# Appendix D

Copies of
Calibration
Certificates for
Water Quality
Monitoring



## 專業化驗有限公司 **OUALITY PRO TEST-CONSULT LIMITED**

Unit 10. 14/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

Report No.

BA030094

Date of Issue

26 March 2021

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, Hong Kong Attn: Mr. Thomas WONG

#### PART B - DESCRIPTION

Name of Equipment

YSI ProDSS (Multi-Parameters)

Manufacturer

YSI (a xylem brand)

Serial Number

15M100005

Date of Received

Mar 25, 2021

Date of Calibration

Mar 25, 2021

Date of Next Calibration(a)

Jun 24, 2021

#### PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

**Parameter** 

Reference Method

pH at 25°C

APHA 21e 4500-H<sup>+</sup> B

Dissolved Oxygen Conductivity at 25°C APHA 21e 4500-O G APHA 21e 2510 B

Salinity

APHA 21e 2520 B

Turbidity

APHA 21e 2130 B Section 6 of international Accreditation New Zealand Technical

Temperature

Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

## PART D - CALIBRATION RESULTS(b,c)

#### (1) pH at 25°C

Target (pH unit)	Displayed Reading(d) (pH Unit)	Tolerance(e)(pH Unit)	Results
4.00	4.02	0.02	Satisfactory
7.42	7.38	-0.04	Satisfactory
10.01	10.30	0.29	Satisfactory

Tolerance of pH should be less than ±0.20 (pH unit)

## (2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
10	10.4	0.4	Satisfactory
20	20.1	0.1	Satisfactory
48	48.3	0.3	Satisfactory

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

#### ~ CONTINUED ON NEXT PAGE ~

## Remark(s): -

The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.

The results relate only to the calibrated equipment as received

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

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

LEE Chun-ning, Desmond Senior Chemist

The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards..



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## PART D - CALIBRATION RESULTS (Cont'd)

## (3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.36	0.28	-0.08	Satisfactory
2.81	2.58	-0.23	Satisfactory
5.45	5.72	0.27	Satisfactory
8.40	8.64	0.24	Satisfactory

Tolerance limit of dissolved oxygen should be less than  $\pm 0.50$  (mg/L)

#### (4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading (µS/cm)	Displayed Reading (μS/cm)	Tolerance (%)	Results
0.001	146.9	152.1	3.54	Satisfactory
0.01	1412	1278	-9.49	Satisfactory
0.1	12890	12810	-0.62	Satisfactory
0.5	58670	59234	0.96	Satisfactory
1.0	111900	114225	2.08	Satisfactory

Tolerance limit of conductivity should be less than ±10.0 (%)

### (5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.8	-2.00	Satisfactory
20	20.5	2.50	Satisfactory
30	29.8	-0.67	Satisfactory

Tolerance limit of salinity should be less than  $\pm 10.0$  (%)

## (6) Turbidity

Expected Reading (NTU)	Displayed Reading <sup>(f)</sup> (NTU)	Tolerance <sup>(g)</sup> (%)	Results
0	0.05		Satisfactory
10	9.8	-1.6	Satisfactory
20	18.9	-5.7	Satisfactory
100	96.4	-3.6	Satisfactory
800	822	2.8	Satisfactory

Tolerance limit of turbidity should be less than  $\pm 10.0$  (%)

Remark(s): -

<sup>~</sup> END OF REPORT ~

<sup>&</sup>lt;sup>©</sup> "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

<sup>(8)</sup> The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.



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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

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1 of 2

### PART A - CUSTOMER INFORMATION

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

Attn: Mr. Thomas WONG

#### PART B - DESCRIPTION

Name of Equipment

YSI ProDSS (Multi-Parameters)

Manufacturer

YSI (a xylem brand)

Serial Number

18A104824

Date of Received

Feb 25, 2021

Date of Calibration

Feb 25, 2021

Date of Next Calibration(a)

May 24, 2021

## PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

**Parameter** 

Reference Method

pH at 25°C

APHA 21e 4500-H+ B APHA 21e 4500-O G

Dissolved Oxygen

APHA 21e 2510 B

Conductivity at 25°C Salinity

APHA 21e 2520 B

Turbidity

APHA 21e 2130 B

Temperature

Section 6 of international Accreditation New Zealand Technical

Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

## PART D - CALIBRATION RESULTS(b,c)

#### (1) pH at 25°C

Target (pH unit)	Displayed Reading(d) (pH Unit)	Tolerance <sup>(e)</sup> (pH Unit)	Results
4.00	4.02	0.02	Satisfactory
7.42	7.45	0.03	Satisfactory
10.01	10.09	0.08	Satisfactory

Tolerance of pH should be less than ±0.20 (pH unit)

#### (2) Temperature

Reading of Ref. thermometer	Displayed Reading (°C)	Tolerance (°C)	Results
10	10.0	0.0	Satisfactory
21	20.4	-0.6	Satisfactory
41	40.9	-0.1	Satisfactory

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

#### ~ CONTINUED ON NEXT PAGE ~

#### Remark(s): -

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> LEE Chun-ning, Desmond Senior Chemist



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## PART D - CALIBRATION RESULTS (Cont'd)

#### (3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.21	0.01	-0.20	Satisfactory
4.55	6.21	1.66	Satisfactory
6.42	4.56	-1.86	Satisfactory
8.78	8.49	-0.29	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.50 (mg/L)

#### (4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading (µS/cm)	Displayed Reading (μS/cm)	Tolerance (%)	Results
0.001	146.9	146.7	-0.14	Satisfactory
0.01	1412	1436	1.70	Satisfactory
0.1	12890	12699	-1.48	Satisfactory
0.5	58670	58421	-0.42	Satisfactory
1.0	111900	111486	-0.37	Satisfactory

Tolerance limit of conductivity should be less than ±10.0 (%)

#### (5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.88	-1.20	Satisfactory
20	19.84	-0.80	Satisfactory
30	30.52	1.73	Satisfactory

Tolerance limit of salinity should be less than ±10.0 (%)

## (6) Turbidity

Expected Reading (NTU)	Displayed Reading <sup>(f)</sup> (NTU)	Tolerance <sup>(g)</sup> (%)	Results
0	0.11		Satisfactory
10	10.23	2.3	Satisfactory
20	20.45	2.3	Satisfactory
100	102.38	2.4	Satisfactory
800	798.46	-0.2	Satisfactory

Tolerance limit of turbidity should be less than ±10.0 (%)

<sup>~</sup> END OF REPORT ~

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