

# Air Quality Monitoring Equipments

Report no. : 940891CA220067

Page 1 of 1

## CALIBRATION CERTIFICATE OF DUST METER

Client : Fugro Technical Services Limited

Project : Calibration Services

### Client Supplied Information

Details of Unit Under Test, UUT

Description : Laser dust monitor  
 Manufacturer : SIBATA  
 Model No. : LD-5R  
 Serial No. : 620408  
 Specification Limit : NA  
 Next Calibration Date : 07-Dec-2022

### Laboratory Information

Description : 1. Balance 2. TSP high volume air sampler  
 Equipment ID. / Serial no : 1. C-065-5 2. 4350  
 Date of Calibration : 08-Dec-2021 Ambient Temperature : 23 ± 5 °C  
 Calibration Location : General Chemical Laboratory of FTS and Ma Wan A1 Site Boundary  
 Method Used : By direct comparison the weight of dust particle trapped in a filter paper using high volume sampler (TSP method) for a certain period, with the reading of the UUT. They should be placed at the same location and powered on and off at the same time.

### Calibration Results :

| Reference concentration (mg/m <sup>3</sup> ) | Total count for 1 hour | CPM (Count per minute) |
|--|------------------------|------------------------|
| 0.0757                                       | 2041                   | 34.02                  |
| 0.0820                                       | 2112                   | 35.20                  |
| 0.0907                                       | 2256                   | 37.60                  |

### Remarks:

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The interpolation equation : Concentration (mg/m<sup>3</sup>) = K x [ UUT reading (CPM) ], where K = 0.002326
3. Correlation coefficient (r) : 0.9953

 Checked by : Curry Date : 11-1-2022 Certified by : K.T. Leung Date : 11-1-2022  
 CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)

\*\* End of Report \*\*

Report no. : 940891CA220067(1)

Page 1 of 1

## CALIBRATION CERTIFICATE OF DUST METER

Client : Fugro Technical Services Limited

Project : Calibration Services

### Client Supplied Information

Details of Unit Under Test, UUT

Description : Laser dust monitor

Manufacturer : SIBATA

Model No. : LD-5R

Serial No. : 761105

Specification Limit : NA

Next Calibration Date : 07-Dec-2022

### Laboratory Information

Description : 1. Balance 2. TSP high volume air sampler

Equipment ID. / Serial no : 1. C-065-5 2. 4350

Date of Calibration : 08-Dec-2021 Ambient Temperature : 23 ± 5 °C

Calibration Location : General Chemical Laboratory of FTS and Ma Wan A1 Site Boundary

Method Used : By direct comparison the weight of dust particle trapped in a filter paper using high volume sampler (TSP method) for a certain period, with the reading of the UUT. They should be placed at the same location and powered on and off at the same time.

### Calibration Results :

| Reference concentration (mg/m <sup>3</sup> ) | Total count for 1 hour | CPM (Count per minute) |
|--|------------------------|------------------------|
| 0.0757                                       | 1814                   | 30.23                  |
| 0.0820                                       | 2015                   | 33.58                  |
| 0.0907                                       | 2501                   | 41.68                  |

### Remarks:

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The interpolation equation : Concentration (mg/m<sup>3</sup>) = K x [ UUT reading (CPM) ], where K = 0.002355
3. Correlation coefficient (r) : 0.9904

 Checked by : Cenny Date : 11-1-2022 Certified by : K.T. Leung Date : 11-1-2022

CA-R-297 (22/07/2009)

Leung Kwok Tai (Assistant Manager)

**\*\* End of Report \*\***



**TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET**

|                               |                                  |
|-------------------------------|----------------------------------|
| Location : MaWTF, Ma Wan      | Date of Calibration: 19-Oct-21   |
| Location ID: A1 Site Boundary | Next Calibration Date: 18-Jan-22 |
|                               | Technician: Herman Wang          |

**CONDITIONS**

|                           |        |                             |     |
|---------------------------|--------|-----------------------------|-----|
| Sea Level Pressure (hPa): | 1017.8 | Corrected Pressure (mm Hg): | 763 |
| Temperature (°C):         | 25.7   | Temperature (K):            | 299 |

**CALIBRATION ORIFICE**

|                   |          |                 |          |
|-------------------|----------|-----------------|----------|
| Make:             | Tisch    | Qstd Slope:     | 2.04731  |
| Model:            | TE-5025A | Qstd Intercept: | 0.00573  |
| Calibration Date: | 4-Jun-21 | Expiry Date:    | 4-Jun-22 |

**CALIBRATIONS**

| Plate No. | H2O (L) (in) | H2O (R) (in) | H2O (in) | Qstd (m <sup>3</sup> /min) | I (chart) | IC (corrected) | LINEAR REGRESSION  |
|-----------|--------------|--------------|----------|----------------------------|-----------|----------------|--|
| 18        | 6.00         | -6.40        | 12.400   | 1.719                      | 60.00     | 60.06          | Slope = 27.9500<br>Intercept = 11.5355<br>Corr. coeff.= 0.9976 |
| 13        | 5.20         | -5.50        | 10.700   | 1.597                      | 56.00     | 56.06          |  |
| 10        | 4.30         | -4.60        | 8.900    | 1.456                      | 52.00     | 52.06          |  |
| 7         | 3.20         | -3.50        | 6.700    | 1.263                      | 46.00     | 46.05          |  |
| 5         | 2.00         | -2.20        | 4.200    | 0.999                      | 40.00     | 40.04          |  |

**Calculations:**

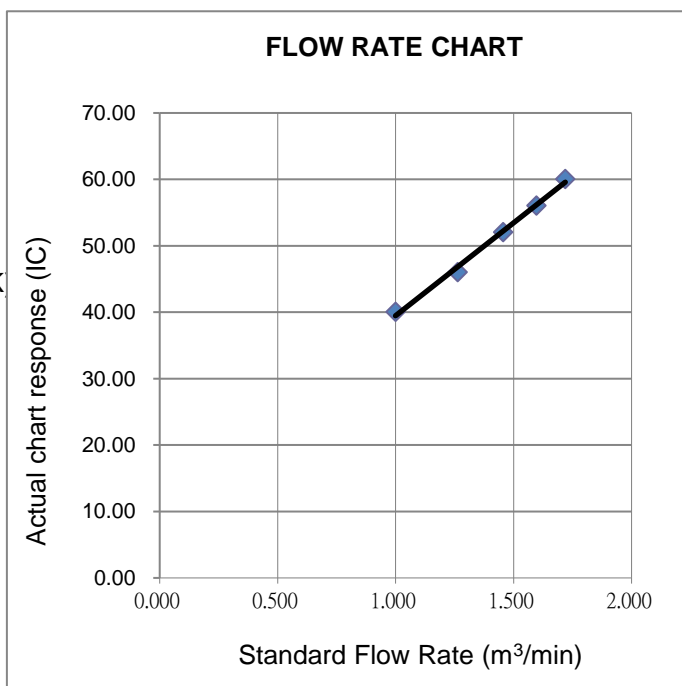
$Qstd = 1/m[\text{sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$   
 $IC = I[\text{sqrt}(Pa/Pstd)(Tstd/Ta)]$

- Qstd = standard flow rate
- IC = corrected chart response
- I = actual chart response
- m = calibrator Qstd slope
- b = calibrator Qstd intercept
- Ta = actual temperature during calibration (deg K)
- Pa = actual pressure during calibration (mm Hg)
- Tstd = 298 deg K
- Pstd = 760 mm Hg

**For subsequent calculation of sampler flow:**

$1/m((I)[\text{sqrt}(298/Tav)(Pav/760)]-b)$

- m = sampler slope
- b = sampler intercept
- I = chart response
- Tav = daily average temperature
- Pav = daily average pressure



## CALIBRATION REPORT OF WIND METER

|   |   |
|---|---|
| <b>Project:</b> Contract No. SPW 07/2020<br><b>Location:</b> Yuen Long Sewage Treatment Works | <b>Date of Calibration:</b> 26-Mar-2022<br><b>Next Calibration Date:</b> 25-Sep-2022<br><b>Technician:</b> Sam Fong |
| <b>Brand:</b> Global Water<br><b>Model:</b> GL500-7-2   | <b>Serial No:</b> 2012000974  |
| <b>Anemometer</b>   |   |
| <b>Brand:</b> Benetech<br><b>Model:</b> GM816   | <b>Equipment ID:</b> 08   |
| <b>Procedures:</b>  |   |
| 1. <b>Wind Still Test:</b>  | The wind speed sensor was held by hand until stabilized.  |
| 2. <b>Wind Speed Test:</b>  | The wind meter was calibrated in-situ and compared with the Anemometer.   |
| 3. <b>Wind Direction Test:</b>  | The wind meter was calibrated in-situ and compared with a marine compass from four directions.                      |

**Wind Still Test:**

| Wind Speed (m/s) |
|------------------|
| 0.00             |

**Wind Speed Test:**

| Global Water (m/s) | Anemometer (m/s) |
|--------------------|------------------|
| 1.4                | 1.2              |
| 2.1                | 2.3              |
| 2.9                | 2.8              |

**Wind Direction Test:**

|     | Marine Compass (o) |
|-----|--------------------|
| 348 | 352                |
| 206 | 208                |
| 267 | 265                |
| 293 | 290                |



**Wan Ka Ho**  
 Project Consultant

**Report Date:** 28/3/2022

## CALIBRATION REPORT OF WIND METER

|  |   |
|--|---|
| <b>Project:</b> Contract No. SPW 07/2020<br><b>Location:</b> Yuen Long Sewage Treatment Works  | <b>Date of Calibration:</b> 24-Sep-2022<br><b>Next Calibration Date:</b> 23-Mar-2023<br><b>Technician:</b> Sam Fong |
| <b>Brand:</b> Global Water<br><b>Model:</b> GL500-7-2  | <b>Serial No:</b> 2012000974  |
| <b>Anemometer</b>  |   |
| <b>Brand:</b> Benetech<br><b>Model:</b> GM816  | <b>Equipment ID:</b> 08   |
| <b>Procedures:</b>   |   |
| <ol style="list-style-type: none"> <li>1. <b>Wind Still Test:</b> The wind speed sensor was held by hand until stabilized.</li> <li>2. <b>Wind Speed Test:</b> The wind meter was calibrated in-situ and compared with the Anemometer.</li> <li>3. <b>Wind Direction Test:</b> The wind meter was calibrated in-situ and compared with a marine compass from four directions.</li> </ol> |   |

**Wind Still Test:**

| Wind Speed (m/s) |
|------------------|
| 0.00             |

**Wind Speed Test:**

| Global Water (m/s) | Anemometer (m/s) |
|--------------------|------------------|
| 1.8                | 1.7              |
| 2.5                | 2.6              |
| 3.2                | 3.3              |

**Wind Direction Test:**

|     | Marine Compass (o) |
|-----|--------------------|
| 347 | 344                |
| 65  | 69                 |
| 22  | 24                 |
| 334 | 340                |



**Wan Ka Ho**  
 Project Consultant

**Report Date:** 26/9/2022

# Noise Monitoring Equipments





Report no.: 212769CA220043

Page 1 of 1

## CALIBRATION CERTIFICATE OF SOUND LEVEL METER

### Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Level Meter  
 Manufacturer : Casella

|            | Meter   | Microphone | Preamplifier |
|------------|---------|------------|--------------|
| Model No.  | CEL-63X | CE-251     | CEL-495      |
| Serial No. | 1488304 | 03456      | 002850       |

Equipment ID : N-62  
 Next Calibration Date : 05-Jan-2023  
 Specification Limit : EN 61672-1: 2003 Class 1

### Laboratory Information

Details of Reference Equipment -

Description : B & K Acoustic Multifunction Calibrator 4226 (Traditional free field setting)  
 Equipment ID. : R-108-1  
 Date of Calibration : 06-Jan-2022  
 Calibration Location : Calibration Laboratory of FTS      Ambient Temperature : 20±2 °C  
 Method Used : By direct comparison      Relative Humidity : <80% R.H.

### Calibration Results :

| Parameters                           |             | Mean Value (dB) | Specification Limit(dB) |
|--------------------------------------|-------------|-----------------|-------------------------|
| A-weighting<br>frequency<br>response | 4000Hz      | 2.0             | 2.6 to -0.6             |
|                                      | 2000Hz      | 1.0             | 2.8 to -0.4             |
|                                      | 1000Hz      | -0.5            | 1.1 to -1.1             |
|                                      | 500Hz       | -3.9            | -1.8 to -4.6            |
|                                      | 250Hz       | -9.3            | -7.2 to -10.0           |
|                                      | 125Hz       | -16.8           | -14.6 to -17.6          |
|                                      | 63Hz        | -26.9           | -24.7 to -27.7          |
| Differential level<br>linearity      | 94dB-104dB  | 0.1             | ± 0.6                   |
|                                      | 104dB-114dB | 0.1             | ± 0.6                   |

### Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. For calibration: Reference SPL are 94, 104 & 114dB, range setting is 20-140dB & time weighting is fast.
4. The UUT does comply with EN 61672-1: 2003 Class 1 sound level meter for the above measurement.
5. The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

Checked by : Cuny      Date : 10-1-2022      Certified by : K.H. Leung      Date : 11-1-2022  
 CA-R-297 (22/07/2009)      Leung Kwok Tai (Assistant Manager)

\*\* End of Report \*\*

Report no.: 212769CA220043(1)

Page 1 of 1

**CALIBRATION CERTIFICATE OF SOUND CALIBRATOR****Client Supplied Information**

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Calibrator  
Manufacturer : Casella (Model CEL-120/1)  
Serial No. : 2383982  
Equipment ID : N/A  
Next Calibration Date : 05-Jan-2023  
Specification Limit : EN 60942: 2003 Class 1

**Laboratory Information**


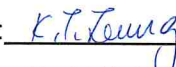
Description : Reference Sound level meter  
Equipment ID. : R-119-1  
Date of Calibration : 06-Jan-2022 Ambient Temperature : 22 °C  
Calibration Location : Calibration Laboratory of FTS Relative Humidity : <80% R.H.  
Method Used : By direct comparison

**Calibration Results :**

| Parameters (Setting of UUT) | Mean Value (error of measurement) | Specification Limit(dB) |
|-----------------------------|-----------------------------------|-------------------------|
| 94dB                        | 0.0 dB                            | ±0.4dB                  |
| 114dB                       | -0.2 dB                           |                         |

**Remarks :**

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. The equipment does comply with the specification limit.
4. The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

Checked by :  Date : 10-1-2022 Certified by :  Date : 11-1-2022  
CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)

**\*\* End of Report \*\***

Report no.: 212769CA221230

**CALIBRATION CERTIFICATE OF SOUND CALIBRATOR**

Client : Fugro Technical Services Ltd.

Project : Calibration Services

**Client Supplied Information**

Details of Unit Under Test, UUT

Description : Sound Calibrator  
Manufacturer : Casella (Model CEL-120/1)  
Serial No. : 3321858  
Equipment ID : N/A

Next Calibration Date : 08-Jun-2023

Specification Limit : EN 60942: 2003 Class 1

**Laboratory Information**

Details of Calibration Equipment

Description : Reference Sound level meter  
Equipment ID. : R-119-2

Date of Calibration : 09-Jun-2022

Calibration Location : Calibration Laboratory of FTS Ambient Temperature :  $20 \pm 2$  °CMethod Used : By direct comparison Relative Humidity :  $< 80$  %RH**Calibration Results :**

| Parameters (Setting of UUT) | Mean Value (error of measurement) | Specification Limit(dB) |
|-----------------------------|-----------------------------------|-------------------------|
| 94dB                        | 0.1 dB                            | ±0.4dB                  |
| 114dB                       | 0.1 dB                            |                         |

**Remarks :**

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. The unit under test complies with the specification limit.
4. The values given in this Calibration Certificate only relate to the unit-under-test and the values measured at the time of the test. Any uncertainties quoted will not include allowances for the environmental changes, variation and shock during transportation, or the capability of any other laboratory to repeat the measurement.

Checked by : Cenny Date : 24-6-2022 Certified by : K.T. Leung Date : 25-6-2022  
CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)**\*\* End of Report \*\***

**CALIBRATION CERTIFICATE OF ANEMOMETER****Client Supplied Information**

Client : Fugro Technical Services Limited

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Anemometer

Manufacturer : Smart Sensor

Model No. : AR816

Serial No. : N/A

Equipment ID. : AM-001

Next Calibration Date : 28-Mar-2023

**Laboratory Information**

Details of Reference Equipment –

Description : Reference Anemometer

Equipment ID. : R-101-4

Date of Calibration : 29-Mar-2022 Ambient Temperature : 22 °C

Calibration Location : Calibration Laboratory of FTS

Method Used : In-house Method R-C-279

**Calibration Results :**

| Reference Reading<br>(m/s) | UUT Reading<br>(m/s) | Error<br>(m/s) |
|----------------------------|----------------------|----------------|
| 2.1                        | 2.0                  | -0.1           |
| 3.6                        | 4.0                  | 0.4            |
| 5.4                        | 6.0                  | 0.6            |
| 7.0                        | 8.0                  | 1.0            |
| 8.8                        | 10.0                 | 1.2            |

**Remarks :**

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The expanded uncertainty is 0.5 m/s with a coverage factor of 2 at a confidence level of 95%.
3. The reported readings in this calibration are an average from 10 trials.

Checked by : Cenny Date : 31-3-2022 Certified by : K. T. Leung Date : 1-4-2022  
CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)**\*\* End of Report \*\***

# Water Quality Monitoring Equipments

Report No. : 142626WA221442



Page 1 of 3

**Report on Calibration of YSI EXO-3 Multi-parameter Water Quality Meter****Information Supplied by Client**

Client : Fugro Technical Services Limited (MCL)

Client's address : 13/F, Fugro House – KCC2, No. 1 Kwai On Road, Kwai Chung, N.T., H.K.

Sample description : One YSI EXO-3 Multi-parameter Water Quality Meter

Client sample ID : Serial No. 19E100633

Test required : Calibration of the YSI EXO-3 Multi-parameter Water Quality Meter

**Laboratory Information**

Lab. sample ID : WA221442/1

Date sample received : 13/07/2022

Date of calibration : 27/07/2022

Next calibration date : 26/10/2022

Test method used : In-house comparison method

*Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.*

Report No. : 142626WA221442

Page 2 of 3

**Results :**
**A. pH calibration**

| pH reading at 25°C for Q.C. solution(6.86) and at 25°C for Q.C. solution(9.18) |          |           |
|--|----------|-----------|
| Theoretical  | Measured | Deviation |
| 9.18   | 9.17     | -0.01     |
| 6.86   | 6.96     | +0.10     |

**B. Salinity calibration**

| Salinity, ppt |          |           |                              |
|---------------|----------|-----------|------------------------------|
| Theoretical   | Measured | Deviation | Maximum acceptable Deviation |
| 1             | 1.00     | 0         | ± 0.1                        |
| 10            | 9.99     | -0.01     | ± 0.5                        |
| 20            | 20.16    | +0.16     | ± 1.0                        |
| 30            | 30.10    | +0.10     | ± 1.5                        |
| 40            | 40.19    | +0.19     | ± 2.0                        |

**C. Dissolved Oxygen calibration**

| Trial No. | Dissolved oxygen content, mg/L |               |
|-----------|--------------------------------|---------------|
|           | By Titration                   | By D.O. meter |
| 1         | 7.53                           | 7.50          |
| 2         | 7.53                           | 7.49          |
| 3         | 7.53                           | 7.49          |
| Average   | 7.53                           | 7.49          |

Differences of D.O. Content between Wrinkler Titration and D.O. meter should be less than 0.2 mg/L.

 Certified by : 

 Approved Signatory : HO Kin Man, John  
 Assistant General Manager – Laboratories

Date : 5/8/2022

*Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.*

Report No. : 142626WA221442

Page 3 of 3

**Results :**

**D. Temperature calibration**

| Thermometer reading, °C | Meter reading, °C |
|-------------------------|-------------------|
| 24.8                    | 24.850            |

**E. Turbidity calibration**

| Turbidity, N.T.U. |          |           |                              |
|-------------------|----------|-----------|------------------------------|
| Theoretical       | Measured | Deviation | Maximum acceptable Deviation |
| 4                 | 4.50     | +0.50     | ± 0.6                        |
| 8                 | 7.80     | -0.20     | ± 0.8                        |
| 40                | 40.96    | +0.96     | ± 3.0                        |
| 80                | 79.48    | -0.52     | ± 4.0                        |

Certified by :   
 Approved Signatory : HO Kin Man, John  
 Assistant General Manager – Laboratories  
 Date : 5/8/2022

\*\* End of Report \*\*

*Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.*



Report No. : 142626WA221480(1)



Page 1 of 3

**Report on Calibration of YSI EXO-1 Multi-parameter Water Quality Meter****Information Supplied by Client**

Client : Fugro Technical Services Limited (MCL)

Client's address : 13/F, Fugro House – KCC2, No. 1 Kwai On Road, Kwai Chung, N.T., H.K.

Sample description : One YSI EXO-1 Multi-parameter Water Quality Meter

Client sample ID : Serial No. 21D101383

Test required : Calibration of the YSI EXO-1 Multi-parameter Water Quality Meter

**Laboratory Information**

Lab. sample ID : WA220729(1)/1

Date sample received : 21/07/2022

Date of calibration : 04/08/2022

Next calibration date : 03/11/2022

Test method used : In-house comparison method

*Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.*

Report No. : 142626WA221480(1)

Page 2 of 3

**Results :**
**A. pH calibration**

| pH reading at 25°C for Q.C. solution(6.86) and at 25°C for Q.C. solution(9.18) |          |           |
|--|----------|-----------|
| Theoretical  | Measured | Deviation |
| 6.86   | 6.82     | -0.04     |
| 9.18   | 9.13     | -0.05     |

**B. Salinity calibration**

| Salinity, ppt |          |           |                              |
|---------------|----------|-----------|------------------------------|
| Theoretical   | Measured | Deviation | Maximum acceptable Deviation |
| 1             | 0.96     | -0.04     | ± 0.1                        |
| 10            | 9.91     | -0.09     | ± 0.5                        |
| 20            | 20.02    | +0.02     | ± 1.0                        |
| 30            | 29.81    | -0.19     | ± 1.5                        |
| 40            | 39.74    | -0.26     | ± 2.0                        |

**C. Dissolved Oxygen calibration**

| Trial No. | Dissolved oxygen content, mg/L |               |
|-----------|--------------------------------|---------------|
|           | By Titration                   | By D.O. meter |
| 1         | 7.63                           | 7.54          |
| 2         | 7.43                           | 7.55          |
| 3         | 7.78                           | 7.60          |
| Average   | 7.61                           | 7.56          |

Differences of D.O. Content between Winkler Titration and D.O. meter should be less than 0.2 mg/L

Certified by : Chan Hoi Yan  
 Approved Signatory : CHAN Hoi Yan, Winnie  
 Assistant Manager

Date : 15-8-2022

*Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.*

Report No. : 142626WA221480(1)

Page 3 of 3

**Results :**

**D. Temperature calibration**

| Thermometer reading, °C | Meter reading, °C |
|-------------------------|-------------------|
| 24.646                  | 24.8              |

**E. Turbidity calibration**

| Turbidity, N.T.U. |          |           |                              |
|-------------------|----------|-----------|------------------------------|
| Theoretical       | Measured | Deviation | Maximum acceptable Deviation |
| 4                 | 4.36     | +0.36     | ± 0.6                        |
| 8                 | 7.94     | +0.6      | ± 0.8                        |
| 40                | 40.06    | +0.06     | ± 3.0                        |
| 80                | 79.66    | -0.34     | ± 4.0                        |

Certified by : Chan Hoi Yan  
 Approved Signatory : CHAN Hoi Yan, Winnie  
 Assistant Manager

Date : 15-8-2022  
 \*\* End of Report \*\*

*Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.*

# CALIBRATION CERTIFICATE

This document certifies that the instrument detailed below has been calibrated according to Valeport Limited's Standard Procedures, using equipment with calibrations traceable to UKAS or National Standards.

**Calibration Certificate Number:**

**61134**

**Instrument Type:**

**MODEL 106**

**Instrument Serial Number:**

**67738**

**Calibrated By:**

**N.PADDON**

**Date:**

**11<sup>TH</sup> NOVEMBER 2019**

**Signed:**

*N. Paddon*

Full details of the results from the calibration procedure applied to each fitted sensor are available, on request, via email. This summary certificate should be kept with the instrument.

**50**

**Valeport Limited**  
St. Peter's Quay, Totnes,  
Devon TQ9 5EW UK

+44 (0) 1803 869292  
sales@valeport.co.uk  
[www.valeport.co.uk](http://www.valeport.co.uk)

VAT No. CB 165 8753 67  
Registered in England No. 1950444





a xylem brand

9940 Summers Ridge Road  
San Diego, CA 92121  
Tel: (858) 546-8327  
support@sontek.com

## Certificate of Calibration

### TEST REPORT

|                          |            |
|--------------------------|------------|
| Serial Number            | 5906       |
| System Type              | M9         |
| System Orientation       | Down       |
| Compass Type             | Sontek     |
| Compass Offset (degrees) | N/A        |
| Communications Output    | RS232      |
| Recorder Size (GB)       | 14.9       |
| Firmware Version         | 4.02       |
| Date Tested              | 05/23/2017 |

### POWER TEST

|                      |      |                     |
|----------------------|------|---------------------|
| Command Mode (W):    | 0.17 | Range : 0.00 – 0.30 |
| Sleep Mode (W):      | N/A  | Range : N/A         |
| Ping Mode - 18V (W): | 2.67 | Range : 1.50 – 3.50 |
| Power Check          |      | PASS                |

### NOISE TEST

|                                 |      |
|---------------------------------|------|
| Beam 1 – 3.0 MHz (counts)       | 95   |
| Beam 2 – 1.0 MHz (counts)       | 96   |
| Beam 3 – 3.0 MHz (counts)       | 95   |
| Beam 4 – 1.0 MHz (counts)       | 101  |
| Beam 5 – 3.0 MHz (counts)       | 93   |
| Beam 6 – 1.0 MHz (counts)       | 95   |
| Beam 7 – 3.0 MHz (counts)       | 91   |
| Beam 8 – 1.0 MHz (counts)       | 100  |
| Beam Vertical – 500KHz (counts) | 88   |
| Noise Test                      | PASS |

## VERIFICATION

|                         |      |
|-------------------------|------|
| Velocity Check          | PASS |
| Transmit Output         | PASS |
| Sensitivity             | PASS |
| Temperature Sensor      | PASS |
| Compass Heading Check   | PASS |
| Compass Level Check     | PASS |
| Burn-in (24 hrs)        | PASS |
| Load Default Parameters | DONE |

## OPTIONS

|                             |           |
|-----------------------------|-----------|
| Bottom Track                | Installed |
| SmartPulse HD <sup>TM</sup> | Enabled   |
| Stationary                  | Disabled  |
| GPS Compass Integration     | Disabled  |
| RiverSurveyor               | Enabled   |
| HydroSurveyor               | Disabled  |

Verified by: **ainthasane**

This report was generated on 5/24/2017.

ATTENTION: New Warranty Terms as of March 4, 2013:

This system is covered under a two year limited warranty that extends to all parts and labor for any malfunction due to workmanship or errors in the manufacturing process. The warranty is valid only if you properly maintain and operate this system under normal use as outlined in the User's Manual. The warranty does not cover shortcomings that are due to the design, or any incidental damages as a result of errors in the measurements.

SonTek will repair and/or replace, at its sole option, any product established to be defective with a product of like type. CLAIMS FOR LABOR COSTS AND/OR OTHER CHARGES RESULTING FROM THE USE OF SonTek GOODS AND/OR PRODUCTS ARE NOT COVERED BY THIS LIMITED WARRANTY.

SonTek DISCLAIMS ALL EXPRESS WARRANTIES OTHER THAN THOSE CONTAINED ABOVE AND ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE. SonTek DISCLAIMS AND WILL NOT BE LIABLE, UNDER ANY CIRCUMSTANCE, IN CONTRACT, TORT OR WARRANTY, FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND, INCLUDING BUT NOT LIMITED TO LOST PROFITS, BUSINESS INTERRUPTION LOSSES, LOSS OF GOODWILL, OR LOSS OF BUSINESS OR CUSTOMER RELATIONSHIPS.

If your system is not functioning properly, first try to identify the source of the problem. If additional support is required, we encourage you to contact us immediately. We will work to resolve the problem as quickly as possible.

If the system needs to be returned to the factory, please contact SonTek to obtain a Service Request (SR) number. We reserve the right to refuse receipt of shipments without SRs. We require the system to be shipped back in the original shipping container using the original packing material with all delivery costs covered by the customer (including all taxes and duties). If the system is returned without appropriate packing, the customer will be required to cover the cost of a new packaging crate and material.

The warranty for repairs performed at an authorized SonTek Service Center is one year.