

Annex F1

Calibration Certificates for  
Surface Water Quality  
Monitoring Equipment



## REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR IVAN LEUNG	WORK ORDER:	HK1923829
CLIENT:	ALS TECHNICHEM (HK) PTY LTD		
ADDRESS:	11/F., CHUNG SHUN KNITTING CENTRE, 1-3 WING YIP STREET, Kwai Chung, N.T. HONG KONG	SUB-BATCH:	0
		LABORATORY:	HONG KONG
		DATE RECEIVED:	05-Jun-2019
		DATE OF ISSUE:	05-Jun-2019

### COMMENTS

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

**The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the ALS Hong Kong laboratory or quoted from relevant international standards.**

**The "Next Calibration Date" is recommended according to best practice principle as practised by the ALS Hong Kong laboratory or quoted from relevant international standards.**

Scope of Test:	Conductivity, Dissolved Oxygen, pH Value, Salinity and Temperature
Equipment Type:	Multifunctional Meter
Brand Name:	YSI
Model No.:	Professional Plus
Serial No.:	JC024046
Equipment No.:	HK1274
Date of Calibration:	05-Jun-2019

### NOTES

This is the Final Report and supersedes any preliminary report with this batch number.

Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

Mr Chan Siu Ming, Vico  
Manager - Inorganic

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# REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



WORK ORDER: HK1923829  
 SUB-BATCH: 0  
 DATE OF ISSUE: 05-Jun-2019  
 CLIENT: ALS TECHNICHEM (HK) PTY LTD

Equipment Type: Multifunctional Meter  
 Brand Name: YSI  
 Model No.: Professional Plus  
 Serial No.: JC024046  
 Equipment No.: HK1274  
 Date of Calibration: 05-Jun-2019                      Date of Next Calibration: 05-Sep-2019

**PARAMETERS:**

Conductivity                      Method Ref: APHA (21st edition), 2510B

Expected Reading ( $\mu\text{S/cm}$ )	Displayed Reading ( $\mu\text{S/cm}$ )	Tolerance (%)
146.9	141.6	-3.6
6667	6150	-7.8
12890	12730	-1.2
58670	57983	-1.2
	Tolerance Limit (%)	$\pm 10.0$

Dissolved Oxygen                      Method Ref: APHA (21st edition), 4500-O: G

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2.28	2.28	+0.00
5.26	5.22	-0.04
7.53	7.60	+0.07
	Tolerance Limit (mg/L)	$\pm 0.20$

pH Value                                      Method Ref: APHA (21st edition), 4500H:B

Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)
4.0	4.09	+0.09
7.0	7.05	+0.05
10.0	9.90	-0.10
	Tolerance Limit (pH unit)	$\pm 0.20$

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

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Mr Chan Siu Ming, Vico  
 Manager - Inorganic

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WORK ORDER: HK1923829  
 SUB-BATCH: 0  
 DATE OF ISSUE: 05-Jun-2019  
 CLIENT: ALS TECHNICHEM (HK) PTY LTD

Equipment Type: Multifunctional Meter  
 Brand Name: YSI  
 Model No.: Professional Plus  
 Serial No.: JC024046  
 Equipment No.: HK1274  
 Date of Calibration: 05-Jun-2019                      Date of Next Calibration: 05-Sep-2019

**PARAMETERS:**

Salinity                      Method Ref: APHA (21st edition), 2520B

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.00	--
10	9.84	-1.6
20	19.79	-1.1
30	30.58	+1.9
	Tolerance Limit (%)	±10.0

Temperature

Method Ref: Section 6 of International Accreditation New Zealand Technical Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)
9.5	9.7	+0.2
23.0	22.7	-0.3
40.5	39.7	-0.8
	Tolerance Limit (°C)	±2.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

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 Manager - Inorganic