



### CERTIFICATE OF ANALYSIS

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Order number : ----  
C-O-C number : ----  
Site : ----

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Page : 1 of 4  
Work Order : HK1527165  
Date Samples Received : 24-JUL-2015  
Issue Date : 07-AUG-2015  
No. of samples received : 4  
No. of samples analysed : 4

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This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.

Signatories

Position

Authorised results for

Wong Wing, Kenneth

Manager - Metals

Inorganics



### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. The completion date of analysis is: 04-AUG-2015

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific comments for Work Order: **HK1527165**

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

Water sample(s) digested by In-house method E-3005 based on USEPA method 3005, prior to the determination of total metals.

According to the WHO Guidelines for drinking-water quality, 4th ed. 2011, the Guideline value of Lead is 0.01 mg/L (10 µg/L), Cadmium is 0.003 mg/L (3 µg/L), Nickel is 0.07 mg/L (70 µg/L) and total Chromium is 0.05 mg/L (50 µg/L), Antimony is 0.02 mg/L (20 µg/L), Arsenic is 0.01 mg/L (10 µg/L), Barium is 0.7 mg/L (700 µg/L), Boron is 2.4 mg/L (2400 µg/L), Copper is 2 mg/L (2000 µg/L), Mercury is 0.006 mg/L (6 µg/L), Selenium is 0.04 mg/L (40 µg/L), no guideline value for Zinc.



**Analytical Results**

Sub-Matrix: WATER

				Client sample ID	3515- BEFORE ERS105 TAP WATER	3515- AFTER ERS105 FILTERED WATER	3306- BEFORE ERS105 TAP WATER	3306- AFTER ERS105 FILTERED WATER	
				Client sampling date / time	[24-JUL-2015]	[24-JUL-2015]	[24-JUL-2015]	[24-JUL-2015]	
Compound	CAS Number	LOR	Unit		HK1527165-001	HK1527165-002	HK1527165-003	HK1527165-004	
<b>EG: Metals and Major Cations - Total</b>									
EG020: Antimony	7440-36-0	1	µg/L		<1	<1	<1	<1	
EG020: Arsenic	7440-38-2	10	µg/L		<10	<10	<10	<10	
EG020: Barium	7440-39-3	1	µg/L		17	<1	23	<1	
EG020: Cadmium	7440-43-9	0.2	µg/L		<0.2	<0.2	<0.2	<0.2	
EG020: Chromium	7440-47-3	1	µg/L		<1	<1	<1	<1	
EG020: Copper	7440-50-8	1	µg/L		16	<1	72	<1	
EG020: Lead	7439-92-1	1	µg/L		5	<1	167	<1	
EG020: Mercury	7439-97-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	
EG020: Nickel	7440-02-0	1	µg/L		10	<1	28	1	
EG020: Selenium	7782-49-2	10	µg/L		<10	<10	<10	<10	
EG020: Zinc	7440-66-6	10	µg/L		<10	<10	767	<10	
EG020: Boron	7440-42-8	10	µg/L		<100	<100	<100	<100	

**Laboratory Duplicate (DUP) Report**

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EG: Metals and Major Cations (QC Lot: 3993260)</b>								
HK1527165-002	3515- AFTER ERS105 FILTERED WATER	EG020: Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	0.0
		EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	<0.5	0.0
		EG020: Antimony	7440-36-0	1	µg/L	<1	<1	0.0
		EG020: Barium	7440-39-3	1	µg/L	<1	<1	0.0
		EG020: Chromium	7440-47-3	1	µg/L	<1	<1	0.0
		EG020: Copper	7440-50-8	1	µg/L	<1	<1	0.0
		EG020: Lead	7439-92-1	1	µg/L	<1	<1	0.0
		EG020: Nickel	7440-02-0	1	µg/L	<1	<1	0.0
		EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0
		EG020: Selenium	7782-49-2	10	µg/L	<10	<10	0.0
EG020: Zinc	7440-66-6	10	µg/L	<10	<10	0.0		
<b>EG: Metals and Major Cations (QC Lot: 3993261)</b>								
HK1527165-002	3515- AFTER ERS105 FILTERED WATER	EG020: Boron	7440-42-8	10	µg/L	<100	<100	0.0

**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Matrix: WATER				Method Blank (MB) Report								Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			
								Spike Concentration		Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
Method: Compound	CAS Number	LOR	Unit	Result			LCS	DCS	Low	High	Value	Control Limit			
<b>EG: Metals and Major Cations (QC Lot: 3993260)</b>															



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EG: Metals and Major Cations (QC Lot: 3993260) - Continued</b>											
EG020: Antimony	7440-36-0	1	µg/L	<1	100 µg/L	86.8	----	79	103	----	----
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	86.8	----	79	109	----	----
EG020: Barium	7440-39-3	1	µg/L	<1	100 µg/L	88.4	----	79	109	----	----
EG020: Cadmium	7440-43-9	0.2	µg/L	<0.2	100 µg/L	88.1	----	80	106	----	----
EG020: Chromium	7440-47-3	1	µg/L	<1	100 µg/L	92.2	----	77	115	----	----
EG020: Copper	7440-50-8	1	µg/L	<1	100 µg/L	91.6	----	77	113	----	----
EG020: Lead	7439-92-1	1	µg/L	<1	100 µg/L	88.4	----	80	110	----	----
EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	2 µg/L	89.5	----	75	121	----	----
EG020: Nickel	7440-02-0	1	µg/L	<1	100 µg/L	91.5	----	78	112	----	----
EG020: Selenium	7782-49-2	10	µg/L	<10	100 µg/L	88.7	----	77	109	----	----
EG020: Zinc	7440-66-6	10	µg/L	<10	100 µg/L	90.3	----	76	114	----	----
<b>EG: Metals and Major Cations (QC Lot: 3993261)</b>											
EG020: Boron	7440-42-8	10	µg/L	<10	100 µg/L	98.0	----	72	118	----	----

**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

Matrix: WATER				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
<b>EG: Metals and Major Cations (QC Lot: 3993260)</b>										
HK1527165-001	3515- BEFORE ERS105 TAP WATER	EG020: Antimony	7440-36-0	100 µg/L	85.1	----	75	125	----	----
		EG020: Arsenic	7440-38-2	100 µg/L	86.4	----	75	125	----	----
		EG020: Barium	7440-39-3	100 µg/L	84.2	----	75	125	----	----
		EG020: Cadmium	7440-43-9	100 µg/L	86.5	----	75	125	----	----
		EG020: Chromium	7440-47-3	100 µg/L	93.5	----	75	125	----	----
		EG020: Copper	7440-50-8	100 µg/L	86.8	----	75	125	----	----
		EG020: Lead	7439-92-1	100 µg/L	87.2	----	75	125	----	----
		EG020: Mercury	7439-97-6	2 µg/L	91.1	----	75	125	----	----
		EG020: Nickel	7440-02-0	100 µg/L	89.9	----	75	125	----	----
		EG020: Selenium	7782-49-2	100 µg/L	90.6	----	75	125	----	----
EG020: Zinc	7440-66-6	100 µg/L	86.7	----	75	125	----	----		
<b>EG: Metals and Major Cations (QC Lot: 3993261)</b>										
HK1527165-001	3515- BEFORE ERS105 TAP WATER	EG020: Boron	7440-42-8	100 µg/L	99.0	----	75	125	----	----