1

Appendix D. Calibration Certificates



CALIBRATION REPORT

Test Report No.	:	AG030105
Date of Issue	•	March 20, 2017
Page No.	:	1 of 2

PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd. Rm 811, Hin Pui House, Hin Keng Estate, Tai Wai New Territories, Hong Kong Attn: Mr. Thomas Wong

PART B - SAMPLE INFORMATION

Description of Samples	1	Titrette bottletop burette, 50ml
Brand Name	1	BRAND
Model Number	1	1224B90
Serial Number	:	10N64701
Equipment Number	:	
Date of Received	1	Mar 16, 2017
Date of Calibration	2	Mar 17, 2017
Date of Next Calibration ^(a)	1	Jun 17, 2017

PART C - CALIBRATION REQUESTED

Parameter

Reference Method

Accuracy Test

In-house Method (Gravimetric Method)

~ 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.

APPROVED SIGNATORY :

FUNG Yuen-ching Aries Laboratory Manager



專業化驗有限公司

QUALITY 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

CALIBRATION REPORT

Test Report No.	:	AG030105
Date of Issue	:	March 20, 2017
Page No.	:	2 of 2

PART D - RESULT^{(b),(c)}

Water temperature: 22 °C Relative humidity: 57% z-Factor: 1.0033

		Nominal volume (mL) at interval				
	3	3	3	3	3	
Trial	Range: (1-4)	Range: (16-19)	Range: (23-26)	Range: (34-37)	Range: (42-45	
1	2.9906	2.9810	2.9798	2.9889	2.9900	
2	2.9899	2.9908	2.9970	2.9747	2.9904	
3	2.9930	2.9884	2.9901	2.9865	2.9876	
4	2.9910	2.9844	2.9945	2.9870	2.9801	
5	2.9868	2.9863	2.9802	2.9874	2.9913	
6	2.9910	2.9887	2.9833	2.9866	2.9873	
7	2.9929	2.9877	2.9885	2.9913	2.9907	
8	2.9878	2.9881	2.9908	2.9852	2.9869	
9	2.9916	2.9914	2.9882	2.9830	2.9850	
10	2.9894	2.9883	2.9924	2.9853	2.9806	
Average	2.9904	2.9875	2.9885	2.9856	2.9870	
Standard deviation	0.0020	0.0030	0.0058	0.0044	0.0040	
Calculate volume (mL)	3.0003	2.9974	2.9983	2.9954	2.9968	
Error (%)	0.0089	-0.0877	-0.0553	-0.1519	-0.1051	
RSD (%)	0.0668	0.1011	0.1935	0.1477	0.1343	

Acceptance Criteria^(d)

Accuracy (%Error)	<±1%	< ±1%	< ±1%	< ±1%	<±1%
Precision (%RSD)	< 1%	< 1%	< 1%	< 1%	< 1%

~ END OF REPORT ~

<u>Remark(s): -</u>

The results relate only to the tested sample as received

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

The "acceptance criteria" is applicable for similar equipment used by QPT or quoted form relevant international standards. (d)

業化驗有限公司 **QUALITY 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

CALIBRATION REPORT

: AG030099A Report No. Date of Issue : April 13, 2017 1 of 2 Page No. :

PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd. Rm 811, Hin Pui House, Hin Keng Estate, Tai Wai 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	: 16J101715
Date of Received	: Mar 16, 2017
Date of Calibration	: Mar 16, 2017
Date of Next Calibration(a)	: Jun 16, 2017

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H ⁺ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical
people - The Arit	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	4.08	+0.08	Satisfactory
7.42	7.47	+0.05	Satisfactory
10.01	10.08	+0.07	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer	Displayed Reading (°C)	Tolerance (°C)	Results
10.0	10.1	+0.1	Satisfactory
22.0	22.3	+0.3	Satisfactory
38.0	38.3	+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.
- (b) The results relate only to the calibrated equipment as received

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. The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards. (c)

(d)

(e)

APPROVED SIGNATORY :

CHAN Mei-wah Amy Assistant Lab. Manager



業化驗有限公司 **QUALITY 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

CALIBRATION REPORT

Report No.	:	AG030099A
Date of Issue	:	April 13, 2017
Page No.		2 of 2

PART D - CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.16	0.14	-0.02	Satisfactory
4.38	4.34	-0.04	Satisfactory
8.51	8.45	-0.06	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)	Results
146.9	142.3	-3.1	Satisfactory
1412	1432	+1.4	Satisfactory
12890	13182	+2.3	Satisfactory
58670	59344	+1.1	Satisfactory
111900	112962	+0.9	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.92	-0.8	Satisfactory
20	20.09	+0.4	Satisfactory
30	30.19	+0.6	Satisfactory

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

(6) Turbidity

Expected Reading (NTU)	Displayed Reading ^(f) (NTU)	Tolerance ^(g) (%)	Results
0	0		Satisfactory
4	3.9	-2.5	Satisfactory
20	19.8	-1.0	Satisfactory
100	97.6	-2.4	Satisfactory
800	781	-2.4	Satisfactory

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

PART F - REMARK(S)

This report supersedes the previous test report no. AG030099 dated 17 March, 2017.

~ END OF REPORT ~

Remark(s): -

"Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures. The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant (2) international standards.

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

CALIBRATION REPORT

Report No. Date of Issue Page No.

: AG030100A : April 13, 2017 1 of 2 1

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd. Rm 811, Hin Pui House, Hin Keng Estate, Tai Wai 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	: 16J101716
Date of Received	: Mar 16, 2017
Date of Calibration	: Mar 16, 2017
Date of Next Calibration(a)	: Jun 16, 2017

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method		
pH at 25°C	APHA 21e 4500-H ⁺ B		
Dissolved Oxygen	APHA 21e 4500-O G		
Conductivity at 25°C	APHA 21e 2510 B		
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 ^(e) (pH Unit)	Results
4.00	3.96	-0.04	Satisfactory
7.42	7.37	-0.05	Satisfactory
10.01	10.07	+0.06	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
10.0	9.8	-0.2	Satisfactory
22.0	22.4	+0.4	Satisfactory
38.0	37.8	-0.2	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.
- (b) The results relate only to the calibrated equipment as received

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

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

The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.

APPROVED SIGNATORY :

CHAN Mei-wah Amy Assistant Lab. Manager



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

CALIBRATION REPORT

Report No.	3	AG030100A
Date of Issue	:	April 13, 2017
Page No.	:	2 of 2

PART D - CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.16	0.14	-0.02	Satisfactory
4.38	4.32	-0.06	Satisfactory
8.51	8.46	-0.05	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)	Results
146.9	142.8	-2.8	Satisfactory
1412	1407	-0.4	Satisfactory
12890	12404	-3.8	Satisfactory
58670	58002	-1.1	Satisfactory
111900	100892	-9.8	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.89	-1.1	Satisfactory
20	20.11	+0.5	Satisfactory
30	30.11	+0.4	Satisfactory

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

(6) Turbidity

Expected Reading (NTU)	Displayed Reading ^(f) (NTU)	Tolerance ^(g) (%)	Results
	0		Satisfactory
4	3.9	-2.5	Satisfactory
20	20.1	+0.5	Satisfactory
100	107	+7.0	Satisfactory
800	814	+1.8	Satisfactory

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

PART F - REMARK(S)

This report supersedes the previous test report no. AG030100 dated 17 March, 2017.

~ END OF REPORT ~

<u>Remark(s): -</u>

[&]quot;Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures. The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant (g) international standards.



QUALITY 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

CALIBRATION REPORT

Report No. AG030097A . Date of Issue : April 13, 2017 Page No. 5 1 of 2

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd. Rm 811, Hin Pui House, Hin Keng Estate, Tai Wai New Territories, Hong Kong Attn: Mr. Thomas WONG

PART B - DESCRIPTION

Name of Equipment	:	YSI 6920 V2 (Multi-Parameters)
Manufacturer	:	YSI (a xylem brand)
Serial Number	:	0001C6B0
Date of Received	:	Mar 16, 2017
Date of Calibration	:	Mar 16, 2017
Date of Next Calibration ^(a)	:	Jun 16, 2017

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H ⁺ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
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 ^(e) (pH Unit)	Results
4.00	4.04	+0.04	Satisfactory
7.42	7.44	+0.02	Satisfactory
10.01	10.1	+0.09	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
10.0	9.8	-0.2	Satisfactory
22.0	21.4	-0.6	Satisfactory
38.0	37.2	-0.8	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. (c)

(d) "Displayed Reading" denotes the figure shown on item under calibration/checking regardless of equipment precision or significant figures.
(e) The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.

APPROVED SIGNATORY :

CHAN Mei-wah Amy Assistant Lab. Manager



QUALITY 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

CALIBRATION REPORT

Report No.	:	AG030097A
Date of Issue	:	April 13, 2017
Page No.	:	2 of 2

PART D - CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.16	0.2	+0.04	Satisfactory
4.38	4.28	-0.1	Satisfactory
8.51	8.56	+0.05	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)	Results
146.9	144.2	-1.8	Satisfactory
1412	1398	-1.0	Satisfactory
12890	12580	-2.4	Satisfactory
58670	58172	-0.8	Satisfactory
111900	109322	-2.3	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.98	-0.2	Satisfactory
20	19.77	-1.2	Satisfactory
30	29.72	-0.9	Satisfactory

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

(6) Turbidity

Expected Reading (NTU)	Displayed Reading ^(f) (NTU)	Tolerance ^(g) (%)	Results
0	0		Satisfactory
4	4.1	+2.5	Satisfactory
20	20.3	+1.5	Satisfactory
100	108	+8.0	Satisfactory
800	785	-1.9	Satisfactory

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

PART F - REMARKS

This report supersedes the previous test report AG030097 dated 17 March 2017.

~ END OF REPORT ~

Remark(s): -

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



CALIBRATION REPORT

Report No.	:	AG030096A
Date of Issue	:	April 13, 2017
Page No.		1 of 2

PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd. Rm 811, Hin Pui House, Hin Keng Estate, Tai Wai New Territories, Hong Kong Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment	:	YSI 6920 V2 (Multi-Parameters)
Manufacturer	:	YSI (a xylem brand)
Serial Number	1	000109DF
Date of Received	:	Mar 16, 2017
Date of Calibration	:	Mar 16, 2017
Date of Next Calibration(a)	:	Jun 16, 2017

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H ⁺ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical
N 2 0	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	4.04	+0.04	Satisfactory
7.42	7.47	+0.05	Satisfactory
10.01	10.07	+0.06	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
10.0	10.1	+0.1	Satisfactory
22.0	22.3	+0.3	Satisfactory
38.0	37.1	-0.9	Satisfactory

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

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

- (a) The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.
- (b) The results relate only to the calibrated equipment as received
- (c) The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
- ^(d) "Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.
- (e) The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.

APPROVED SIGNATORY : ____

CHAN Mei-wah, Amy Assistant Lab. Manager



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

CALIBRATION REPORT

Report No.	:	AG030096A
Date of Issue	:	April 13, 2017
Page No.	:	2 of 2

PART D - CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.16	0.20	+0.04	Satisfactory
4.38	4.39	+0.01	Satisfactory
8.51	8.45	-0.06	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)	Results
146.9	141.7	-3.5	Satisfactory
1412	1385	-1.9	Satisfactory
12890	12177	-5.5	Satisfactory
58670	59064	+0.7	Satisfactory
111900	12866	+0.9	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.93	-0.7	Satisfactory
20	19.92	-0.4	Satisfactory
30	29.82	-0.6	Satisfactory

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

(6) Turbidity

Expected Reading (NTU)	Displayed Reading ^(f) (NTU)	Tolerance ^(g) (%)	Results
0	0		Satisfactory
4	3.9	-2.5	Satisfactory
20	19.8	-1.0	Satisfactory
100	109	+9.0	Satisfactory
800	789	-1.4	Satisfactory

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

PART F - REMARK(S)

This report supersedes the previous test report no. AG030096 dated 17 March, 2017.

~ END OF REPORT ~

Remark(s): -

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

[&]quot;Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.