

Appendix F Water Quality Equipment Calibration Certificate



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-BD090078
Date of Issue : 02 October 2024
Page No. : 1 of 2

PART A - CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited
Unit E, 12/F, Ford Glory Plaza 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong

PART B - SAMPLE INFORMATION

Name of Equipment : YSI ProDSS Multi Parameters
Manufacturer : YSI
Serial Number : 22C106561
Date of Received : 26 September 2024
Date of Calibration : 27 September 2024
Date of Next Calibration : 26 December 2024
Request No. : D-BD090078

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)

PART D - CALIBRATION RESULT

(1) pH value

Target (pH unit)	Display Reading (pH unit)	Tolerance	Result
4.00	4.03	0.03	Satisfactory
7.42	7.49	0.07	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
17.0	15.6	-1.4	Satisfactory
28.0	26.2	-1.8	Satisfactory
32.5	30.7	-1.8	Satisfactory

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

(3) Salinity

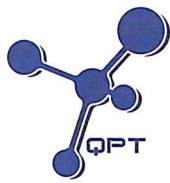
Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	10.11	1.10	Satisfactory
20	20.59	2.95	Satisfactory
30	31.25	4.17	Satisfactory

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

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AUTHORIZED
SIGNATORY:


LEE Chun-ning
Assistant Manager



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QUALITY PRO TEST-CONSULT LIMITED

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Page No. : 2 of 2

(4) Dissolved oxygen

Expected Reading (mg/L)	Display Reading (mg/L)	Tolerance	Result
7.37	7.35	-0.02	Satisfactory
5.56	5.49	-0.07	Satisfactory
2.30	2.58	0.28	Satisfactory
0.20	0.39	0.19	Satisfactory

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

(5) Turbidity

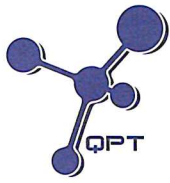
Expected Reading (NTU)	Display Reading (NTU)	Tolerance (%)	Result ^(a)
0	0.75	--	Satisfactory
10	10.92	9.2	Satisfactory
20	21.08	5.4	Satisfactory
100	102.32	2.3	Satisfactory
800	786.90	-1.6	Satisfactory

^(a) For 0 NTU, Display Reading should be less than 1 NTU

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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- "Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.
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--- END OF REPORT ---



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QUALITY PRO TEST-CONSULT LIMITED

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

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BD100074
Date of Issue : 21 October 2024
Page No. : 1 of 2

PART A - CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited
Unit E, 12/F, Ford Glory Plaza 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong

PART B - SAMPLE INFORMATION

Name of Equipment : YSI ProDSS Multi Parameters
Manufacturer : YSI
Serial Number : 22D100436
Date of Received : 17 October 2024
Date of Calibration : 21 October 2024
Date of Next Calibration : 20 January 2025
Request No. : D-BD100074

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)

PART D - CALIBRATION RESULT

(1) pH value

Target (pH unit)	Display Reading (pH unit)	Tolerance	Result
4.00	4.02	0.02	Satisfactory
7.42	7.59	0.17	Satisfactory
10.01	10.19	0.18	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
16.0	16.1	0.1	Satisfactory
25.5	25.0	-0.5	Satisfactory
40.0	39.6	-0.4	Satisfactory

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

(3) Salinity

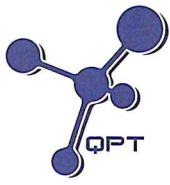
Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	9.59	-4.1	Satisfactory
20	19.72	-1.4	Satisfactory
30	30.22	0.7	Satisfactory

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

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AUTHORIZED
SIGNATORY:


LEE Chun-ning
Assistant Manager



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Test Report No. : R-BD100074
Date of Issue : 21 October 2024
Page No. : 2 of 2

(4) Dissolved oxygen

Expected Reading (mg/L)	Display Reading (mg/L)	Tolerance	Result
7.41	7.78	0.37	Satisfactory
5.61	5.21	-0.40	Satisfactory
3.49	3.54	0.05	Satisfactory
0.56	0.11	-0.45	Satisfactory

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

(5) Turbidity

Expected Reading (NTU)	Display Reading (NTU)	Tolerance ^(a) (%)	Result
0	0.54	--	Satisfactory
10	9.68	-3.2	Satisfactory
20	18.75	-6.3	Satisfactory
100	91.88	-8.1	Satisfactory
800	736.64	-7.9	Satisfactory

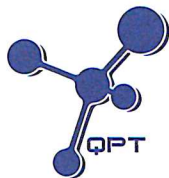
Tolerance of Turbidity should be less than ± 10.0 (%)

^(a) For 0 NTU, Display Reading should be less than 1 NTU

Remark(s)

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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BD080044
Date of Issue : 16 August 2024
Page No. : 1 of 2

PART A - CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited
Unit E, 12/F, Ford Glory Plaza 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong

PART B - SAMPLE INFORMATION

Name of Equipment : YSI ProDSS Multi Parameters
Manufacturer : YSI
Serial Number : 24G101659
Date of Received : 15 August 2024
Date of Calibration : 16 August 2024
Date of Next Calibration : 16 November 2024
Request No. : D-BD080044

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)
Oxidation-Reduction Potential	APHA 22e 2580 B
Turbidity	APHA 21e 2130 B (Nephelometric Method)

PART D - CALIBRATION RESULT

(1) pH value

Target (pH unit)	Display Reading (pH unit)	Tolerance	Result
4.00	3.96	-0.04	Satisfactory
7.42	7.32	-0.10	Satisfactory
10.01	9.95	-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
18.0	17.8	-0.2	Satisfactory
26.0	25.2	-0.8	Satisfactory
32.0	31.0	-1.0	Satisfactory

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

(3) Salinity

Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	9.75	-2.50	Satisfactory
20	19.76	-1.20	Satisfactory
30	29.92	-0.27	Satisfactory

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

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AUTHORIZED
SIGNATORY:


LEE Chun-ning
Assistant Manager



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Test Report No. : R-BD080044
Date of Issue : 16 August 2024
Page No. : 2 of 2

(4) Dissolved oxygen

Expected Reading (mg/L)	Display Reading (mg/L)	Tolerance	Result
8.09	8.17	0.08	Satisfactory
7.53	7.97	0.44	Satisfactory
6.52	6.55	0.03	Satisfactory
0.72	1.05	0.33	Satisfactory

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

(5) Oxidation-Reduction Potential

Expected Reading	Display Reading	Tolerance	Result
229	225.4	-3.6	Satisfactory

Tolerance of Oxidation-Reduction Potential should be less than ± 10.0 (mV)

(6) Turbidity

Expected Reading (NTU)	Display Reading (NTU)	Tolerance ^(a) (%)	Result
0	0.40	--	--
10	9.24	-7.6	Satisfactory
20	19.63	-1.9	Satisfactory
100	94.80	-5.2	Satisfactory
800	738.22	-7.7	Satisfactory

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

^(a) For 0 NTU, Display Reading should be less than 1 NTU

Remark(s)

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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BD080045
Date of Issue : 16 August 2024
Page No. : 1 of 2

PART A - CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited
Unit E, 12/F, Ford Glory Plaza 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong

PART B - SAMPLE INFORMATION

Name of Equipment : YSI ProDSS Multi Parameters
Manufacturer : YSI
Serial Number : 24G101660
Date of Received : 15 August 2024
Date of Calibration : 16 August 2024
Date of Next Calibration : 16 November 2024
Request No. : D-BD080045

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)
Oxidation-Reduction Potential	APHA 22e 2580 B
Turbidity	APHA 21e 2130 B (Nephelometric Method)

PART D - CALIBRATION RESULT

(1) pH value

Target (pH unit)	Display Reading (pH unit)	Tolerance	Result
4.00	4.05	0.05	Satisfactory
7.42	7.41	-0.01	Satisfactory
10.01	10.00	-0.01	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
18.0	17.3	-0.7	Satisfactory
26.0	24.5	-1.5	Satisfactory
32.0	31.6	-0.4	Satisfactory

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

(3) Salinity

Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	10.73	7.30	Satisfactory
20	21.86	9.30	Satisfactory
30	32.09	6.97	Satisfactory

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

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AUTHORIZED
SIGNATORY:


LEE Chun-ning
Assistant Manager



REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BD080045
Date of Issue : 16 August 2024
Page No. : 2 of 2

(4) Dissolved oxygen

Expected Reading (mg/L)	Display Reading (mg/L)	Tolerance	Result
8.09	8.18	0.09	Satisfactory
7.53	7.89	0.36	Satisfactory
6.52	6.27	-0.25	Satisfactory
1.92	1.57	-0.35	Satisfactory

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

(5) Oxidation-Reduction Potential

Expected Reading	Display Reading	Tolerance	Result
229	224.5	-4.5	Satisfactory

Tolerance of Oxidation-Reduction Potential should be less than ± 10.0 (mV)

(6) Turbidity

Expected Reading (NTU)	Display Reading (NTU)	Tolerance ^(a) (%)	Result
0	0.59	--	--
10	10.27	2.7	Satisfactory
20	19.59	-2.1	Satisfactory
100	93.87	-6.1	Satisfactory
800	723.00	-9.6	Satisfactory

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

^(a) For 0 NTU, Display Reading should be less than 1 NTU

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