/7/8
Sampling time	7:15 AM	6:25 AM	6:30 AM
Cs-134	ND (3.3)	ND (1.7)	ND (2.2)
Cs-137	ND (2.1)	2.6	ND (1.9)
All β	ND (18)	20	ND (17)
H-3	6.0	8.2	Under measurement
Sr-90	–	–	–

West side in the port (Bq/L)

Sampling date	2013/6/26	2013/7/4	2013/7/9
Sampling time	2:25 PM	10:37 AM	10:38 AM
Cs-134	ND (2.5)	ND (2.2)	ND (2.0)
Cs-137	3.3	ND (2.6)	ND (1.9)
All β	43	60	ND (19)
H-3	26	Under measurement	Under measurement
Sr-90	Under measurement	–	–

East side in the port (Bq/L)

Sampling date	2013/6/26	2013/7/4	2013/7/9
Sampling time	2:22 PM	10:32 AM	10:34 AM
Cs-134	ND (2.4)	ND (2.3)	ND (2.0)
Cs-137	ND (2.4)	3.3	ND (2.4)
All β	33	40	ND (19)
H-3	14	14	Under measurement
Sr-90	Under measurement	–	–

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

[Reference] Measurement Results of Inside/Outside the Port

Port Entrance (Bq/L)

Sampling date	2013/6/20	2013/6/26	2013/7/4	2013/7/9
Sampling time	1:18 PM	2:19 PM	3:19 PM	10:29 AM
Cs-134	ND (1.3)	ND (1.9)	ND (1.7)	ND (2.0)
Cs-137	ND (1.2)	3.7	ND (2.0)	ND (2.6)
All β	15	31	ND (22)	ND (19)
H-3	5.0	29	ND (3.6)	Under measurement
Sr-90	Under measurement	–	–	–

North side of Unit 5,6 discharge channel (Bq/L)

Sampling date	2013/6/21	2013/6/26	2013/7/3	2013/7/8
Sampling time	7:25 AM	11:25 AM	6:55 AM	6:15 AM
Cs-134	1.8	ND (1.9)	ND (1.2)	1.4
Cs-137	2.1	3.3	1.2	2.5
All β	–	ND (22)	ND (17)	ND (19)
H-3	–	8.6	4.9	Under measurement
Sr-90	–	Under measurement	–	–

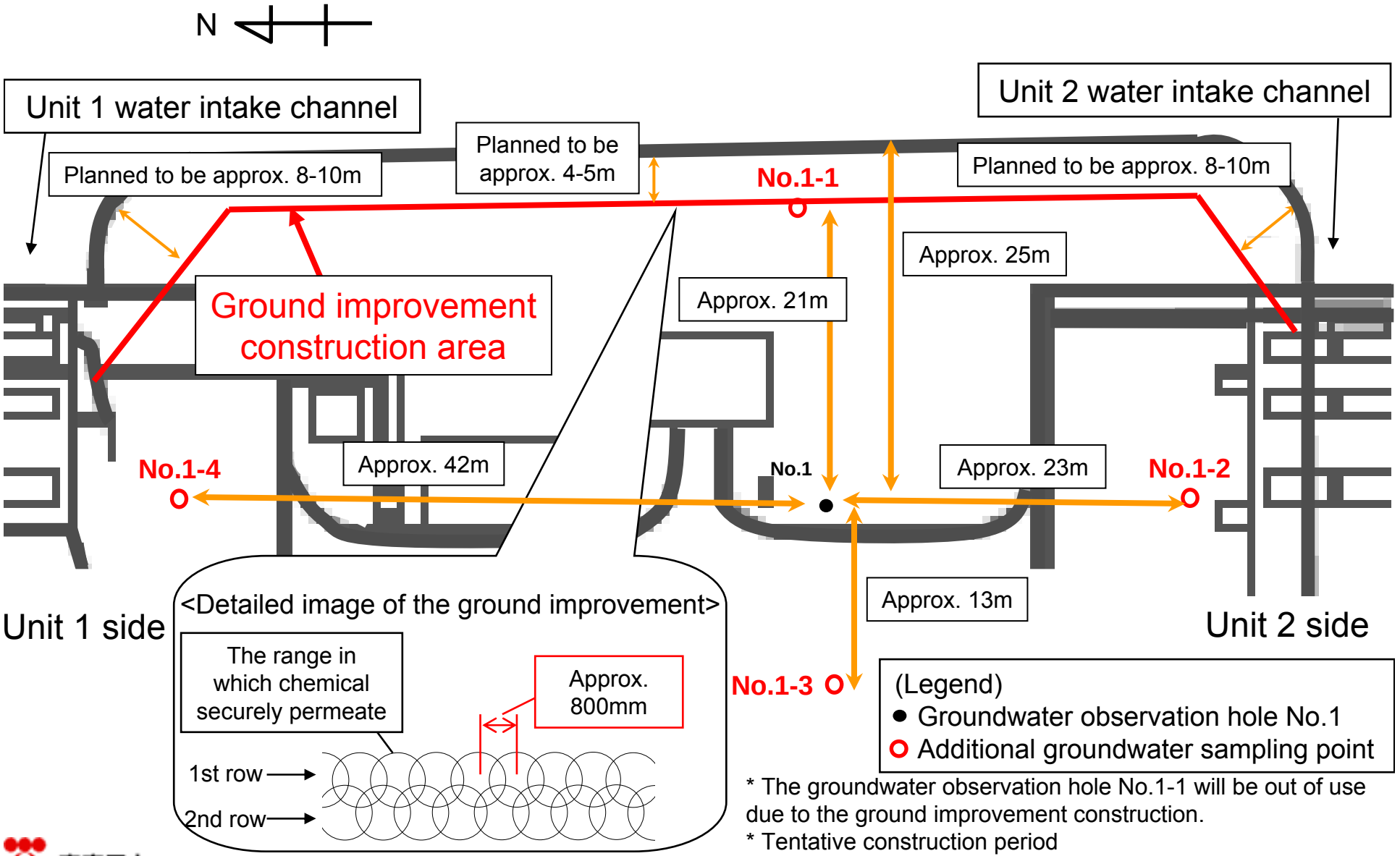
Around the south discharge channel (Bq/L)

Sampling date	2013/6/21	2013/6/26	2013/7/3	2013/7/8
Sampling time	7:15 AM	11:15 AM	5:10 AM	5:15 AM
Cs-134	ND (1.0)	ND (1.1)	ND (1.2)	ND (0.93)
Cs-137	2.0	ND (1.3)	ND (1.2)	ND (1.1)
All β	ND (19)	ND (22)	ND (18)	ND (18)
H-3	–	ND (2.9)	ND (3.0)	Under measurement
Sr-90	–	Under measurement	–	–

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

Positions of the Groundwater Observation Holes at Bank Protection between the Water Intake Channel of Unit 1 and Unit 2

<As of July 12>



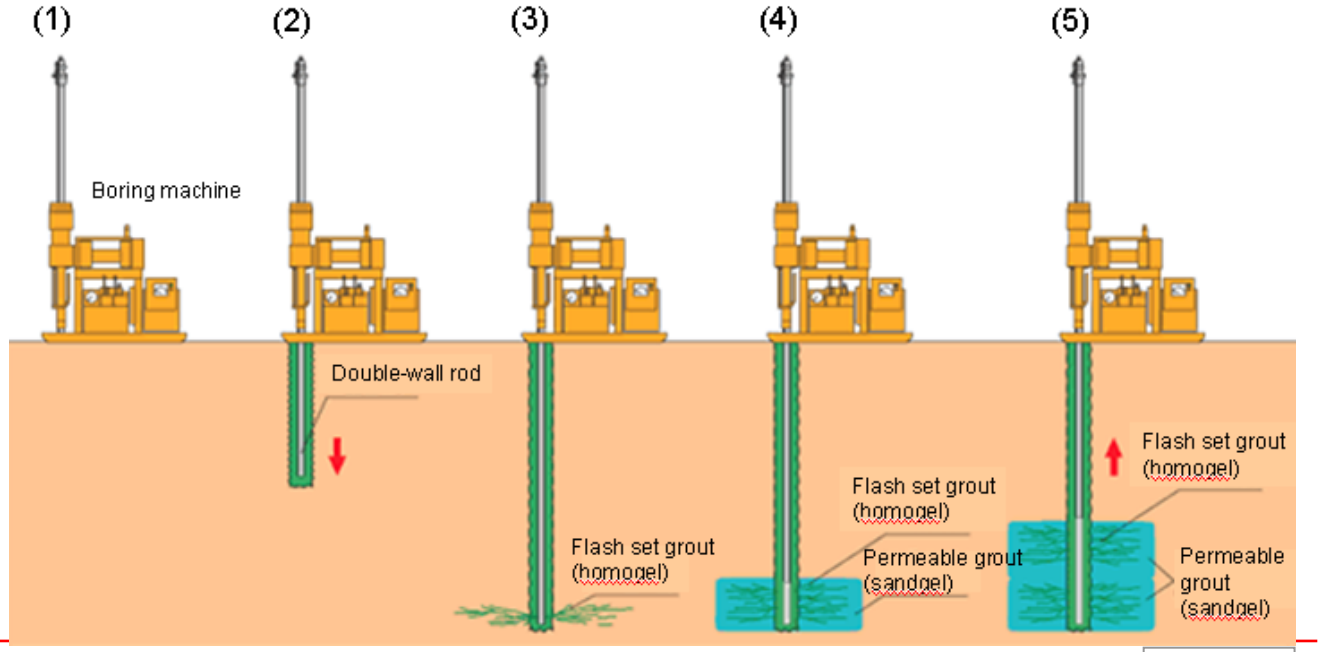
* The groundwater observation hole No.1-1 will be out of use due to the ground improvement construction.
* Tentative construction period
First row: July 8 - around mid July
Second row: Around mid July - around the end of July

<Plan>

Work	June	July					August	
	24	1	8	15	22	29	5	
Removal of crushed stone								
Demolition of pitching concrete								
Confirm the location of tie rods								
Development construction of the site								
Installation, assembling, disassembling of chemical equipment (daytime)		Installation of the plant					Disassembling of the plant	
Chemical injection work 1st row (night time)			Injection work	Around mid July				
Chemical injection work 2nd row (night time)					Injection work			

- The ground improvement work (chemical injection work) was started with maximum 8 teams since July 8.
- The chemical injection work is performed at 2 rows starting with first row.

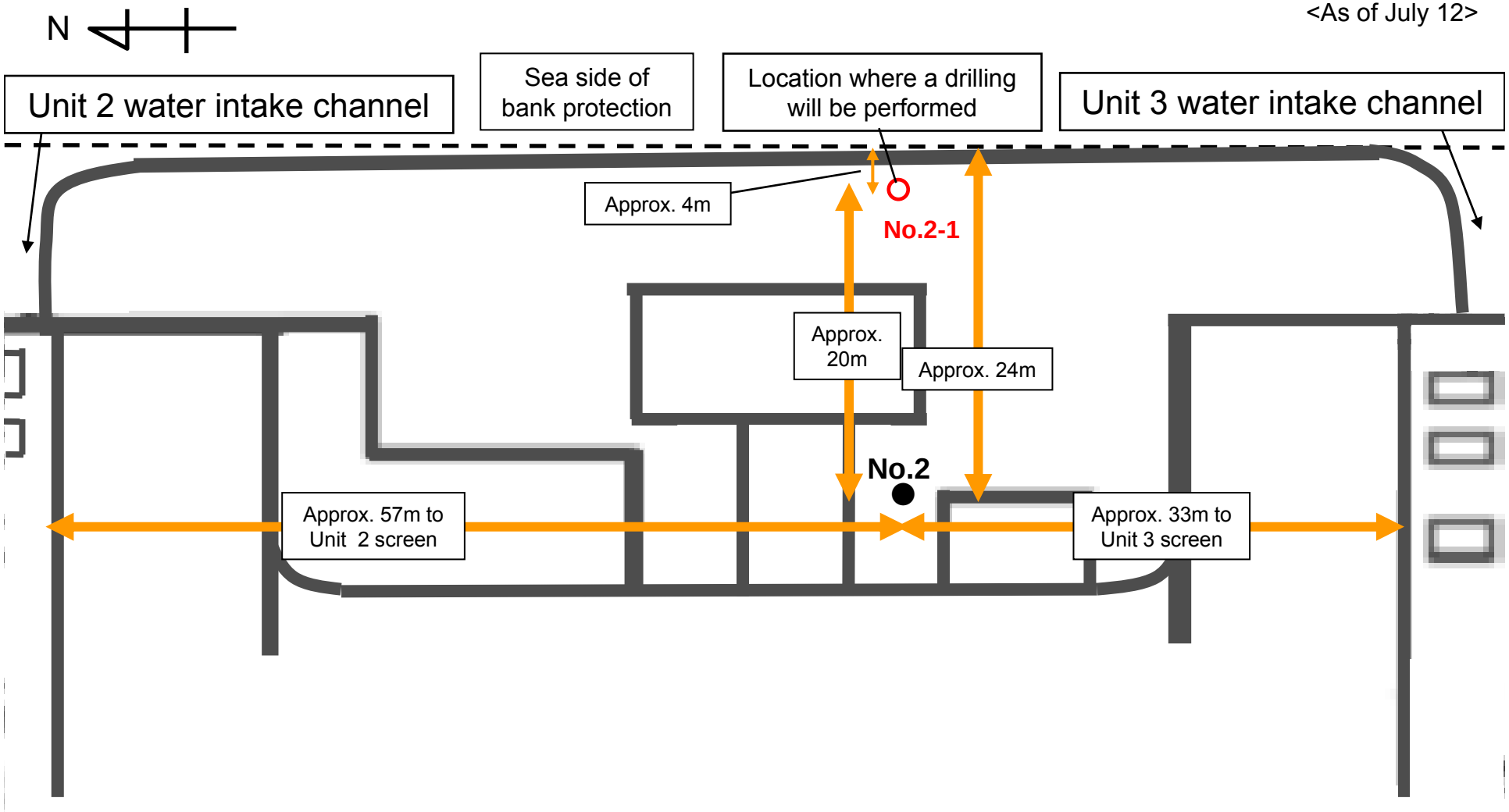
<Reference> Ground Improvement Method



*Source: Pamphlet of the Multirizer method from RAITO KOGYO CO., LTD

Positions of the Groundwater Observation Holes at Bank Protection between the Water Intake Channel of Unit 2 and Unit 3

<As of July 12>

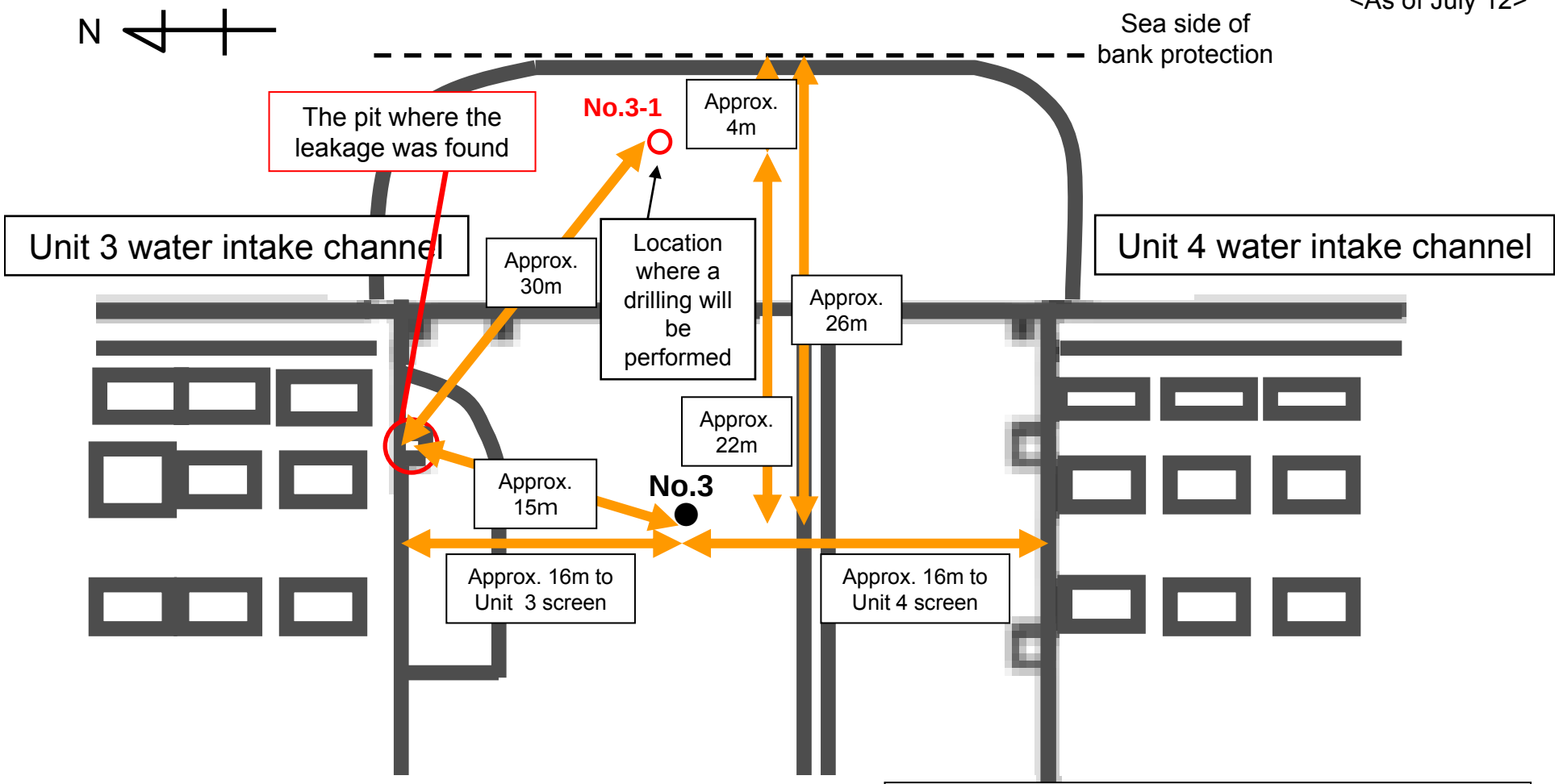


* Between the groundwater observation hole No.1 and No.2: Approx. 120m

(Legend)
- ● Groundwater observation hole No.2
- ○ Additional groundwater sampling point

Positions of the Groundwater Observation Holes at Bank Protection between the Water Intake Channel of Unit 3 and Unit 4

<As of July 12>



(Legend)
- ● Groundwater observation hole No.3
- ○ Additional groundwater sampling point

* Between the groundwater observation hole No.1 and No.3: Approx. 210m
Between the groundwater observation hole No.2 and No.3: Approx. 90m