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APPENDIX G

CALIBRATION CERTIFICATES FOR
MARINE WATER QUALITY MONITORING
EQUIPMENT



專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED

Unit 10, 5/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BC090046
Date of Issue : 15 September 2023
Page No. : 1 of 2

PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Flat 2207, Yu Fun House Yu Chui Court, Shatin
New Territories (HK) Hong Kong

PART B - SAMPLE INFORMATION

Name of Equipment : YSI ProDSS (Multi-Parameters)
Manufacturer : YSI (a xylem brand)
Serial Number : 16H104233
Date of Received : 15 September 2023
Date of Calibration : 15 September 2023
Date of Next Calibration : 14 December 2023
Request No. : D-BC090046

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Test Parameter	Reference Method
pH value	APHA 21e 4500-H ⁺ B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure
Salinity	APHA 21e 2520 B
Dissolved oxygen	APHA 23e 4500-O G (Membrane Electrode Method)
Turbidity	APHA 21e 2130 B (Nephelometric Method)
Conductivity	APHA 21e 2510 B

PART D - CALIBRATION RESULT

(1) pH value

Target (pH unit)	Display Reading (pH unit)	Tolerance	Result
4.00	4.06	0.06	Satisfactory
7.42	7.48	0.06	Satisfactory
10.01	10.09	0.08	Satisfactory

Tolerance of pH value should be less than ± 0.2 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Display Reading (°C)	Tolerance	Result
12	12.0	0.0	Satisfactory
26	26.1	0.1	Satisfactory
39	38.9	-0.1	Satisfactory

Tolerance of Temperature should be less than ± 2.0 (°C)

(3) Salinity

Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	10.10	1.00	Satisfactory
20	19.91	-0.45	Satisfactory
30	29.88	-0.40	Satisfactory

Tolerance of Salinity should be less than ± 10.0 (%)

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Test Report No. : R-BC090046
Date of Issue : 15 September 2023
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(4) Dissolved oxygen

Expected Reading (mg/L)	Display Reading (mg/L)	Tolerance	Result
7.97	8.21	0.24	Satisfactory
6.81	6.47	-0.34	Satisfactory
4.65	4.59	-0.06	Satisfactory
0.17	0.40	0.23	Satisfactory

Tolerance of Dissolved oxygen should be less than ± 0.5 (mg/L)

(5) Turbidity

Expected Reading (NTU)	Display Reading (NTU)	Tolerance (%)	Result
0	0.05	--	Satisfactory
10	9.88	-1.20	Satisfactory
20	19.9	-0.50	Satisfactory
100	97.3	-2.70	Satisfactory
800	818.84	2.40	Satisfactory

Tolerance of Turbidity should be less than ± 10.0 (%)

(6) Conductivity

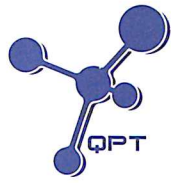
Expected Reading ($\mu\text{S/cm at } 25^\circ\text{C}$)	Display Reading	Tolerance (%)	Result
146.9	150	2.11	Satisfactory
1412	1281	-9.28	Satisfactory
12890	12796	-0.73	Satisfactory
58670	57983	-1.17	Satisfactory
111900	113907	1.79	Satisfactory

Tolerance of Conductivity should be less than ± 10.0 (%)

Remark(s)

- The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted from relevant international standards.
- The results relate only to the calibrated equipment as received
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- The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted from relevant international standards.

--- END OF REPORT ---



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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BC090045
Date of Issue : 15 September 2023
Page No. : 1 of 2

PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Flat 2207, Yu Fun House Yu Chui Court, Shatin
New Territories (HK) Hong Kong

PART B - SAMPLE INFORMATION

Name of Equipment : YSI ProDSS (Multi-Parameters)
Manufacturer : YSI (a xylem brand)
Serial Number : 21K101468
Date of Received : 15 September 2023
Date of Calibration : 15 September 2023
Date of Next Calibration : 14 December 2023
Request No. : D-BC090045

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Test Parameter	Reference Method
pH value	APHA 21e 4500-H ⁺ B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure
Salinity	APHA 21e 2520 B
Dissolved oxygen	APHA 23e 4500-O G (Membrane Electrode Method)
Turbidity	APHA 21e 2130 B (Nephelometric Method)
Conductivity	APHA 21e 2510 B

PART D - CALIBRATION RESULT

(1) pH value

Target (pH unit)	Display Reading (pH unit)	Tolerance	Result
4.00	4.04	0.04	Satisfactory
7.42	7.50	0.08	Satisfactory
10.01	10.07	0.06	Satisfactory

Tolerance of pH value should be less than ± 0.2 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Display Reading (°C)	Tolerance	Result
12	12.0	0.0	Satisfactory
26	26.1	0.1	Satisfactory
39	38.9	-0.1	Satisfactory

Tolerance of Temperature should be less than ± 2.0 (°C)

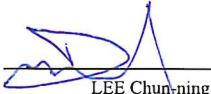
(3) Salinity

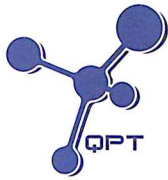
Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	9.94	-0.60	Satisfactory
20	20.09	0.45	Satisfactory
30	30.16	0.53	Satisfactory

Tolerance of Salinity should be less than ± 10.0 (%)

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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BC090045
Date of Issue : 15 September 2023
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(4) Dissolved oxygen

Expected Reading (mg/L)	Display Reading (mg/L)	Tolerance	Result
7.97	8.27	0.30	Satisfactory
6.81	6.47	-0.34	Satisfactory
4.65	4.60	-0.05	Satisfactory
0.17	0.40	0.23	Satisfactory

Tolerance of Dissolved oxygen should be less than ± 0.5 (mg/L)

(5) Turbidity

Expected Reading (NTU)	Display Reading (NTU)	Tolerance (%)	Result
0	0.10	--	Satisfactory
10	10.09	0.90	Satisfactory
20	18.88	-5.60	Satisfactory
100	96.8	-3.20	Satisfactory
800	820.31	2.50	Satisfactory

Tolerance of Turbidity should be less than ± 10.0 (%)

(6) Conductivity

Expected Reading ($\mu\text{S/cm at } 25^\circ\text{C}$)	Display Reading	Tolerance (%)	Result
146.9	151	2.79	Satisfactory
1412	1278	-9.49	Satisfactory
12890	12906	0.12	Satisfactory
58670	59334	1.13	Satisfactory
111900	112867	0.86	Satisfactory

Tolerance of Conductivity should be less than ± 10.0 (%)

Remark(s)

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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BC110058
Date of Issue : 20 November 2023
Page No. : 1 of 2

PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Flat 2207, Yu Fun House Yu Chui Court, Shatin
New Territories (HK) Hong Kong

PART B - SAMPLE INFORMATION

Name of Equipment : YSI ProDSS (Multi-Parameters)
Manufacturer : YSI (a xylem brand)
Serial Number : 21G105356
Date of Received : 17 November 2023
Date of Calibration : 17 November 2023
Date of Next Calibration : 16 February 2024
Request No. : D-BC110058

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Test Parameter	Reference Method
pH value	APHA 21e 4500-H ⁺ B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure
Salinity	APHA 21e 2520 B
Dissolved oxygen	APHA 23e 4500-O G (Membrane Electrode Method)
Turbidity	APHA 21e 2130 B (Nephelometric Method)
Conductivity	APHA 21e 2510 B

PART D - CALIBRATION RESULT

(1) pH value

Target (pH unit)	Display Reading (pH unit)	Tolerance	Result
4.00	4.08	0.08	Satisfactory
7.42	7.50	0.08	Satisfactory
10.01	10.04	0.03	Satisfactory

Tolerance of pH value should be less than ± 0.2 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Display Reading (°C)	Tolerance	Result
10	10.0	0.0	Satisfactory
22	22.0	0.0	Satisfactory
40	40.0	0.0	Satisfactory

Tolerance of Temperature should be less than ± 2.0 (°C)

(3) Salinity

Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	9.93	-0.70	Satisfactory
20	20.13	0.65	Satisfactory

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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BC110058
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Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
30	30.26	0.87	Satisfactory

Tolerance of Salinity should be less than ± 10.0 (%)

(4) Dissolved oxygen

Expected Reading (mg/L)	Display Reading (mg/L)	Tolerance	Result
8.26	8.11	-0.15	Satisfactory
2.46	2.49	0.03	Satisfactory
1.01	1.13	0.12	Satisfactory
0.00	0.10	0.10	Satisfactory

Tolerance of Dissolved oxygen should be less than ± 0.5 (mg/L)

(5) Turbidity

Expected Reading (NTU)	Display Reading (NTU)	Tolerance (%)	Result
0	0.09	--	Satisfactory
10	9.92	-0.8	Satisfactory
20	19.83	-0.9	Satisfactory
100	98.45	-1.6	Satisfactory
800	798.20	-0.2	Satisfactory

Tolerance of Turbidity should be less than ± 10.0 (%)

(6) Conductivity

Expected Reading ($\mu\text{S/cm}$ at 25°C)	Display Reading	Tolerance (%)	Result
146.9	147.0	0.07	Satisfactory
1412	1326	-6.09	Satisfactory
12890	12424	-3.62	Satisfactory
58670	57493	-2.01	Satisfactory
111900	111556	-0.31	Satisfactory

Tolerance of Conductivity should be less than ± 10.0 (%)

Remark(s)

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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BC110059
Date of Issue : 20 November 2023
Page No. : 1 of 2

PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Flat 2207, Yu Fun House Yu Chui Court, Shatin
New Territories (HK) Hong Kong

PART B - SAMPLE INFORMATION

Name of Equipment : YSI ProDSS (Multi-Parameters)
Manufacturer : YSI (a xylem brand)
Serial Number : 21K101469
Date of Received : 17 November 2023
Date of Calibration : 17 November 2023
Date of Next Calibration : 16 February 2024
Request No. : D-BC110059

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Test Parameter	Reference Method
pH value	APHA 21e 4500-H ⁺ B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure
Salinity	APHA 21e 2520 B
Dissolved oxygen	APHA 23e 4500-O G (Membrane Electrode Method)
Turbidity	APHA 21e 2130 B (Nephelometric Method)
Conductivity	APHA 21e 2510 B

PART D - CALIBRATION RESULT

(1) pH value

Target (pH unit)	Display Reading (pH unit)	Tolerance	Result
4.00	4.07	0.07	Satisfactory
7.42	7.49	0.07	Satisfactory
10.01	9.96	-0.05	Satisfactory

Tolerance of pH value should be less than ± 0.2 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Display Reading (°C)	Tolerance	Result
10	10.0	0.0	Satisfactory
22	22.0	0.0	Satisfactory
40	40.0	0.0	Satisfactory


Tolerance of Temperature should be less than ± 2.0 (°C)

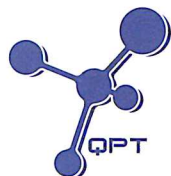
(3) Salinity

Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	9.90	-1.00	Satisfactory
20	20.11	0.55	Satisfactory

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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BC110059
Date of Issue : 20 November 2023
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Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
30	30.20	0.67	Satisfactory

Tolerance of Salinity should be less than ± 10.0 (%)

(4) Dissolved oxygen

Expected Reading (mg/L)	Display Reading (mg/L)	Tolerance	Result
8.26	8.13	-0.13	Satisfactory
2.46	2.50	0.04	Satisfactory
1.01	1.11	0.10	Satisfactory
0.00	0.10	0.10	Satisfactory

Tolerance of Dissolved oxygen should be less than ± 0.5 (mg/L)

(5) Turbidity

Expected Reading (NTU)	Display Reading (NTU)	Tolerance (%)	Result
0	0.09	--	Satisfactory
10	9.91	-0.9	Satisfactory
20	19.84	-0.8	Satisfactory
100	98.67	-1.3	Satisfactory
800	797.88	-0.3	Satisfactory

Tolerance of Turbidity should be less than ± 10.0 (%)

(6) Conductivity

Expected Reading ($\mu\text{S/cm at } 25^\circ\text{C}$)	Display Reading	Tolerance (%)	Result
146.9	148.0	0.75	Satisfactory
1412	1327	-6.02	Satisfactory
12890	12530	-2.79	Satisfactory
58670	57582	-1.85	Satisfactory
111900	111523	-0.34	Satisfactory

Tolerance of Conductivity should be less than ± 10.0 (%)

Remark(s)

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