Contract No. CM 04/2024 - Outlying Islands Sewerage Stage 2 – South Lantau Sewerage Works – Environmental Team Services (2025 - 2027)

23/F, On Hong Commercial Building, 145 Hennessy Road, Wan Chai, Hong Kong

Appendix 5.1 Calibration Certificates of the Water Quality Monitoring Equipment



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-BE010374

Date of Issue

: 22 January 2025

Page No.

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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

Serial Number :

16H104233

Date of Received:

17 January 2025

Date of Calibration:

17 January 2025 16 April 2025

Date of Next Calibration: Request No.:

D-BE010374

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	4.05	0.05	Satisfactory
7.42	7.37	-0.05	Satisfactory
10.01	10.04	0.03	Satisfactory

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

(2) Temperature

Reading of Ref. thermometer (°C)	Display Reading (°C)	Tolerance	Result
10.0	10.1	0.1	Satisfactory
20,0	18.6	-1.4	Satisfactory
40.0	41.2	1.2	Satisfactory

Tolerance of Temperature should be less than \pm 2.0 ($^{\circ}C$)

(3) Salinity

Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	9.82	-1.80	Satisfactory
20	21.60	8.00	Satisfactory
30	30.10	0.33	Satisfactory

Tolerance of Salinity should be less than \pm 10.0 (%)

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AUTHORIZED SIGNATORY:



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(4) Dissolved oxygen

Expected Reading (mg/L)	Display Reading (mg/L)	Tolerance	Result
8.80	8.84	0.04	Satisfactory
3.87	3.52	-0.35	Satisfactory
1.36	1.12	-0.24	Satisfactory
0.56	0.25	-0.31	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	0.04		Satisfactory
10	10.60	6.0	Satisfactory
20	19.20	-4.0	Satisfactory
100	106.80	6.8	Satisfactory
800	764.00	-4.5	Satisfactory

Tolerance of Turbidity should be less than \pm 10.0 (%)

(6) Conductivity

Expected Reading (μS/cm at 25°C)	Display Reading	Tolerance (%)	Result
146.9	142.4	-3.1	Satisfactory
1412	1472	4.2	Satisfactory
12890	12780	-0.9	Satisfactory
58670	59276	1.0	Satisfactory
111900	114260	2.1	Satisfactory

Tolerance of Conductivity should be less than \pm 10.0 (%)

Remark(s)

- The "Date of Next Calibration" is recommended according to best practice principles followed by QPT or relevant international standards.
- The results relate only to the calibrated equipment as received.
- The performance of the equipment stated in this report is checked using independent reference material, with results compared against a calibrated secondary source.
- "Displayed Reading" denotes the figure shown on the item under calibration/checking, regardless of equipment precision or significant figures.
- The "Tolerance Limit" mentioned is the acceptance criteria applicable to similar equipment used by Quality Pro Test-Consult Ltd. or quoted from relevant international standards.

--- END OF REPORT ---

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

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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No.

: R-BE010372

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: 21 January 2025

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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:

IZV

Serial Number:

17H105557

Date of Received:

17 January 2025

Date of Calibration:

17 January 2025

Date of Next Calibration:

16 April 2025

Request No.:

D-BE010372

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	4.02	0.02	Satisfactory
7.42	7.44	0.02	Satisfactory
10.01	10.02	0.01	Satisfactory

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

(2) Temperature

Reading of Ref. thermometer (°C)	Display Reading (°C)	Tolerance	Result
10.0	9.9	-0.1	Satisfactory
20.0	19.2	-0.8	Satisfactory
40.0	41.6	1.6	Satisfactory

Tolerance of Temperature should be less than $\pm\,2.0$ (°C)

(3) Salinity

Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	10.02	0.20	Satisfactory
20	19.80	-1.00	Satisfactory
30	29.40	-2.00	Satisfactory

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

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AUTHORIZED SIGNATORY:

FUNG Yuen-ching Laboratory Manager



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

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PART D - CALIBRATION RESULT

(4) Dissolved oxygen

Expected Reading (mg/L)	Display Reading (mg/L)	Tolerance	Result
8.80	8.82	0.02	Satisfactory
3.87	3.55	-0.32	Satisfactory
1.36	1.18	-0.18	Satisfactory
0.56	0.26	-0.30	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	0.05		Satisfactory
10	9.80	-2.0	Satisfactory
20	20.40	2.0	Satisfactory
100	97.20	-2.8	Satisfactory
800	836.00	4.5	Satisfactory

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

(6) Conductivity

Expected Reading (μS/cm at 25°C)	Display Reading	Tolerance (%)	Result
146.9	140.6	-4.3	Satisfactory
1412	1492	5.7	Satisfactory
12890	12672	-1.7	Satisfactory
58670	57260	-2.4	Satisfactory
111900	108240	-3.3	Satisfactory

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

Remark(s)

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



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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No.

: R-BE020058

Date of Issue

: 20 February 2025

Page No.

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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

Serial Number:

S/N: 21K101469

Date of Received:

14 February 2025

Date of Calibration : Date of Next Calibration : 14 February 2025 13 May 2025

Request No.:

D-BE020058

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	4.09	0.09	Satisfactory
7.42	7.40	-0.02	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
10.0	10.0	0.0	Satisfactory
20.0	20.0	0.0	Satisfactory
40.0	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	10.04	0.40	Satisfactory
20	20.10	0.50	Satisfactory
30	29.82	-0.60	Satisfactory

Tolerance of Salinity should be less than \pm 10.0 (%)

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(4) Dissolved oxygen

Expected Reading (mg/L)	Display Reading (mg/L)	Tolerance	Result
7.59	7.92	0.33	Satisfactory
4.05	4.18	0.13	Satisfactory
1.14	1.25	0.11	Satisfactory
0.01	0.19	0.18	Satisfactory

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

(5) Turbidity

Expected Reading (NTU)	Display Reading (NTU)	Tolerance (a)	Result
0	0.09		Satisfactory
10	9.94	-0.6	Satisfactory
20	21.16	5.8	Satisfactory
100	103.33	3.3	Satisfactory
800	812.82	1.6	Satisfactory

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

(6) Conductivity

Expected Reading (μS/cm at 25°C)	Display Reading	Tolerance (%)	Result
146.9	151.1	2.9	Satisfactory
1412	1541	9.1	Satisfactory
12890	13060	1.3	Satisfactory
58670	58772	0.2	Satisfactory
111900	114643	2.5	Satisfactory

Tolerance of Conductivity should be less than $\pm~10.0$ (%)

Remark(s)

- The "Date of Next Calibration" is recommended according to best practice principles followed by QPT or relevant international standards.
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- The "Tolerance Limit" mentioned is the acceptance criteria applicable to similar equipment used by Quality Pro Test-Consult Ltd. or quoted from relevant international standards.

--- END OF REPORT ---

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