

ANNEX H

CALIBRATION CERTIFICATES FOR MARINE WATER QUALITY MONITORING EQUIPMENT



REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	SAMUEL LAI	WORK ORDER:	HK2112582
CLIENT:	EGS (ASIA) LTD		
ADDRESS:	15/F., NORTH POINT INDUSTRIAL BUILDING, 499 KING'S ROAD, NORTH POINT, HONG KONG	SUB-BATCH:	0
		LABORATORY:	HONG KONG
		DATE RECEIVED:	31-Mar-2021
		DATE OF ISSUE:	01-Apr-2021

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 laboratory or quoted from relevant international standards. The validity of equipment/ meter performance only applies to the result(s) stated in the report.

Equipment Type:	Multifunctional Meter
Service Nature:	Performance Check
Scope:	Dissolved Oxygen, pH Value, Turbidity, Salinity and Temperature
Brand Name/ Model No.:	[YSI]/ [6920]
Serial No./ Equipment No.:	[08C100240]/ [MPP30]
Date of Calibration:	31-March-2021

GENERAL COMMENTS

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

Ms. Lin Wai Yu, Iris
Assistant Manager - Inorganic

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



WORK ORDER: HK2112582
 SUB-BATCH: 0
 DATE OF ISSUE: 01-Apr-2021
 CLIENT: EGS (ASIA) LTD

Equipment Type: Multifunctional Meter
 Brand Name/ Model No.: [YSI]/ [6920]
 Serial No./ Equipment No.: [08C100240]/ [MPP30]
 Date of Calibration: 31-March-2021

PARAMETERS:

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.11	3.22	+0.11
5.37	5.38	+0.01
8.22	8.18	-0.04
	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	3.93	-0.07
7.0	7.01	+0.01
10.0	10.00	+0.00
	Tolerance Limit (pH unit)	±0.20

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.0	--
4	4.0	+0.0
40	40.1	+0.3
80	78.9	-1.4
	Tolerance Limit (%)	±10.0

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

Ms. Lin Wai Yu, Iris
 Assistant Manager - Inorganic

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WORK ORDER: HK2112582
 SUB-BATCH: 0
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 CLIENT: EGS (ASIA) LTD

Equipment Type: Multifunctional Meter
 Brand Name/ Model No.: [YSI]/ [6920]
 Serial No./ Equipment No.: [08C100240]/ [MPP30]
 Date of Calibration: 31-March-2021

PARAMETERS:

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.25	--
10	10.72	+7.2
20	20.36	+1.8
30	30.04	+0.1
	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)
12.5	11.77	-0.7
23.0	22.45	-0.6
41.0	39.25	-1.8
	Tolerance Limit (°C)	±2.0

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

Ms. Lin Wai Yu, Iris
 Assistant Manager - Inorganic



REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	SAMUEL LAI	WORK ORDER:	HK2112580
CLIENT:	EGS (ASIA) LTD		
ADDRESS:	15/F., NORTH POINT INDUSTRIAL BUILDING, 499 KING'S ROAD, NORTH POINT, HONG KONG	SUB-BATCH:	0
		LABORATORY:	HONG KONG
		DATE RECEIVED:	31-Mar-2021
		DATE OF ISSUE:	01-Apr-2021

SPECIFIC COMMENTS

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Equipment Type:	Multifunctional Meter
Service Nature:	Performance Check
Scope:	Dissolved Oxygen, pH Value, Turbidity, Salinity and Temperature
Brand Name/ Model No.:	[YSI]/ [6920]
Serial No./ Equipment No.:	[16L100580]/ [MPP57]
Date of Calibration:	31-March-2021

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



WORK ORDER: HK2112580
 SUB-BATCH: 0
 DATE OF ISSUE: 01-Apr-2021
 CLIENT: EGS (ASIA) LTD

Equipment Type: Multifunctional Meter
 Brand Name/ Model No.: [YSI]/ [6920]
 Serial No./ Equipment No.: [16L100580]/ [MPP57]
 Date of Calibration: 31-March-2021

PARAMETERS:

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.72	3.79	+0.07
5.89	5.97	+0.08
8.25	8.33	+0.08
	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	3.96	-0.04
7.0	7.01	+0.01
10.0	10.01	+0.01
	Tolerance Limit (pH unit)	±0.20

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.0	--
4	3.8	-5.0
40	40.2	+0.5
80	80.3	+0.4
	Tolerance Limit (%)	±10.0

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

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



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 CLIENT: EGS (ASIA) LTD

Equipment Type: Multifunctional Meter
 Brand Name/ Model No.: [YSI]/ [6920]
 Serial No./ Equipment No.: [16L100580]/ [MPP57]
 Date of Calibration: 31-March-2021

PARAMETERS:

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.19	--
10	10.17	+1.7
20	19.04	-4.8
30	29.98	-0.1
	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)
12.0	11.91	-0.1
21.0	21.83	+0.8
36.5	36.88	+0.4
	Tolerance Limit (°C)	±2.0

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

Ms. Lin Wai Yu, Iris
 Assistant Manager - Inorganic



REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	BEN TAM	WORK ORDER:	HK2115892
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:	21-Apr-2021
		DATE OF ISSUE:	28-Apr-2021

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 laboratory or quoted from relevant international standards.

The “Next Calibration Date” is recommended according to best practice principle as practised by the laboratory or quoted from relevant international standards.

The validity of equipment/ meter performance only applies to the result(s) stated in the report.

Equipment Type:	Multifunctional Meter
Service Nature:	Performance Check
Scope:	Conductivity, Dissolved Oxygen, pH Value, Turbidity, Salinity and Temperature
Brand Name/ Model No.:	[YSI]/ [Professional DSS]
Serial No./ Equipment No.:	[17B102764/17B100758]/ [EQW019]
Date of Calibration:	27-April-2021

GENERAL COMMENTS

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Mr Chan Siu Ming, Vico
Manager - Inorganic

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



WORK ORDER: HK2115892
 SUB-BATCH: 0
 DATE OF ISSUE: 28-Apr-2021
 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: 27-April-2021 Date of Next Calibration: 27-July-2021

PARAMETERS:

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

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)
146.9	153.2	+4.3
6667	6371	-4.4
12890	12944	+0.4
58670	58393	-0.5
Tolerance Limit (%)		±10.0

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.52	3.50	-0.02
5.94	5.87	-0.07
7.12	7.08	-0.04
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	7.16	+0.16
10.0	9.89	-0.11
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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 Manager - Inorganic

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



WORK ORDER: HK2115892
 SUB-BATCH: 0
 DATE OF ISSUE: 28-Apr-2021
 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: 27-April-2021 Date of Next Calibration: 27-July-2021

PARAMETERS:

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.64	--
4	4.04	+1.0
40	38.66	-3.4
80	80.07	+0.1
400	392.82	-1.8
800	802.32	+0.3
	Tolerance Limit (%)	±10.0

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.02	--
10	10.56	+5.6
20	19.50	-2.5
30	30.30	+1.0
	Tolerance Limit (%)	±10.0

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 Manager - Inorganic

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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: 27-April-2021 Date of Next Calibration: 27-July-2021

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)
10.5	10.3	-0.2
21.0	20.8	-0.2
40.5	40.1	-0.4
	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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