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8 February 2023

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DRINKING WATER SAFETY ADVISORY COMMITTEE

Annual Water Quality Statistics of the Enhanced Water Quality Monitoring Programme in 2022

PURPOSE

This Paper reports the annual water quality statistics of the Enhanced Water Quality Monitoring Programme ("Enhanced Programme") in 2022 and the associated observations.

BACKGROUND

2. The Water Supplies Department ("WSD") launched the Enhanced Programme in December 2017, as one of the five components of the Action Plan for Enhancing Drinking Water Safety in Hong Kong promulgated in September 2017. The Enhanced Programme monitors the concentration of six metals, viz. antimony, cadmium, chromium, copper, lead and nickel in drinking water at consumers' taps of randomly selected premises. It also serves to collect local drinking water quality data for review of the standard values of the six metals in the Hong Kong Drinking Water Standards ("HKDWS"). Since 17 May 2021, residual chlorine and *Escherichia coli* ("*E. coli*") have been included in the Enhanced Programme.

3. The monitoring of six metals adopts the following two-tier sampling protocol:-

Tier 1 – Random Day Time ("RDT") sampling: the purpose is to monitor the water quality in respect of the six metals. An unflushed sample is randomly taken during daytime.

Tier 2 – 30-minute stagnation ("30MS") sampling: the purpose is to verify the metal exposure of consumers in case exceedance is found in the Tier 1 RDT sample. The tap is first flushed for five minutes and then stagnated for 30 minutes. After stagnation, an unflushed sample is taken.

4. After collecting the samples for testing the six metals, the tap is flushed for at least two minutes and a drinking water sample is collected for testing residual chlorine. The tap is then disinfected and further flushed for at least two minutes, and a drinking water sample is collected afterwards for testing *E. coli*.

5. In 2022, the WSD continued to engage an independent consultant to select premises randomly from all water accounts in the 18 district council ("DC") districts. The number of premises to be selected from each DC district was determined based on the population therein and a sampling rate of eight premises per 5 000 to 100 000 people[1]. While 672 premises had been identified for sample collection in the year, the Enhanced Programme was suspended from 13 January to 9 May 2022 due to the COVID-19 pandemic, and as a result only 460 premises[2] were visited for sample collection.

MONITORING RESULTS IN 2022

6. The statistics of the test results of the water samples collected in 2022 under the Enhanced Programme is summarised in Table 1 below.

[1] According to the sampling rate, drinking water samples will be collected from a total of about 670 randomly selected premises each year.

[2] Making reference to overseas practices, the shortfall in sampling due to programme suspension would not be made up.

Table 1: Statistics of Monitoring Results[%] in 2022

	Minimum	Maximum	Average	95th percentile	Standard value in HKDWS	Compliance with HKDWS*
Antimony (μg/L)	<1	<1	<1	<1	≤20	✓
Cadmium (μg/L)	<1	<1	<1	<1	≤3	✓
Chromium (μg/L)	<1	<1	<1	<1	≤50	✓
Copper (μg/L)	<3	750	30	100	≤2 000	✓
Lead (μg/L)	<1	30	<1	1	≤10	#
Nickel (μg/L)	<1	62	2	4	≤70	✓
Residual Chlorine (mg/L)	<0.1^	1.2	0.5	0.9	≤5	✓
E. coli (cfu[@]/100 mL)	0	0	0	0	0	✓

% RDT results for six metals are presented.

* A "✓" indicates 100% compliance of drinking water quality with the HKDWS in all randomly selected premises based on the corresponding testing protocol. For the two-tier water sampling test results of the six metal parameters, the test result will be regarded as complying with the HKDWS if (i) there is no exceedance found in RDT sample or (ii) there is no exceedance found in the 30MS sample in case the RDT sample fails.

\# One lead exceedance case was found. Upon investigation, the exceedance was due to the lack of proper installation and maintenance of water using apparatus in the premises concerned. The compliance rate with the HKDWS for lead content in 2022 was 99.8%.

^ Although there were depletion of residual chlorine level (i.e. <0.1 mg/L) found in two premises, *E. coli* was not detected. As such, the risk of fecal contamination in the drinking water of the premises concerned is very low.

@ cfu = colony forming unit

7. The analysis of the monitoring results in 2022 under the Enhanced Programme is as below:-

(a) For antimony, cadmium and chromium, all the results were below the reporting limit[3] of <1 μg/L. It indicates that the contents of antimony, cadmium and chromium in the drinking water at consumers' taps in Hong Kong are very low.

(b) For copper, the maximum and the 95th percentile values were 750 μg/L and 100 μg/L respectively which were respectively below and well below the standard value of 2 000 μg/L in the HKDWS. It indicates that the risk of exceedance of copper content in the drinking water at consumers' taps in Hong Kong is low.

[3] Reporting limit is the lowest level within an analytical method's operation range.

(c) For lead, there was one exceedance case found and the test results of the corresponding RDT and 30MS samples were 15 μg/L and 13 μg/L respectively, both exceeding the standard value of 10 μg/L in the HKDWS. The investigation revealed that a water dispenser in the premises had not been equipped with a non-return valve and the filter unit of the water dispenser had not been replaced for a long time. As a result, there was backflow of substances accumulated in the filter unit, including lead, to the internal water supply system, causing contamination to the drinking water of the premises concerned.

There were also four other premises with RDT samples found exceeding the standard value of 10 μg/L with a maximum value of 30 μg/L but the corresponding 30MS samples were found complying with the HKDWS[4].

The 95th percentile value of all RDT samples was 1 μg/L which was well below the standard value of 10 μg/L. Coupled with the fact that there were only two isolated exceedance cases[5] (one case each in 2021 and 2022) out of some 2 500 samples tested so far under the Enhanced Programme, the risk of exceedance of lead content in the drinking water at consumers' taps in Hong Kong is low.

(d) For nickel, the maximum and the 95th percentile values were 62 μg/L and 4 μg/L respectively, which were respectively below and well below the standard value of 70 μg/L in the HKDWS. It indicates that the risk of exceedance of nickel content in the drinking water at consumers' taps in Hong Kong is low.

(e) For residual chlorine, the maximum and 95th percentile values were 1.2 mg/L and 0.9 mg/L respectively, both of which were well below the standard value of 5 mg/L in the HKDWS. It indicates that the risk of exceedance of residual chlorine content in the drinking water at consumers' taps in Hong Kong is very low.

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[4] This represents that the drinking water quality of these premises complied with the HKDWS. The exceedance of the RDT samples was likely due to unduly long stagnation time before sampling or sporadic presence of metal particles.

[5] The two exceedance cases were either due to the lack of proper maintenance of the internal plumbing system or the lack of proper installation and maintenance of water using apparatus in the premises concerned.

(f) All drinking water samples were found to be free of *E. coli* which fully complied with the HKDWS. It indicates that the risk of fecal contamination in the drinking water at consumers' taps in Hong Kong is very low.

8. Overall, with the exception of a lead exceedance case associated with the lack of proper installation and maintenance of water using apparatus in the premises concerned, the drinking water quality of all premises randomly selected under the Enhanced Programme in 2022 complied with the HKDWS in respect of the six metals, residual chlorine and *E. coli*.

OBSERVATIONS

9. The level of antimony of all RDT samples collected from 2018 to 2022 under the Enhanced Programme were below the reporting limit of <1 μg/L. In other words, the risk of contamination of drinking water by antimony at consumers' taps in Hong Kong is very low. In light of this, we will review in due course the need to continue the monitoring of antimony at consumers' taps under the Enhanced Programme[6].

10. The maximum and 95th percentile values of chromium in the RDT samples collected from 2018 to 2022 under the Enhanced Programme were 4 μg/L and <1 μg/L respectively, both of which were well below the standard value in the HKDWS. It indicates that the risk of exceedance of chromium content in the drinking water at consumers' taps in Hong Kong continues to be very low.

11. As for cadmium, copper, lead and nickel, the 95th percentile values of their RDT samples collected from 2018 to 2022 under the Enhanced Programme were <1 μg/L, 88 μg/L, 1 μg/L and 5 μg/L respectively which were well below their corresponding standard values in the HKDWS. It indicates that the risk of exceedance of these metals in the drinking water at consumers' taps in Hong Kong continues to be low.

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[6] A review of HKDWS is being conducted, and the monitoring results collected under Enhanced Programme will be taken into consideration. Although antimony may be excluded from the Enhanced Programme for monitoring at consumers' taps, it will continue to be monitored in the water supply systems of the WSD.

12. The drinking water samples collected under the Enhanced Programme in 2022 all complied with the HKDWS in respect of residual chlorine and *E. coli*. It indicates that the bacteriological quality of the drinking water at consumers' taps in Hong Kong is satisfactory.

PUBLICATION OF STATISTICS OF ANNUAL MONITORING RESULTS

13. The WSD will publish on its website[7] ("the Webpage") the statistics of the annual monitoring results of the Enhanced Programme in 2022 including:-

(i) the overall statistics for the whole territory in Hong Kong (as in Table 1 above); and

(ii) summary tables showing the minimum, maximum and average values of the contents of the six metals, residual chlorine and *E. coli* in the water samples taken in each DC district under the Enhanced Programme (Appendix I).

14. Apart from the above statistical data, the background of the Enhanced Programme as well as the analyses of the monitoring results as discussed in paragraphs 7 to 8 above will also be provided in the Webpage.

Development Bureau
Water Supplies Department
February 2023

[7] The link is www.wsd.gov.hk/en/dwsewqmp

Appendix I

水質監測優化計劃 - 全港
2022年1月1日至2022年12月31日
Enhanced Water Quality Monitoring Programme - The Whole Territory
for the Period from 1/1/2022 to 31/12/2022

用戶水龍頭的水質監測數據
Monitoring Data of the samples taken at Consumers' Taps

參數 Parameter	抽取樣本處所總數 Total No. of Sampling Premises	單位 Unit	監測數據 Monitoring Data			香港食水標準 HKDWS	達標 Compliance(1)
			最低值 Minimum	最高值 Maximum	平均值 Average		
銻 Antimony	460	微克/公升 μg/L	<1	<1	<1	≤20	✓
鎘 Cadmium	460		<1	<1	<1	≤3	✓
鉻 Chromium	460		<1	<1	<1	≤50	✓
銅 Copper	460		<3	750	30	≤2 000	✓
鉛 Lead	460		<1	30	<1	≤10	Note (2)
鎳 Nickel	460		<1	62	2	≤70	✓
餘氯 Residual Chlorine	460	毫克/公升 mg/L	<0.1	1.2	0.5	≤5	✓
埃希氏大腸桿菌 *Escherichia coli*	460	菌落數/100 毫升 cfu* /100mL	0	0	0	0	✓

* cfu = Colony forming unit

註釋:
Note:

(1) "✓"表示根據六種金屬(採用兩級取樣規程)、餘氯和埃希氏大腸桿菌的測試結果，所有被隨機抽中處所的食水水質均完全符合香港食水標準。
A "✓" indicates 100% compliance of drinking water quality with the HKDWS in all randomly selected premises based on the test results for 6 metals (using the two-tier water sampling protocol), residual chlorine and *E. coli*.

(2) 其中五個處所的第一級水樣本(即「日間隨機取樣」)鉛含量超過標準值10微克／公升，當中最高值為30微克／公升。按既定的兩級取樣規程，當第一級水樣本發現金屬含量超標時，隨即會測試第二級30分鐘靜水樣本以核實結果。水務署測試了相關的30分鐘靜水樣本，四個處所的結果符合香港食水標準鉛的標準值10微克／公升，表示相關處所的食水符合香港食水標準，第一級水樣本出現超標可能是因為收集水樣本之前水龍頭靜水時間太長或偶然出現的金屬微粒引致。餘下一個處所的結果為13微克／公升，高於香港食水標準鉛的標準值10微克／公升，導致鉛超標是由於涉事處所內一部飲水機缺乏適當安裝及保養，引致處所內部供水系統中的食水被污染。因此，在2022年，鉛含量的香港食水標準達標率為99.8%。
The lead content of Tier 1 Random Day Time ("RDT") samples from five of the premises exceeded the standard value of 10 μg/L with a maximum of 30 μg/L. According to the established two-tier sampling protocol, the Tier 2 30-minute stagnation ("30MS") sample would be tested when exceedance in metal content was found in the Tier 1 sample to verify the test result. The Water Supplies Department tested the relevant Tier 2 30MS samples, test results of four premises complied with the HKDWS for lead of 10 μg/L, representing compliance of the drinking water quality of the premises concerned with the HKDWS. The exceedance of the Tier 1 RDT samples are likely due to unduly long stagnation time before sampling or sporadic presence of metal particles. The test result of the remaining premises was 13 μg/L and exceeded the HKDWS for lead of 10 μg/L. The exceedance was due to the lack of proper installation and maintenance of a water dispenser in the premises concerned, causing contamination of the drinking water in the internal water supply system of the premises concerned. Therefore, the compliance rate with HKDWS for lead content in 2022 was 99.8%.

水質監測優化計劃 - 中西區
2022年1月1日至2022年12月31日
Enhanced Water Quality Monitoring Programme - Central and Western District
for the Period from 1/1/2022 to 31/12/2022

用戶水龍頭的水質監測數據
Monitoring Data of the samples taken at Consumers' Taps

參數 Parameter	抽取樣本處所總數 Total No. of Sampling Premises	單位 Unit	監測數據 Monitoring Data			香港食水標準 HKDWS	達標 Compliance[1]
			最低值 Minimum	最高值 Maximum	平均值 Average		
銻 Antimony	16	微克/公升 μg/L	<1	<1	<1	≤20	✓
鎘 Cadmium	16		<1	<1	<1	≤3	✓
鉻 Chromium	16		<1	<1	<1	≤50	✓
銅 Copper	16		5	70	30	≤2 000	✓
鉛 Lead	16		<1	7	<1	≤10	✓
鎳 Nickel	16		1	18	3	≤70	✓
餘氯 Residual Chlorine	16	毫克/公升 mg/L	0.3	0.7	0.5	≤5	✓
埃希氏大腸桿菌 *Escherichia coli*	16	菌落數/100 毫升 cfu* /100mL	0	0	0	0	✓

* cfu = Colony forming unit

<u>註釋:</u>
<u>Note:</u>

(1) "✓"表示根據六種金屬(採用兩級取樣規程)、餘氯和埃希氏大腸桿菌的測試結果，所有被隨機抽中處所的食水水質均完全符合香港食水標準。
A "✓" indicates 100% compliance of drinking water quality with the HKDWS in all randomly selected premises based on the test results for 6 metals (using the two-tier water sampling protocol), residual chlorine and *E. coli* .

水質監測優化計劃 - 灣仔區
2022年1月1日至2022年12月31日
Enhanced Water Quality Monitoring Programme - Wan Chai District
for the Period from 1/1/2022 to 31/12/2022

用戶水龍頭的水質監測數據
Monitoring Data of the samples taken at Consumers' Taps

參數 Parameter	抽取樣本處所總數 Total No. of Sampling Premises	單位 Unit	監測數據 Monitoring Data			香港食水標準 HKDWS	達標 Compliance(1)
			最低值 Minimum	最高值 Maximum	平均值 Average		
銻 Antimony	9	微克/公升 µg/L	<1	<1	<1	≤20	✓
鎘 Cadmium	9		<1	<1	<1	≤3	✓
鉻 Chromium	9		<1	<1	<1	≤50	✓
銅 Copper	9		6	120	30	≤2 000	✓
鉛 Lead	9		<1	<1	<1	≤10	✓
鎳 Nickel	9		<1	5	2	≤70	✓
餘氯 Residual Chlorine	9	毫克/公升 mg/L	0.2	0.9	0.5	≤5	✓
埃希氏大腸桿菌 *Escherichia coli*	9	菌落數/100 毫升 cfu* /100mL	0	0	0	0	✓

* cfu = Colony forming unit

<u>註釋:</u>
<u>Note:</u>

(1) "✓"表示根據六種金屬(採用兩級取樣規程)、餘氯和埃希氏大腸桿菌的測試結果，所有被隨機抽中處所的食水水質均完全符合香港食水標準。
A "✓" indicates 100% compliance of drinking water quality with the HKDWS in all randomly selected premises based on the test results for 6 metals (using the two-tier water sampling protocol), residual chlorine and *E. coli* .

水質監測優化計劃 - 東區
2022年1月1日至2022年12月31日
Enhanced Water Quality Monitoring Programme - Eastern District
for the Period from 1/1/2022 to 31/12/2022

用戶水龍頭的水質監測數據
Monitoring Data of the samples taken at Consumers' Taps

參數 Parameter	抽取樣本處所總數 Total No. of Sampling Premises	單位 Unit	監測數據 Monitoring Data			香港食水標準 HKDWS	達標 Compliance(1)
			最低值 Minimum	最高值 Maximum	平均值 Average		
銻 Antimony	31	微克/公升 μg/L	<1	<1	<1	≤20	✓
鎘 Cadmium	31		<1	<1	<1	≤3	✓
鉻 Chromium	31		<1	<1	<1	≤50	✓
銅 Copper	31		<3	150	20	≤2 000	✓
鉛 Lead	31		<1	5	<1	≤10	✓
鎳 Nickel	31		<1	4	2	≤70	✓
餘氯 Residual Chlorine	31	毫克/公升 mg/L	0.1	0.8	0.4	≤5	✓
埃希氏大腸桿菌 *Escherichia coli*	31	菌落數/100 毫升 cfu* /100mL	0	0	0	0	✓

* cfu = Colony forming unit

註釋:
Note:

(1) "✓"表示根據六種金屬(採用兩級取樣規程)、餘氯和埃希氏大腸桿菌的測試結果，所有被隨機抽中處所的食水水質均完全符合香港食水標準。
A "✓" indicates 100% compliance of drinking water quality with the HKDWS in all randomly selected premises based on the test results for 6 metals (using the two-tier water sampling protocol), residual chlorine and *E. coli* .

水質監測優化計劃 - 南區
2022年1月1日至2022年12月31日
Enhanced Water Quality Monitoring Programme - Southern District
for the Period from 1/1/2022 to 31/12/2022

用戶水龍頭的水質監測數據
Monitoring Data of the samples taken at Consumers' Taps

參數 Parameter	抽取樣本處所總數 Total No. of Sampling Premises	單位 Unit	監測數據 Monitoring Data			香港食水標準 HKDWS	達標 Compliance[1]
			最低值 Minimum	最高值 Maximum	平均值 Average		
銻 Antimony	17	微克/公升 μg/L	<1	<1	<1	≤20	✓
鎘 Cadmium	17		<1	<1	<1	≤3	✓
鉻 Chromium	17		<1	<1	<1	≤50	✓
銅 Copper	17		<3	65	10	≤2 000	✓
鉛 Lead	17		<1	<1	<1	≤10	✓
鎳 Nickel	17		<1	2	1	≤70	✓
餘氯 Residual Chlorine	17	毫克/公升 mg/L	0.2	0.8	0.4	≤5	✓
埃希氏大腸桿菌 *Escherichia coli*	17	菌落數/100 毫升 cfu* /100mL	0	0	0	0	✓

* cfu = Colony forming unit

註釋:
Note:

(1) "✓"表示根據六種金屬(採用兩級取樣規程)、餘氯和埃希氏大腸桿菌的測試結果，所有被隨機抽中處所的食水水質均完全符合香港食水標準。
A "✓" indicates 100% compliance of drinking water quality with the HKDWS in all randomly selected premises based on the test results for 6 metals (using the two-tier water sampling protocol), residual chlorine and *E. coli* .

水質監測優化計劃 - 油尖旺區
2022年1月1日至2022年12月31日
Enhanced Water Quality Monitoring Programme - Yau Tsim Mong District
for the Period from 1/1/2022 to 31/12/2022

用戶水龍頭的水質監測數據
Monitoring Data of the samples taken at Consumers' Taps

參數 Parameter	抽取樣本處所總數 Total No. of Sampling Premises	單位 Unit	監測數據 Monitoring Data			香港食水標準 HKDWS	達標 Compliance(1)
			最低值 Minimum	最高值 Maximum	平均值 Average		
銻 Antimony	22	微克/公升 μg/L	<1	<1	<1	≤20	✓
鎘 Cadmium	22		<1	<1	<1	≤3	✓
鉻 Chromium	22		<1	<1	<1	≤50	✓
銅 Copper	22		<3	64	30	≤2 000	✓
鉛 Lead	22		<1	5	<1	≤10	✓
鎳 Nickel	22		1	7	2	≤70	✓
餘氯 Residual Chlorine	22	毫克/公升 mg/L	0.1	0.7	0.5	≤5	✓
埃希氏大腸桿菌 *Escherichia coli*	22	菌落數/100 毫升 cfu* /100mL	0	0	0	0	✓

* cfu = Colony forming unit

<u>註釋:</u>
<u>Note:</u>

(1) "✓"表示根據六種金屬(採用兩級取樣規程)、餘氯和埃希氏大腸桿菌的測試結果，所有被隨機抽中處所的食水水質均完全符合香港食水標準。
A "✓" indicates 100% compliance of drinking water quality with the HKDWS in all randomly selected premises based on the test results for 6 metals (using the two-tier water sampling protocol), residual chlorine and *E. coli* .

水質監測優化計劃 - 深水埗區
2022年1月1日至2022年12月31日
Enhanced Water Quality Monitoring Programme - Sham Shui Po District
for the Period from 1/1/2022 to 31/12/2022

用戶水龍頭的水質監測數據
Monitoring Data of the samples taken at Consumers' Taps

參數 Parameter	抽取樣本處所總數 Total No. of Sampling Premises	單位 Unit	監測數據 Monitoring Data			香港食水標準 HKDWS	達標 Compliance[1]
			最低值 Minimum	最高值 Maximum	平均值 Average		
銻 Antimony	28	微克/公升 μg/L	<1	<1	<1	≤20	✓
鎘 Cadmium	28		<1	<1	<1	≤3	✓
鉻 Chromium	28		<1	<1	<1	≤50	✓
銅 Copper	28		<3	410	48	≤2 000	✓
鉛 Lead	28		<1	1	<1	≤10	✓
鎳 Nickel	28		1	62	4	≤70	✓
餘氯 Residual Chlorine	28	毫克/公升 mg/L	0.2	0.8	0.5	≤5	✓
埃希氏大腸桿菌 *Escherichia coli*	28	菌落數/100 毫升 cfu* /100mL	0	0	0	0	✓

* cfu = Colony forming unit

註釋:
Note:

(1) "✓"表示根據六種金屬(採用兩級取樣規程)、餘氯和埃希氏大腸桿菌的測試結果，所有被隨機抽中處所的食水水質均完全符合香港食水標準。
A "✓" indicates 100% compliance of drinking water quality with the HKDWS in all randomly selected premises based on the test results for 6 metals (using the two-tier water sampling protocol), residual chlorine and *E. coli* .

水質監測優化計劃 - 九龍城區
2022年1月1日至2022年12月31日
Enhanced Water Quality Monitoring Programme - Kowloon City District
for the Period from 1/1/2022 to 31/12/2022

用戶水龍頭的水質監測數據
Monitoring Data of the samples taken at Consumers' Taps

參數 Parameter	抽取樣本處所總數 Total No. of Sampling Premises	單位 Unit	監測數據 Monitoring Data			香港食水標準 HKDWS	達標 Compliance[1]
			最低值 Minimum	最高值 Maximum	平均值 Average		
銻 Antimony	29	微克/公升 µg/L	<1	<1	<1	≤20	✓
鎘 Cadmium	29		<1	<1	<1	≤3	✓
鉻 Chromium	29		<1	<1	<1	≤50	✓
銅 Copper	29		<3	110	20	≤2 000	✓
鉛 Lead	29		<1	2	<1	≤10	✓
鎳 Nickel	29		<1	3	2	≤70	✓
餘氯 Residual Chlorine	29	毫克/公升 mg/L	<0.1	0.9	0.4	≤5	✓
埃希氏大腸桿菌 *Escherichia coli*	29	菌落數/100 毫升 cfu* /100mL	0	0	0	0	✓

* cfu = Colony forming unit

註釋:
Note:

(1) "✓"表示根據六種金屬(採用兩級取樣規程)、餘氯和埃希氏大腸桿菌的測試結果，所有被隨機抽中處所的食水水質均完全符合香港食水標準。
A "✓" indicates 100% compliance of drinking water quality with the HKDWS in all randomly selected premises based on the test results for 6 metals (using the two-tier water sampling protocol), residual chlorine and *E. coli*.

水質監測優化計劃 - 黃大仙區
2022年1月1日至2022年12月31日
Enhanced Water Quality Monitoring Programme - Wong Tai Sin District
for the Period from 1/1/2022 to 31/12/2022

用戶水龍頭的水質監測數據
Monitoring Data of the samples taken at Consumers' Taps

參數 Parameter	抽取樣本處所總數 Total No. of Sampling Premises	單位 Unit	監測數據 Monitoring Data			香港食水標準 HKDWS	達標 Compliance(1)
			最低值 Minimum	最高值 Maximum	平均值 Average		
銻 Antimony	27	微克/公升 μg/L	<1	<1	<1	≤20	✓
鎘 Cadmium	27		<1	<1	<1	≤3	✓
鉻 Chromium	27		<1	<1	<1	≤50	✓
銅 Copper	27		<3	67	20	≤2 000	✓
鉛 Lead	27		<1	3	<1	≤10	✓
鎳 Nickel	27		<1	3	1	≤70	✓
餘氯 Residual Chlorine	27	毫克/公升 mg/L	0.1	1.0	0.5	≤5	✓
埃希氏大腸桿菌 *Escherichia coli*	27	菌落數/100 毫升 cfu* /100mL	0	0	0	0	✓

* cfu = Colony forming unit

註釋:
Note:

(1) "✓"表示根據六種金屬(採用兩級取樣規程)、餘氯和埃希氏大腸桿菌的測試結果，所有被隨機抽中處所的食水水質均完全符合香港食水標準。
A "✓" indicates 100% compliance of drinking water quality with the HKDWS in all randomly selected premises based on the test results for 6 metals (using the two-tier water sampling protocol), residual chlorine and *E. coli* .

水質監測優化計劃 - 觀塘區
2022年1月1日至2022年12月31日
Enhanced Water Quality Monitoring Programme - Kwun Tong District
for the Period from 1/1/2022 to 31/12/2022

用戶水龍頭的水質監測數據
Monitoring Data of the samples taken at Consumers' Taps

參數 Parameter	抽取樣本處所總數 Total No. of Sampling Premises	單位 Unit	監測數據 Monitoring Data			香港食水標準 HKDWS	達標 Compliance(1)
			最低值 Minimum	最高值 Maximum	平均值 Average		
銻 Antimony	39	微克/公升 μg/L	<1	<1	<1	≤20	✓
鎘 Cadmium	39		<1	1	<1	≤3	✓
鉻 Chromium	39		<1	<1	<1	≤50	✓
銅 Copper	39		<3	750	54	≤2 000	✓
鉛 Lead	39		<1	24	1	≤10	Note (2)
鎳 Nickel	39		<1	16	2	≤70	✓
餘氯 Residual Chlorine	39	毫克/公升 mg/L	0.2	0.8	0.5	≤5	✓
埃希氏大腸桿菌 *Escherichia coli*	39	菌落數/100 毫升 cfu* /100mL	0	0	0	0	✓

* cfu = Colony forming unit

註釋:
Note:

(1) "✓"表示根據六種金屬(採用兩級取樣規程)、餘氯和埃希氏大腸桿菌的測試結果，所有被隨機抽中處所的食水水質均完全符合香港食水標準。
A "✓" indicates 100% compliance of drinking water quality with the HKDWS in all randomly selected premises based on the test results for 6 metals (using the two-tier water sampling protocol), residual chlorine and *E. coli*.

(2) 其中兩個處所的第一級水樣本(即「日間隨機取樣」)鉛含量超過標準值10微克／公升，當中最高值為24微克／公升。按既定的兩級取樣規程，當第一級水樣本發現金屬含量超標時，隨即會測試第二級30分鐘靜水樣本以核實結果。水務署測試了相關的30分鐘靜水樣本，一個處所的結果為2微克／公升，符合香港食水標準鉛的標準值10微克／公升，表示相關處所的食水符合香港食水標準，第一級水樣本出現超標可能是因為收集水樣本之前水龍頭靜水時間太長或偶然出現的金屬微粒引致。另一個處所的結果為13微克／公升，高於香港食水標準鉛的標準值10微克／公升，導致鉛超標是由於涉事處所內一部飲水機缺乏適當安裝及保養，引致處所內部供水系統中的食水被污染。
The lead content of Tier 1 Random Day Time ("RDT") samples from two of the premises exceeded the standard value of 10 μg/L with a maximum of 24 μg/L. According to the established two-tier sampling protocol, the Tier 2 30-minute stagnation ("30MS") sample would be tested when exceedance in metal content was found in the Tier 1 sample to verify the test result. The Water Supplies Department tested the relevant Tier 2 30MS samples, test result of one premises was 2 μg/L and complied with the HKDWS for lead of 10 μg/L, representing compliance of the drinking water quality of the premises concerned with the HKDWS. The exceedance of the Tier 1 RDT sample is likely due to unduly long stagnation time before sampling or sporadic presence of metal particles. The test result of the other premises was 13 μg/L and exceeded the HKDWS for lead of 10 μg/L. The exceedance was due to the lack of proper installation and maintenance of a water dispenser in the premises concerned, causing contamination of the drinking water in the internal water supply system of the premises concerned.

水質監測優化計劃 - 葵青區
2022年1月1日至2022年12月31日
Enhanced Water Quality Monitoring Programme - Kwai Tsing District
for the Period from 1/1/2022 to 31/12/2022

用戶水龍頭的水質監測數據
Monitoring Data of the samples taken at Consumers' Taps

參數 Parameter	抽取樣本處所總數 Total No. of Sampling Premises	單位 Unit	監測數據 Monitoring Data			香港食水標準 HKDWS	達標 Compliance(1)
			最低值 Minimum	最高值 Maximum	平均值 Average		
銻 Antimony	32	微克/公升 μg/L	<1	<1	<1	≤20	✓
鎘 Cadmium	32		<1	<1	<1	≤3	✓
鉻 Chromium	32		<1	<1	<1	≤50	✓
銅 Copper	32		<3	120	10	≤2 000	✓
鉛 Lead	32		<1	<1	<1	≤10	✓
鎳 Nickel	32		<1	6	2	≤70	✓
餘氯 Residual Chlorine	32	毫克/公升 mg/L	0.1	1.0	0.5	≤5	✓
埃希氏大腸桿菌 *Escherichia coli*	32	菌落數/100 毫升 cfu* /100mL	0	0	0	0	✓

* cfu = Colony forming unit

註釋:
Note:

(1) "✓"表示根據六種金屬(採用兩級取樣規程)、餘氯和埃希氏大腸桿菌的測試結果，所有被隨機抽中處所的食水水質均完全符合香港食水標準。
A "✓" indicates 100% compliance of drinking water quality with the HKDWS in all randomly selected premises based on the test results for 6 metals (using the two-tier water sampling protocol), residual chlorine and *E. coli* .

水質監測優化計劃 - 荃灣區
2022年1月1日至2022年12月31日
Enhanced Water Quality Monitoring Programme - Tsuen Wan District
for the Period from 1/1/2022 to 31/12/2022

用戶水龍頭的水質監測數據
Monitoring Data of the samples taken at Consumers' Taps

參數 Parameter	抽取樣本處所總數 Total No. of Sampling Premises	單位 Unit	監測數據 Monitoring Data			香港食水標準 HKDWS	達標 Compliance[1]
			最低值 Minimum	最高值 Maximum	平均值 Average		
銻 Antimony	21	微克/公升 μg/L	<1	<1	<1	≤20	✓
鎘 Cadmium	21		<1	<1	<1	≤3	✓
鉻 Chromium	21		<1	<1	<1	≤50	✓
銅 Copper	21		<3	65	20	≤2 000	✓
鉛 Lead	21		<1	2	<1	≤10	✓
鎳 Nickel	21		<1	3	2	≤70	✓
餘氯 Residual Chlorine	21	毫克/公升 mg/L	0.2	0.7	0.5	≤5	✓
埃希氏大腸桿菌 *Escherichia coli*	21	菌落數/100 毫升 cfu* /100mL	0	0	0	0	✓

* cfu = Colony forming unit

<u>註釋:</u>
<u>Note:</u>

(1) "✓"表示根據六種金屬(採用兩級取樣規程)、餘氯和埃希氏大腸桿菌的測試結果，所有被隨機抽中處所的食水水質均完全符合香港食水標準。
A "✓" indicates 100% compliance of drinking water quality with the HKDWS in all randomly selected premises based on the test results for 6 metals (using the two-tier water sampling protocol), residual chlorine and *E. coli* .

水質監測優化計劃 - 屯門區
2022年1月1日至2022年12月31日
Enhanced Water Quality Monitoring Programme - Tuen Mun District
for the Period from 1/1/2022 to 31/12/2022

用戶水龍頭的水質監測數據
Monitoring Data of the samples taken at Consumers' Taps

參數 Parameter	抽取樣本處所總數 Total No. of Sampling Premises	單位 Unit	監測數據 Monitoring Data			香港食水標準 HKDWS	達標 Compliance(1)
			最低值 Minimum	最高值 Maximum	平均值 Average		
銻 Antimony	27	微克/公升 µg/L	<1	<1	<1	≤20	✓
鎘 Cadmium	27		<1	<1	<1	≤3	✓
鉻 Chromium	27		<1	<1	<1	≤50	✓
銅 Copper	27		<3	67	20	≤2 000	✓
鉛 Lead	27		<1	2	<1	≤10	✓
鎳 Nickel	27		<1	3	1	≤70	✓
餘氯 Residual Chlorine(2)	27	毫克/公升 mg/L	0.2	0.9	0.6	≤5	✓
埃希氏大腸桿菌 *Escherichia coli* (2)	27	菌落數/100 毫升 cfu* /100mL	0	0	0	0	✓

* cfu = Colony forming unit

註釋:
Note:

(1) "✓"表示根據六種金屬(採用兩級取樣規程)、餘氯和埃希氏大腸桿菌的測試結果，所有被隨機抽中處所的食水水質均完全符合香港食水標準。
A "✓" indicates 100% compliance of drinking water quality with the HKDWS in all randomly selected premises based on the test results for 6 metals (using the two-tier water sampling protocol), residual chlorine and *E. coli*.

水質監測優化計劃 - 元朗區
2022年1月1日至2022年12月31日
Enhanced Water Quality Monitoring Programme - Yuen Long District
for the Period from 1/1/2022 to 31/12/2022

用戶水龍頭的水質監測數據
Monitoring Data of the samples taken at Consumers' Taps

參數 Parameter	抽取樣本處所總數 Total No. of Sampling Premises	單位 Unit	監測數據 Monitoring Data			香港食水標準 HKDWS	達標 Compliance[1]
			最低值 Minimum	最高值 Maximum	平均值 Average		
銻 Antimony	40	微克/公升 μg/L	<1	<1	<1	≤20	✓
鎘 Cadmium	40		<1	<1	<1	≤3	✓
鉻 Chromium	40		<1	<1	<1	≤50	✓
銅 Copper	40		<3	98	10	≤2 000	✓
鉛 Lead	40		<1	23[2]	<1	≤10	✓
鎳 Nickel	40		<1	4	2	≤70	✓
餘氯 Residual Chlorine	40	毫克/公升 mg/L	<0.1	1.1	0.6	≤5	✓
埃希氏大腸桿菌 *Escherichia coli*	40	菌落數/100 毫升 cfu* /100mL	0	0	0	0	✓

* cfu = Colony forming unit

註釋:
Note:

(1) "✓"表示根據六種金屬(採用兩級取樣規程)、餘氯和埃希氏大腸桿菌的測試結果，所有被隨機抽中處所的食水水質均完全符合香港食水標準。
A "✓" indicates 100% compliance of drinking water quality with the HKDWS in all randomly selected premises based on the test results for 6 metals (using the two-tier water sampling protocol), residual chlorine and *E. coli*.

(2) 其中一個處所的第一級水樣本(即「日間隨機取樣」)鉛含量為23微克／公升。按既定的兩級取樣規程，當第一級水樣本發現金屬含量超標時，隨即會測試第二級30分鐘靜水樣本以核實結果。水務署測試了相關的30分鐘靜水樣本，而結果為2微克／公升，符合香港食水標準鉛的標準值10微克／公升，表示相關處所的食水符合香港食水標準。第一級水樣本出現超標可能是因為收集水樣本之前水龍頭靜水時間太長或偶然出現的金屬微粒引致。
The lead content of a Tier 1 Random Day Time ("RDT") sample from one of the premises was 23 μg/L. According to the established two-tier sampling protocol, the Tier 2 30-minute stagnation ("30MS") sample would be tested when exceedance in metal content was found in the Tier 1 sample to verify the test result. The Water Supplies Department tested the relevant Tier 2 30MS sample, the test result was 2 μg/L and complied with the HKDWS for lead of 10 μg/L, representing compliance of the drinking water quality of the premises concerned with the HKDWS. The exceedance of the Tier 1 RDT sample is likely due to unduly long stagnation time before sampling or sporadic presence of metal particles.

水質監測優化計劃 - 北區
2022年1月1日至2022年12月31日
Enhanced Water Quality Monitoring Programme - North District
for the Period from 1/1/2022 to 31/12/2022

用戶水龍頭的水質監測數據
Monitoring Data of the samples taken at Consumers' Taps

參數 Parameter	抽取樣本處所總數 Total No. of Sampling Premises	單位 Unit	監測數據 Monitoring Data			香港食水標準 HKDWS	達標 Compliance(1)
			最低值 Minimum	最高值 Maximum	平均值 Average		
銻 Antimony	21	微克/公升 μg/L	<1	<1	<1	≤20	✓
鎘 Cadmium	21		<1	<1	<1	≤3	✓
鉻 Chromium	21		<1	<1	<1	≤50	✓
銅 Copper	21		4	180	30	≤2 000	✓
鉛 Lead	21		<1	4	<1	≤10	✓
鎳 Nickel	21		1	4	2	≤70	✓
餘氯 Residual Chlorine	21	毫克/公升 mg/L	0.2	0.9	0.6	≤5	✓
埃希氏大腸桿菌 *Escherichia coli*	21	菌落數/100 毫升 cfu* /100mL	0	0	0	0	✓

* cfu = Colony forming unit

註釋:
Note:

(1) "✓"表示根據六種金屬(採用兩級取樣規程)、餘氯和埃希氏大腸桿菌的測試結果，所有被隨機抽中處所的食水水質均完全符合香港食水標準。
A "✓" indicates 100% compliance of drinking water quality with the HKDWS in all randomly selected premises based on the test results for 6 metals (using the two-tier water sampling protocol), residual chlorine and *E. coli* .

水質監測優化計劃 - 大埔區
2022年1月1日至2022年12月31日
Enhanced Water Quality Monitoring Programme - Tai Po District
for the Period from 1/1/2022 to 31/12/2022

用戶水龍頭的水質監測數據
Monitoring Data of the samples taken at Consumers' Taps

參數 Parameter	抽取樣本處所總數 Total No. of Sampling Premises	單位 Unit	監測數據 Monitoring Data			香港食水標準 HKDWS	達標 Compliance[1]
			最低值 Minimum	最高值 Maximum	平均值 Average		
銻 Antimony	22	微克/公升 μg/L	<1	<1	<1	≤20	✓
鎘 Cadmium	22		<1	<1	<1	≤3	✓
鉻 Chromium	22		<1	<1	<1	≤50	✓
銅 Copper	22		<3	220	31	≤2 000	✓
鉛 Lead	22		<1	2	<1	≤10	✓
鎳 Nickel	22		1	5	2	≤70	✓
餘氯 Residual Chlorine	22	毫克/公升 mg/L	0.3	1.2	0.6	≤5	✓
埃希氏大腸桿菌 *Escherichia coli*	22	菌落數/100 毫升 cfu* /100mL	0	0	0	0	✓

* cfu = Colony forming unit

註釋:
Note:

(1) "✓"表示根據六種金屬(採用兩級取樣規程)、餘氯和埃希氏大腸桿菌的測試結果，所有被隨機抽中處所的食水水質均完全符合香港食水標準。
A "✓" indicates 100% compliance of drinking water quality with the HKDWS in all randomly selected premises based on the test results for 6 metals (using the two-tier water sampling protocol), residual chlorine and *E. coli* .

水質監測優化計劃 - 沙田區
2022年1月1日至2022年12月31日
Enhanced Water Quality Monitoring Programme - Sha Tin District
for the Period from 1/1/2022 to 31/12/2022

用戶水龍頭的水質監測數據
Monitoring Data of the samples taken at Consumers' Taps

參數 Parameter	抽取樣本處所總數 Total No. of Sampling Premises	單位 Unit	監測數據 Monitoring Data			香港食水標準 HKDWS	達標 Compliance[1]
			最低值 Minimum	最高值 Maximum	平均值 Average		
銻 Antimony	40	微克/公升 μg/L	<1	<1	<1	≤20	✓
鎘 Cadmium	40		<1	<1	<1	≤3	✓
鉻 Chromium	40		<1	<1	<1	≤50	✓
銅 Copper	40		<3	320	40	≤2 000	✓
鉛 Lead	40		<1	25[2]	<1	≤10	✓
鎳 Nickel	40		<1	44	3	≤70	✓
餘氯 Residual Chlorine	40	毫克/公升 mg/L	0.2	0.9	0.5	≤5	✓
埃希氏大腸桿菌 *Escherichia coli*	40	菌落數/100 毫升 cfu* /100mL	0	0	0	0	✓

* cfu = Colony forming unit

註釋:
Note:

(1) "✓"表示根據六種金屬(採用兩級取樣規程)、餘氯和埃希氏大腸桿菌的測試結果，所有被隨機抽中處所的食水水質均完全符合香港食水標準。
A "✓" indicates 100% compliance of drinking water quality with the HKDWS in all randomly selected premises based on the test results for 6 metals (using the two-tier water sampling protocol), residual chlorine and *E. coli*.

(2) 其中一個處所的第一級水樣本(即「日間隨機取樣」)鉛含量為25微克／公升。按既定的兩級取樣規程，當第一級水樣本發現金屬含量超標時，隨即會測試第二級30分鐘靜水樣本以核實結果。水務署測試了相關的30分鐘靜水樣本，而結果為2微克／公升，符合香港食水標準鉛的標準值10微克／公升，表示相關處所的食水符合香港食水標準。第一級水樣本出現超標可能是因為收集水樣本之前水龍頭靜水時間太長或偶然出現的金屬微粒引致。
The lead content of a Tier 1 Random Day Time ("RDT") sample from one of the premises was 25 μg/L. According to the established two-tier sampling protocol, the Tier 2 30-minute stagnation ("30MS") sample would be tested when exceedance in metal content was found in the Tier 1 sample to verify the test result. The Water Supplies Department tested the relevant Tier 2 30MS sample, the test result was 2 μg/L and complied with the HKDWS for lead of 10 μg/L, representing compliance of the drinking water quality of the premises concerned with the HKDWS. The exceedance of the Tier 1 RDT sample is likely due to unduly long stagnation time before sampling or sporadic presence of metal particles.

水質監測優化計劃 - 西貢區
2022年1月1日至2022年12月31日
Enhanced Water Quality Monitoring Programme - Sai Kung District
for the Period from 1/1/2022 to 31/12/2022

用戶水龍頭的水質監測數據
Monitoring Data of the samples taken at Consumers' Taps

參數 Parameter	抽取樣本處所總數 Total No. of Sampling Premises	單位 Unit	監測數據 Monitoring Data			香港食水標準 HKDWS	達標 Compliance[1]
			最低值 Minimum	最高值 Maximum	平均值 Average		
銻 Antimony	28	微克/公升 µg/L	<1	<1	<1	≤20	✓
鎘 Cadmium	28		<1	<1	<1	≤3	✓
鉻 Chromium	28		<1	<1	<1	≤50	✓
銅 Copper	28		<3	190	35	≤2 000	✓
鉛 Lead	28		<1	30[2]	1	≤10	✓
鎳 Nickel	28		<1	15	2	≤70	✓
餘氯 Residual Chlorine	28	毫克/公升 mg/L	0.2	1.0	0.5	≤5	✓
埃希氏大腸桿菌 *Escherichia coli*	28	菌落數/100 毫升 cfu* /100mL	0	0	0	0	✓

* cfu = Colony forming unit

註釋:
Note:

(1) "✓"表示根據六種金屬(採用兩級取樣規程)、餘氯和埃希氏大腸桿菌的測試結果，所有被隨機抽中處所的食水水質均完全符合香港食水標準。
A "✓" indicates 100% compliance of drinking water quality with the HKDWS in all randomly selected premises based on the test results for 6 metals (using the two-tier water sampling protocol), residual chlorine and *E. coli*.

(2) 其中一個處所的第一級水樣本(即「日間隨機取樣」)鉛含量為30微克／公升。按既定的兩級取樣規程，當第一級水樣本發現金屬含量超標時，隨即會測試第二級30分鐘靜水樣本以核實結果。水務署測試了相關的30分鐘靜水樣本，而結果為<1微克／公升，符合香港食水標準鉛的標準值10微克／公升，表示相關處所的食水符合香港食水標準。第一級水樣本出現超標可能是因為收集水樣本之前水龍頭靜水時間太長或偶然出現的金屬微粒引致。
The lead content of a Tier 1 Random Day Time ("RDT") sample from one of the premises was 30 µg/L. According to the established two-tier sampling protocol, the Tier 2 30-minute stagnation ("30MS") sample would be tested when exceedance in metal content was found in the Tier 1 sample to verify the test result. The Water Supplies Department tested the relevant Tier 2 30MS sample, the test result was <1 µg/L and complied with the HKDWS for lead of 10 µg/L, representing compliance of the drinking water quality of the premises concerned with the HKDWS. The exceedance of the Tier 1 RDT sample is likely due to unduly long stagnation time before sampling or sporadic presence of metal particles.

水質監測優化計劃 - 離島區
2022年1月1日至2022年12月31日
Enhanced Water Quality Monitoring Programme - Islands District
for the Period from 1/1/2022 to 31/12/2022

用戶水龍頭的水質監測數據
Monitoring Data of the samples taken at Consumers' Taps

參數 Parameter	抽取樣本處所總數 Total No. of Sampling Premises	單位 Unit	監測數據 Monitoring Data			香港食水標準 HKDWS	達標 Compliance[1]
			最低值 Minimum	最高值 Maximum	平均值 Average		
銻 Antimony	11	微克/公升 μg/L	<1	<1	<1	≤20	✓
鎘 Cadmium	11		<1	<1	<1	≤3	✓
鉻 Chromium	11		<1	<1	<1	≤50	✓
銅 Copper	11		<3	9	5	≤2 000	✓
鉛 Lead	11		<1	<1	<1	≤10	✓
鎳 Nickel	11		<1	4	1	≤70	✓
餘氯 Residual Chlorine	11	毫克/公升 mg/L	0.2	1.1	0.7	≤5	✓
埃希氏大腸桿菌 *Escherichia coli*	11	菌落數/100 毫升 cfu* /100mL	0	0	0	0	✓

* cfu = Colony forming unit

註釋:
Note:

(1) "✓"表示根據六種金屬(採用兩級取樣規程)、餘氯和埃希氏大腸桿菌的測試結果，所有被隨機抽中處所的食水水質均完全符合香港食水標準。
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