

ANNEX H

CALIBRATION CERTIFICATES FOR MARINE WATER QUALITY MONITORING EQUIPMENT



REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	SAMUEL LAI	WORK ORDER:	HK2141352
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:	12-Oct-2021
		DATE OF ISSUE:	15-Oct-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]/ [6920V2-M]
Serial No./ Equipment No.:	[08C100240]/ [MPP30]
Date of Calibration:	12-October-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: HK2141352
SUB- BATCH: 0
DATE OF ISSUE: 15-Oct-2021
CLIENT: EGS (ASIA) LTD

Equipment Type: Multifunctional Meter
Brand Name/
Model No.: [YSI]/ [6920V2-M]
Serial No./
Equipment No.: [08C100240]/ [MPP30]
Date of Calibration: 12-October-2021

PARAMETERS:

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
1.65	1.78	+0.13
3.85	3.90	+0.05
7.57	7.56	-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	4.17	+0.17
7.0	7.02	+0.02
10.0	10.03	+0.03
	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.

Ms. Lin Wai Yu, Iris
Assistant Manager - Inorganic

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WORK ORDER: HK2141352
 SUB- BATCH: 0
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 CLIENT: EGS (ASIA) LTD

Equipment Type: Multifunctional Meter
 Brand Name/ Model No.: [YSI]/ [6920V2-M]
 Serial No./ Equipment No.: [08C100240]/ [MPP30]
 Date of Calibration: 12-October-2021

PARAMETERS:

Turbidity

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.0	--
4	4.0	+0.0
40	39.8	-0.5
80	80.1	+0.1
	Tolerance Limit (%)	±10.0

Salinity

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.00	--
10	10.00	+0.0
20	20.03	+0.2
30	29.99	-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)
11.5	11.51	+0.0
25.5	25.63	+0.1
43.5	43.50	+0.0
	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:	HK2134869
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:	27-Aug-2021
		DATE OF ISSUE:	30-Aug-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]/ [6820V2-M]
Serial No./ Equipment No.:	[09H101347]/ [MPP37]
Date of Calibration:	27-August-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: HK2134869
SUB- BATCH: 0
DATE OF ISSUE: 30-Aug-2021
CLIENT: EGS (ASIA) LTD

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [6820V2-M]
Serial No./ Equipment No.: [09H101347]/ [MPP37]
Date of Calibration: 27-August-2021

PARAMETERS:

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.40	3.45	+0.05
5.54	5.68	+0.14
7.45	7.59	+0.14
	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	3.98	-0.02
7.0	6.96	-0.04
10.0	9.82	-0.18
	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

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Equipment Type: Multifunctional Meter
 Brand Name/ Model No.: [YSI]/ [6820V2-M]
 Serial No./ Equipment No.: [09H101347]/ [MPP37]
 Date of Calibration: 27-August-2021

PARAMETERS:

Turbidity

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.0	--
4	3.9	-2.5
40	38.9	-2.8
80	81.0	+1.3
	Tolerance Limit (%)	±10.0

Salinity

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.01	--
10	9.55	-4.5
20	18.67	-6.6
30	29.92	-0.3
	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)
10.5	11.12	+0.6
19.0	19.58	+0.6
39.0	39.60	+0.6
	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



REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	SAMUEL LAI	WORK ORDER:	HK2141361
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:	12-Oct-2021
		DATE OF ISSUE:	15-Oct-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]/ [6920V2-M]
Serial No./ Equipment No.:	[16L100579]/ [MPP56]
Date of Calibration:	12-October-2021

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SUB- BATCH: 0
DATE OF ISSUE: 15-Oct-2021
CLIENT: EGS (ASIA) LTD

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [6920V2-M]
Serial No./ Equipment No.: [16L100579]/ [MPP56]
Date of Calibration: 12-October-2021

PARAMETERS:

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2.04	2.21	+0.17
4.32	4.44	+0.12
7.58	7.58	+0.00
	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	7.04	+0.04
10.0	9.82	-0.18
	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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CLIENT: EGS (ASIA) LTD

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [6920V2-M]
Serial No./ Equipment No.: [16L100579]/ [MPP56]
Date of Calibration: 12-October-2021

PARAMETERS:

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	79.5	-0.6
	Tolerance Limit (%)	±10.0

Salinity

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.00	--
10	10.08	+0.8
20	20.00	+0.0
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)
11.0	11.35	+0.4
25.0	25.35	+0.4
43.5	43.51	+0.0
	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



REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	SAMUEL LAI	WORK ORDER:	HK2134871
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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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]/ [6920V2-M]
Serial No./ Equipment No.:	[16L100580]/ [MPP57]
Date of Calibration:	30-August-2021

GENERAL COMMENTS

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WORK ORDER: HK2134871
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CLIENT: EGS (ASIA) LTD

Equipment Type: Multifunctional Meter
Brand Name/
Model No.: [YSI]/ [6920V2-M]
Serial No./
Equipment No.: [16L100580]/ [MPP57]
Date of Calibration: 30-August-2021

PARAMETERS:

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.44	3.50	+0.06
5.44	5.59	+0.15
7.35	7.48	+0.13
	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	3.86	-0.14
7.0	6.84	-0.16
10.0	9.85	-0.15
	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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Equipment Type: Multifunctional Meter
 Brand Name/ Model No.: [YSI]/ [6920V2-M]
 Serial No./ Equipment No.: [16L100580]/ [MPP57]
 Date of Calibration: 30-August-2021

PARAMETERS:

Turbidity

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.0	--
4	4.1	+2.5
40	39.2	-2.0
80	78.9	-1.4
	Tolerance Limit (%)	±10.0

Salinity

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.01	--
10	9.58	-4.2
20	18.67	-6.6
30	29.90	-0.3
	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)
10.5	11.72	+1.2
19.0	19.52	+0.5
40.0	41.08	+1.1
	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