

Annex F1

Calibration Certificates for  
Surface Water Quality  
Monitoring Equipment



## REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR BEN TAM	WORK ORDER:	HK2003125
CLIENT:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING		
ADDRESS:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	SUB-BATCH:	0
		LABORATORY:	HONG KONG
		DATE RECEIVED:	22-Jan-2020
		DATE OF ISSUE:	31-Jan-2020

### SPECIFIC COMMENTS

Equipment information (Brand name, Model No., Serial No. and Equipment No.) is provided by client. 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, Turbidity, Salinity and Temperature
Equipment Type:	Multifunctional Meter
Brand Name/ Model No.:	YSI Professional DSS
Serial No./ Equipment No.:	17B102764/17B100758 (EQW019)
Date of Calibration:	31-Jan-2020

### GENERAL COMMENTS

This is the Final Report and supersedes any preliminary report with this batch number. All pages of this report have been checked and approved for release.

Ms. Lin Wai Yu, Iris  
Assistant Manager - Inorganic

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**WORK ORDER:** HK2003125  
**SUB-BATCH:** 0  
**DATE OF ISSUE:** 31-Jan-2020  
**CLIENT:** ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING

**Equipment Type:** Multifunctional Meter  
**Brand Name/ Model No.:** YSI Professional DSS  
**Serial No./ Equipment No.:** 17B102764/17B100758 (EQW019)  
**Date of Calibration:** 31-Jan-2020      **Date of Next Calibration:** 30-Apr-2020

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

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)
146.9	147.0	+0.1
6667	6374	-4.4
12890	12392	-3.9
58670	56491	-3.7
	Tolerance Limit (%)	±10.0

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2.22	2.20	-0.02
4.48	4.55	+0.07
6.76	6.66	-0.10
	Tolerance Limit (mg/L)	±0.20

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

Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)
4.0	4.10	+0.10
7.0	6.98	-0.02
10.0	9.92	-0.08
	Tolerance Limit (pH unit)	±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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Ms. Lin Wai Yu, Iris  
 Assistant Manager - Inorganic

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 Date of Calibration: 31-Jan-2020      Date of Next Calibration: 30-Apr-2020

**PARAMETERS:**

Turbidity      Method Ref: APHA (21st edition), 2130B

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.18	--
4	4.20	+5.0
40	38.21	-4.5
80	82.04	+2.6
400	394.35	-1.4
800	780.12	-2.5
	Tolerance Limit (%)	±10.0

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.00	--
10	9.47	-5.3
20	18.72	-6.4
30	30.05	+0.2
	Tolerance Limit (%)	±10.0

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PARAMETERS:  
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)
10.0	10.4	+0.4
20.5	19.4	-1.1
41.0	39.3	-1.7
	Tolerance Limit (°C)	±2.0

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