

ANNEX H

CALIBRATION CERTIFICATES FOR MARINE WATER QUALITY MONITORING EQUIPMENT



REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	SAMUEL LAI	WORK ORDER:	HK2112581
CLIENT:	EGS (ASIA) LTD	SUB- BATCH:	0
ADDRESS:	15/F., NORTH POINT INDUSTRIAL BUILDING, 499 KING'S ROAD, NORTH POINT, HONG KONG	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]/ [6820]
Serial No./ Equipment No.:	[02J0058-AB]/ [MPP16]
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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WORK ORDER: HK2112581
SUB- BATCH: 0
DATE OF ISSUE: 01-Apr-2021
CLIENT: EGS (ASIA) LTD

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [6820]
Serial No./ Equipment No.: [02]0058-AB/ [MPP16]
Date of Calibration: 31-March-2021

PARAMETERS:

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.49	3.60	+0.11
5.35	5.54	+0.19
7.99	8.00	+0.01
	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	3.92	-0.08
7.0	7.00	+0.00
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	4.1	+2.5
40	39.8	-0.5
80	80.2	+0.3
	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: HK2112581
SUB- BATCH: 0
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CLIENT: EGS (ASIA) LTD

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [6820]
Serial No./ Equipment No.: [02]0058-AB/ [MPP16]
Date of Calibration: 31-March-2021

PARAMETERS:

Salinity

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.06	--
10	10.37	+3.7
20	19.79	-1.1
30	30.00	+0.0
	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)
10.0	10.67	+0.7
21.5	22.69	+1.2
42.0	43.20	+1.2
	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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Assistant Manager - Inorganic



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CONTACT: SAMUEL LAI
CLIENT: EGS (ASIA) LTD
ADDRESS: 15/F., NORTH POINT INDUSTRIAL BUILDING,
499 KING'S ROAD,
NORTH POINT, HONG KONG

WORK ORDER: HK2112582
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.: [08C100240]/ [MPP30]
Date of Calibration: 31-March-2021

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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), 4500: 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

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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.

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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]/ [6820]
Serial No./ Equipment No.:	[13H103324]/ [MPP45]
Date of Calibration:	31-March-2021

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CLIENT: EGS (ASIA) LTD

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [6820]
Serial No./ Equipment No.: [13H103324]/ [MPP45]
Date of Calibration: 31-March-2021

PARAMETERS:

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.70	3.86	+0.16
5.68	5.72	+0.04
8.01	8.00	-0.01
	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	3.99	-0.01
7.0	7.01	+0.01
10.0	10.02	+0.02
	Tolerance Limit (pH unit)	±0.20

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.0	--
4	3.6	-10.0
40	40.1	+0.3
80	79.4	-0.7
	Tolerance Limit (%)	±10.0

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Equipment Type: Multifunctional Meter
Brand Name/
Model No.: [YSI]/ [6820]
Serial No./
Equipment No.: [13H103324]/ [MPP45]
Date of Calibration: 31-March-2021

PARAMETERS:

Salinity

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.13	--
10	10.16	+1.6
20	19.22	-3.9
30	30.01	+0.0
	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)
10.0	9.99	-0.0
23.5	22.80	-0.7
42.5	41.70	-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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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	SAMUEL LAI	WORK ORDER:	HK2112580
CLIENT:	EGS (ASIA) LTD	SUB- BATCH:	0
ADDRESS:	15/F., NORTH POINT INDUSTRIAL BUILDING, 499 KING'S ROAD, NORTH POINT, HONG KONG	LABORATORY:	HONG KONG
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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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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), 4500: 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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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.

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