Annex G1

# Calibration Certificates for Water Quality



| Report No.    | : | AI030103       |
|---------------|---|----------------|
| Date of Issue | 0 | 01 April, 2019 |
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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               | : 17E100747                     |
| Date of Received            | : Mar 27, 2019                  |
| Date of Calibration         | : Mar 27, 2019                  |
| Date of Next Calibration(a) | : Jun 27, 2019                  |

# PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

| Parameter            | Reference Method  |
|----------------------|---|
| pH at 25°C           | APHA 21e 4500-H <sup>+</sup> 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<sup>(b,c)</sup>

### (1) pH at 25°C

| Target (pH unit) | Displayed Reading <sup>(d)</sup> (pH Unit) | Tolerance <sup>(e)</sup> (pH Unit) | Results      |
|------------------|--|------------------------------------|--------------|
| 4.00             | 3.97                                       | -0.03                              | Satisfactory |
| 7.42             | 7.41                                       | -0.01                              | Satisfactory |
| 10.01            | 10.01                                      | 0.00                               | Satisfactory |

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

# (2) Temperature

| Reading of Ref. thermometer<br>(°C) | Displayed Reading (°C) | Tolerance (°C) | Results      |
|-------------------------------------|------------------------|----------------|--------------|
| 19.5                                | 19.7                   | 0.2            | Satisfactory |
| 41.0                                | 41.9                   | 0.9            | Satisfactory |
| 65.0                                | 66.3                   | 1.3            | Satisfactory |

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

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

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

(h) 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)

"Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures. The "Tolerance Limit" mentioned is referenced to YSI product specifications. (d)

(e)

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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      |
|-------------------------|--------------------------|------------------|--------------|
| 1.76                    | 1.68                     | -0.08            | Satisfactory |
| 4.51                    | 4.32                     | -0.19            | Satisfactory |
| 6.26                    | 6.31                     | 0.05             | Satisfactory |
| 8.39                    | 8.44                     | 0.05             | Satisfactory |

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

#### (4) Conductivity at 25°C

| Conc. of KCl (M) | Expected Reading<br>(µS/cm) | Displayed Reading<br>(µS/cm) | Tolerance (%) | Results      |
|------------------|-----------------------------|------------------------------|---------------|--------------|
| 0.001            | 146.9                       | 140.0                        | -4.7          | Satisfactory |
| 0.01             | 1412                        | 1404                         | -0.6          | Satisfactory |
| 0.1              | 12890                       | 12825                        | -0.5          | Satisfactory |
| 0.5              | 58670                       | 58940                        | 0.5           | Satisfactory |
| 1.0              | 111900                      | 111734                       | -0.1          | Satisfactory |

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

# (5) Salinity

| Expected Reading (g/L) | Displayed Reading (g/L) | Tolerance (%) | Results      |
|------------------------|-------------------------|---------------|--------------|
| 10                     | 10.99                   | 9.9           | Satisfactory |
| 20                     | 20.82                   | 4.1           | Satisfactory |
| 30                     | 30.18                   | 0.6           | Satisfactory |

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

# (6) Turbidity

| Expected Reading<br>(NTU) | Displayed Reading <sup>(f)</sup> (NTU) | Tolerance <sup>(g)</sup><br>(%) | Results      |
|---------------------------|--|---------------------------------|--------------|
| 0                         | 0.00                                   |                                 | (112)        |
| 10                        | 10.00                                  | 0.0                             | Satisfactory |
| 20                        | 20.00                                  | 0.0                             | Satisfactory |
| 100                       | 101.77                                 | 1.8                             | Satisfactory |
| 800                       | 810.42                                 | 1.3                             | Satisfactory |

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

~ END OF REPORT ~

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

- <sup>(0</sup> "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.
- (B) 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.



| Report No.    | : | AI060143      |
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| Date of Issue | : | 25 June, 2019 |
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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               | : 17E100747                     |
| Date of Received            | : Jun 25, 2019                  |
| Date of Calibration         | : Jun 25, 2019                  |
| Date of Next Calibration(a) | : Sep 25, 2019                  |

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

| Parameter            | Reference Method  |
|----------------------|---|
| pH at 25°C           | APHA 21e 4500-H <sup>+</sup> 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<sup>(b,c)</sup>

### (1) pH at 25°C

| Target (pH unit) | Displayed Reading <sup>(d)</sup> (pH Unit) | Tolerance <sup>(e)</sup> (pH Unit) | Results      |
|------------------|--|------------------------------------|--------------|
| 4.00             | 4.01                                       | 0.01                               | Satisfactory |
| 7.42             | 7.41                                       | -0.01                              | Satisfactory |
| 10.01            | 10.03                                      | 0.02                               | Satisfactory |

Tolerance of pH should be less than  $\pm 0.20$  (pH unit)

# (2) Temperature

| Reading of Ref. thermometer<br>(°C) | Displayed Reading (°C) | Tolerance (°C) | Results      |
|-------------------------------------|------------------------|----------------|--------------|
| 15.0                                | 15.2                   | 0.2            | Satisfactory |
| 30.0                                | 30.0                   | 0.0            | Satisfactory |
| 48.0                                | 47.9                   | -0.1           | Satisfactory |

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

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#### 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

(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 referenced to YSI product specifications.

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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      |
|-------------------------|--------------------------|------------------|--------------|
| 0.45                    | 0.03                     | -0.42            | Satisfactory |
| 2.84                    | 3.26                     | 0.42             | Satisfactory |
| 5.21                    | 5.29                     | 0.08             | Satisfactory |
| 8.03                    | 7.64                     | -0.39            | 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<br>(µS/cm) | Displayed Reading<br>(µS/cm) | Tolerance (%) | Results      |
|------------------|-----------------------------|------------------------------|---------------|--------------|
| 0.001            | 146.9                       | 145.1                        | -1.2          | Satisfactory |
| 0.01             | 1412                        | 1402                         | -0.7          | Satisfactory |
| 0.1              | 12890                       | 12921                        | 0.2           | Satisfactory |
| 0.5              | 58670                       | 56719                        | -3.3          | Satisfactory |
| 1.0              | 111900                      | 111688                       | -0.2          | Satisfactory |

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

#### (5) Salinity

| Expected Reading (g/L) | Displayed Reading (g/L) | Tolerance (%) | Results      |
|------------------------|-------------------------|---------------|--------------|
| 10                     | 9.96                    | -0.4          | Satisfactory |
| 20                     | 20.13                   | 0.6           | Satisfactory |
| 30                     | 30.00                   | 0.0           | Satisfactory |

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

### (6) Turbidity

| Expected Reading<br>(NTU) | Displayed Reading <sup>(f)</sup> (NTU) | Tolerance <sup>(g)</sup><br>(%) | Results      |
|---------------------------|--|---------------------------------|--------------|
| 0                         | 0.01                                   |                                 | Satisfactory |
| 10                        | 10.05                                  | 0.5                             | Satisfactory |
| 20                        | 20.12                                  | 0.6                             | Satisfactory |
| 100                       | 100.90                                 | 0.9                             | Satisfactory |
| 800                       | 805.40                                 | 0.7                             | Satisfactory |

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

~ END OF REPORT ~

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

- "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 (g)relevant international standards.



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

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# **REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION**

| Report No.    | : | AI050005     |
|---------------|---|--------------|
| Date of Issue | : | 02 May, 2019 |
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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               | : 17H105557                     |
| Date of Received            | : Apr 30, 2019                  |
| Date of Calibration         | : Apr 30, 2019                  |
| Date of Next Calibration(a) | : Jul 30, 2019                  |

# PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

| Parameter            | Reference Method  |
|----------------------|---|
| pH at 25°C           | APHA 21e 4500-H <sup>+</sup> 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<sup>(b,c)</sup>

#### (1) pH at 25°C

| Target (pH unit) | Displayed Reading <sup>(d)</sup> (pH Unit) | Tolerance <sup>(e)</sup> (pH Unit) | Results      |
|------------------|--|------------------------------------|--------------|
| 4.00             | 4.01                                       | 0.01                               | Satisfactory |
| 7.42             | 7.42                                       | 0.00                               | Satisfactory |
| 10.01            | 10.01                                      | 0.00                               | Satisfactory |

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

### (2) Temperature

| Reading of Ref. thermometer<br>(°C) | Displayed Reading (°C) | Tolerance (°C) | Results      |
|-------------------------------------|------------------------|----------------|--------------|
| 14.5                                | 14.8                   | 0.3            | Satisfactory |
| 25.0                                | 25.1                   | 0.1            | Satisfactory |
| 62.0                                | 62.0                   | 0.0            | Satisfactory |

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

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

(b) 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)

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

(e) The "Tolerance Limit" mentioned is referenced to YSI product specifications.

APPROVED SIGNATORY:

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



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| Date of Issue | : 02 May, 2019 |
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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      |
|-------------------------|--------------------------|------------------|--------------|
| 0.02                    | 0.28                     | 0.26             | Satisfactory |
| 2.74                    | 2.35                     | -0.39            | Satisfactory |
| 5.37                    | 5.19                     | -0.18            | Satisfactory |
| 8.14                    | 8.44                     | 0.30             | 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<br>(µS/cm) | Displayed Reading<br>(µS/cm) | Tolerance (%) | Results      |
|------------------|-----------------------------|------------------------------|---------------|--------------|
| 0.001            | 146.9                       | 156.3                        | 6.4           | Satisfactory |
| 0.01             | 1412                        | 1388                         | -1.7          | Satisfactory |
| 0.1              | 12890                       | 12767                        | -1.0          | Satisfactory |
| 0.5              | 58670                       | 58538                        | -0.2          | Satisfactory |
| 1.0              | 111900                      | 111855                       | 0.0           | Satisfactory |

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

#### (5) Salinity

| Expected Reading (g/L) | Displayed Reading (g/L) | Tolerance (%) | Results      |
|------------------------|-------------------------|---------------|--------------|
| 10                     | 9.95                    | -0.5          | Satisfactory |
| 20                     | 19.93                   | -0.4          | Satisfactory |
| 30                     | 30.33                   | 1.1           | Satisfactory |

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

# (6) Turbidity

| Expected Reading<br>(NTU) | Displayed Reading <sup>(f)</sup> (NTU) | Tolerance <sup>(g)</sup><br>(%) | Results      |
|---------------------------|--|---------------------------------|--------------|
| 0                         | 0.02                                   |                                 |              |
| 10                        | 10.01                                  | 0.1                             | Satisfactory |
| 20                        | 19.78                                  | -1.1                            | Satisfactory |
| 100                       | 99.29                                  | -0.7                            | Satisfactory |
| 800                       | 784.87                                 | -1.9                            | Satisfactory |

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

~ END OF REPORT ~

Remark(s): -

 <sup>&</sup>quot;Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.
 (a) 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 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               | : 16H104234                     |
| Date of Received            | : Apr 30, 2019                  |
| Date of Calibration         | : Apr 30, 2019                  |
| Date of Next Calibration(a) | : Jul 30, 2019                  |

# PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

| Parameter            | Reference Method  |
|----------------------|---|
| pH at 25°C           | APHA 21e 4500-H <sup>+</sup> 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<sup>(b,c)</sup>

# (1) pH at 25°C

| Target (pH unit) | Displayed Reading <sup>(d)</sup> (pH Unit) | Tolerance <sup>(e)</sup> (pH Unit) | Results      |
|------------------|--|------------------------------------|--------------|
| 4.00             | 4.02                                       | 0.02                               | Satisfactory |
| 7.42             | 7.42                                       | 0.00                               | Satisfactory |
| 10.01            | 10.00                                      | -0.01                              | Satisfactory |

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

#### (2) Temperature

| Reading of Ref. thermometer | Displayed Reading (°C) | Tolerance (°C) | Results      |
|-----------------------------|------------------------|----------------|--------------|
| 14.5                        | 14.6                   | 0.1            | Satisfactory |
| 25.0                        | 25.1                   | 0.1            | Satisfactory |
| 62.0                        | 62.1                   | 0.1            | Satisfactory |

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

~ CONTINUED ON NEXT PAGE ~

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

(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 referenced to YSI product specifications.

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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      |
|-------------------------|--------------------------|------------------|--------------|
| 0.02                    | 0.29                     | 0.27             | Satisfactory |
| 2.74                    | 2.33                     | -0.41            | Satisfactory |
| 5.37                    | 5.03                     | -0.34            | Satisfactory |
| 8.14                    | 8.41                     | 0.27             | 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<br>(µS/cm) | Displayed Reading<br>(µS/cm) | Tolerance (%) | Results      |
|------------------|-----------------------------|------------------------------|---------------|--------------|
| 0.001            | 146.9                       | 140.2                        | -4.6          | Satisfactory |
| 0.01             | 1412                        | 1437                         | 1.8           | Satisfactory |
| 0.1              | 12890                       | 12789                        | -0.8          | Satisfactory |
| 0.5              | 58670                       | 58362                        | -0.5          | Satisfactory |
| 1.0              | 111900                      | 111714                       | -0.2          | Satisfactory |

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

#### (5) Salinity

| Expected Reading (g/L) | Displayed Reading (g/L) | Tolerance (%) | Results      |
|------------------------|-------------------------|---------------|--------------|
| 10                     | 9.96                    | -0.4          | Satisfactory |
| 20                     | 19.84                   | -0.8          | Satisfactory |
| 30                     | 30.00                   | 0.0           | Satisfactory |

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

# (6) Turbidity

| Expected Reading<br>(NTU) | Displayed Reading <sup>(f)</sup> (NTU) | Tolerance <sup>(g)</sup><br>(%) | Results      |
|---------------------------|--|---------------------------------|--------------|
| 0                         | 0.00                                   |                                 |              |
| 10                        | 10.10                                  | 1.0                             | Satisfactory |
| 20                        | 19.88                                  | -0.6                            | Satisfactory |
| 100                       | 99.04                                  | -1.0                            | Satisfactory |
| 800                       | 778.05                                 | -2.7                            | Satisfactory |

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

~ END OF REPORT ~

- <u>Remark(s): -</u> <sup>(i)</sup> "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures. (g) 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.



| Report No.    | : | AI050006     |
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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               | : 16H104233                     |
| Date of Received            | : Apr 30, 2019                  |
| Date of Calibration         | : Apr 30, 2019                  |
| Date of Next Calibration(a) | : Jul 30, 2019                  |

# PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

| <u>Parameter</u>     | Reference Method  |
|----------------------|---|
| pH at 25°C           | APHA 21e 4500-H <sup>+</sup> 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                    |
| 100 C                | Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure. |

#### PART D - CALIBRATION RESULTS<sup>(b,c)</sup>

#### (1) pH at 25°C

| Target (pH unit) | Displayed Reading <sup>(d)</sup> (pH Unit) | Tolerance <sup>(e)</sup> (pH Unit) | Results      |  |
|------------------|--|------------------------------------|--------------|--|
| 4.00             | 4.00                                       | 0.00                               | Satisfactory |  |
| 7.42             | 7.42                                       | 0.00                               | Satisfactory |  |
| 10.01            | 10.00                                      | -0.01                              | Satisfactory |  |

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

#### (2) Temperature

| Reading of Ref. thermometer<br>(°C) | Displayed Reading (°C) | Tolerance (°C) | Results      |
|-------------------------------------|------------------------|----------------|--------------|
| 14.5                                | 14.7                   | 0.2            | Satisfactory |
| 25.0                                | 25.1                   | 0.1            | Satisfactory |
| 62.0                                | 61.4                   | -0.6           | Satisfactory |

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

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

(10) 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 referenced to YSI product specifications.

APPROVED SIGNATORY:

LAM Ho-yee, Emma

Assistant Laboratory Manager



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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      |
|-------------------------|--------------------------|------------------|--------------|
| 0.02                    | 0.34                     | 0.32             | Satisfactory |
| 2.74                    | 2.39                     | -0.35            | Satisfactory |
| 5.37                    | 5.17                     | -0.20            | Satisfactory |
| 8.14                    | 8.30                     | 0.16             | 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<br>(µS/cm) | Displayed Reading<br>(µS/cm) | Tolerance (%) | Results      |
|------------------|-----------------------------|------------------------------|---------------|--------------|
| 0.001            | 146.9                       | 138.7                        | -5.6          | Satisfactory |
| 0.01             | 1412                        | 1430                         | 1.3           | Satisfactory |
| 0.1              | 12890                       | 12869                        | -0.2          | Satisfactory |
| 0.5              | 58670                       | 58863                        | 0.3           | Satisfactory |
| 1.0              | 111900                      | 111581                       | -0.3          | Satisfactory |

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

# (5) Salinity

| Expected Reading (g/L) | Displayed Reading (g/L) | Tolerance (%) | Results      |
|------------------------|-------------------------|---------------|--------------|
| 10                     | 9.99                    | -0.1          | Satisfactory |
| 20                     | 20.11                   | 0.5           | Satisfactory |
| 30                     | 30.99                   | 3.3           | Satisfactory |

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

# (6) Turbidity

| Expected Reading<br>(NTU) | Displayed Reading <sup>(f)</sup> (NTU)                     | Tolerance <sup>(g)</sup><br>(%) | Results          |
|---------------------------|--|---------------------------------|------------------|
| 0                         | 0.00   |                                 | <br>Satisfactory |
| 10                        | 10.15  | 1.5                             |                  |
| 20                        | <u>20</u> <u>20.00</u> <u>0.0</u><br>100 <u>108.33</u> 8.3 | 0.0                             | Satisfactory     |
| 100                       |  | 8.3                             | Satisfactory     |
| 800                       | 829.20   | 3.7                             | Satisfactory     |

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

~ END OF REPORT ~

Remark(s): -

<sup>(0)</sup> "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.
 <sup>(g)</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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#### 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

| : YSI ProDSS (Multi-Parameters) |
|---------------------------------|
| : YSI (a xylem brand)           |
| : 15M100005                     |
| : Jun 25, 2019                  |
| : Jun 25, 2019                  |
| : Sep 25, 2019                  |
|                                 |

# PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

| Parameter            | Reference Method  |
|----------------------|---|
| pH at 25°C           | APHA 21e 4500-H <sup>+</sup> 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<sup>(b,c)</sup>

# (1) pH at 25°C

| Target (pH unit) | Displayed Reading <sup>(d)</sup> (pH Unit) | Tolerance <sup>(e)</sup> (pH Unit) | Results      |
|------------------|--|------------------------------------|--------------|
| 4.00             | 4.02                                       | 0.02                               | Satisfactory |
| 7.42             | 7.40                                       | -0.02                              | Satisfactory |
| 10.01            | 10.01                                      | 0.00                               | Satisfactory |

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

# (2) Temperature

| Reading of Ref. thermometer | Displayed Reading (°C) | Tolerance (°C) | Results      |
|-----------------------------|------------------------|----------------|--------------|
| 15.0                        | 15.1                   | 0.1            | Satisfactory |
| 30.0                        | 29.8                   | -0.2           | Satisfactory |
| 48.0                        | 48.1                   | 0.1            | 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. (a)

(b) 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. (c)

(d)

(e) The "Tolerance Limit" mentioned is referenced to YSI product specifications.

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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      |
|-------------------------|--------------------------|------------------|--------------|
| 0.45                    | 0.03                     | -0.42            | Satisfactory |
| 2.88                    | 3.26                     | 0.38             | Satisfactory |
| 5.23                    | 5.29                     | 0.06             | Satisfactory |
| 8.12                    | 7.64                     | -0.48            | 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<br>(µS/cm) | Displayed Reading<br>(µS/cm) | Tolerance (%) | Results      |
|------------------|-----------------------------|------------------------------|---------------|--------------|
| 0.001            | 146.9                       | 142.8                        | -2.8          | Satisfactory |
| 0.01             | 1412                        | 1398                         | -1.0          | Satisfactory |
| 0.1              | 12890                       | 12934                        | 0.3           | Satisfactory |
| 0.5              | 58670                       | 56361                        | -3.9          | Satisfactory |
| 1.0              | 111900                      | 111597                       | -0.3          | Satisfactory |

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

# (5) Salinity

| Expected Reading (g/L) | Displayed Reading (g/L) | Tolerance (%) | Results      |
|------------------------|-------------------------|---------------|--------------|
| 10                     | 9.94                    | -0.6          | Satisfactory |
| 20                     | 20.00                   | 0.0           | Satisfactory |
| 30                     | 30.14                   | 0.5           | Satisfactory |

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

#### (6) Turbidity

| Expected Reading<br>(NTU) | Displayed Reading <sup>(f)</sup> (NTU) | Tolerance <sup>(g)</sup><br>(%) | Results                      |
|---------------------------|--|---------------------------------|------------------------------|
| 0                         | 0.00                                   |                                 |                              |
| 10                        | 10.07                                  | 0.7                             | Satisfactory                 |
| 20                        | 20.11                                  | 0.5                             | Satisfactory<br>Satisfactory |
| 100                       | 00 101.20 1.2                          | 1.2                             |                              |
| 800                       | 804.30                                 | 0.5                             | Satisfactory                 |

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

~ END OF REPORT ~

Remark(s): -

(8) 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.

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



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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               | : | 00019CB2                      |
| Date of Received            | : | Mar 27, 2019                  |
| Date of Calibration         | : | Mar 27, 2019                  |
| Date of Next Calibration(a) | : | Jun 27, 2019                  |

# PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

| Parameter            | Reference Method  |
|----------------------|---|
| pH at 25°C           | APHA 21e 4500-H <sup>+</sup> 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<sup>(b,c)</sup>

#### (1) pH at 25°C

| Target (pH unit) | Displayed Reading <sup>(d)</sup> (pH Unit) | Tolerance <sup>(e)</sup> (pH Unit) | Results      |
|------------------|--|------------------------------------|--------------|
| 4.00             | 4.06                                       | 0.06                               | Satisfactory |
| 7.42             | 7.48                                       | 0.06                               | Satisfactory |
| 10.01            | 10.05                                      | 0.04                               | Satisfactory |

Tolerance of pH should be less than  $\pm 0.20$  (pH unit)

#### (2) Temperature

| Reading of Ref. thermometer<br>(°C) | Displayed Reading (°C) | Tolerance (°C) | Results      |
|-------------------------------------|------------------------|----------------|--------------|
| 19.5                                | 18.9                   | -0.6           | Satisfactory |
| 41.0                                | 41.3                   | 0.3            | Satisfactory |
| 65.0                                | 64.5                   | -0.5           | Satisfactory |

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

#### ~ CONTINUED ON NEXT PAGE ~

#### Remark(s): -

(0) 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 referenced to YSI product specifications.

APPROVED SIGNATORY:

LAM Ho-yee, Emma

Assistant Laboratory Manager



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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      |
|-------------------------|--------------------------|------------------|--------------|
| 1.76                    | 1.72                     | -0.04            | Satisfactory |
| 4.51                    | 4.48                     | -0.03            | Satisfactory |
| 6.26                    | 6.31                     | 0.05             | Satisfactory |
| 8.39                    | 8.50                     | 0.11             | Satisfactory |

Tolerance limit of dissolved oxygen should be less than  $\pm 0.20$  (mg/L)

#### (4) Conductivity at 25°C

| Conc. of KCl (M) | Expected Reading<br>(µS/cm) | Displayed Reading<br>(µS/cm) | Tolerance (%) | Results      |
|------------------|-----------------------------|------------------------------|---------------|--------------|
| 0.001            | 146.9                       | 147.1                        | 0.1           | Satisfactory |
| 0.01             | 1412                        | 1477                         | 4.6           | Satisfactory |
| 0.1              | 12890                       | 12934                        | 0.3           | Satisfactory |
| 0.5              | 58670                       | 58414                        | -0.4          | Satisfactory |
| 1.0              | 111900                      | 111746                       | -0.1          | Satisfactory |

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

#### (5) Salinity

| Expected Reading (g/L) | Displayed Reading (g/L) | Tolerance (%) | Results      |
|------------------------|-------------------------|---------------|--------------|
| 10                     | 9.82                    | -1.8          | Satisfactory |
| 20                     | 19.91                   | -0.4          | Satisfactory |
| 30                     | 30.18                   | 0.6           | Satisfactory |

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

# (6) Turbidity

| Expected Reading<br>(NTU) | Displayed Reading <sup>(f)</sup> (NTU) | Tolerance <sup>(g)</sup><br>(%) | Results      |
|---------------------------|--|---------------------------------|--------------|
| 0                         | 0.00                                   |                                 |              |
| 10                        | 10.00                                  | 0.0                             | Satisfactory |
| 20                        | 20.18                                  | 0.9                             | Satisfactory |
| 100                       | 98.94                                  | -1.1                            | Satisfactory |
| 800                       | 811.20                                 | 1.4                             | Satisfactory |

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

~ END OF REPORT ~

Remark(s): -

- (9) "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.
  (9) 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.