

Air Quality Monitoring Equipment

Report no. : 940891CA202730(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 : 22-Nov-2021

Laboratory Information

Description : 1. Balance 2. TSP high volume air sampler
 Equipment ID. / Serial no. : 1. C-065-9 2. 4350
 Date of Calibration : 23-Nov-2020 Ambient Temperature : 25 ± 10 °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 ³)	Total count for 1 hour	CPM (Count per minute)
0.0915	3647	60.78
0.0469	3027	50.45
0.1172	3861	64.35

Remarks:

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The interpolation equation : Concentration (mg/m³) = K x [UUT reading (CPM)], where K = 0.001456
3. Correlation coefficient (r) : 0.9928

Checked by : Conroy Date : 15-12-2020 Certified by : K.T. Leung Date : 15-12-2020

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: 23-Oct-20
Location ID: A1 Site Boundary	Next Calibration Date: 22-Jan-21
	Technician: Felix

CONDITIONS

Sea Level Pressure (hPa):	1011.40	Corrected Pressure (mm Hg):	759
Temperature (°C):	24	Temperature (K):	297

CALIBRATION ORIFICE

Make: Tisch	Qstd Slope: 2.11508
Model: TE-5025A	Qstd Intercept: -0.02962
Calibration Date: 11/9/2020	Expiry Date: 11/9/2021

CALIBRATIONS

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m ³ /min)	I (chart)	IC (corrected)	LINEAR REGRESSION
18	5.40	-6.00	11.400	1.613	61.00	61.10	Slope = 32.5454
13	4.30	-4.70	9.000	1.435	54.00	54.09	Intercept = 8.0074
10	3.30	-3.70	7.000	1.267	49.00	49.08	Corr. coeff.: 0.9991
7	2.00	-2.50	4.500	1.019	41.00	41.07	
5	1.10	-1.60	2.700	0.792	34.00	34.05	

Calculations:

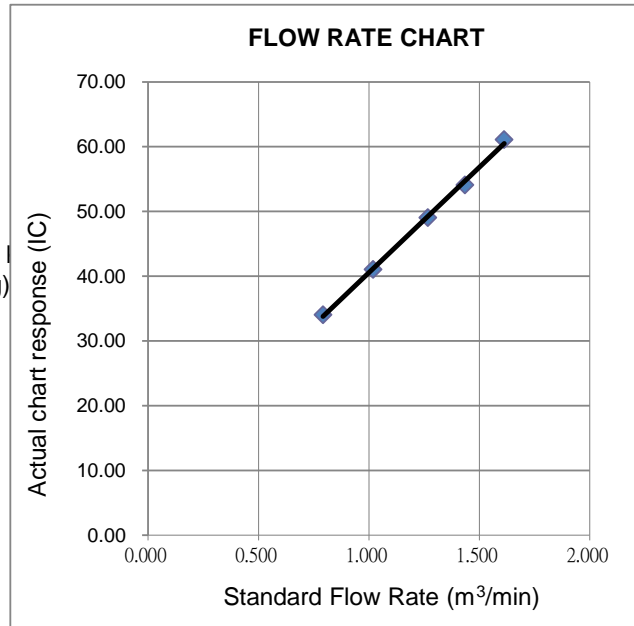
$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$$

$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

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

Project: Contract No. SPW 07/2020	Date of Calibration: 28-Mar-2021
Location: Yuen Long Sewage Treatment Works	Next Calibration Date: 27-Sep-2021
Brand: Global Water	Technician: Sam Fong
Model: GL500-7-2	Serial No: 2012000974
Anemometer	
Brand: Benetech	Equipment ID: 08
Model: GM816	
Procedures:	
1. Wind Still Test:	The wind speed sensor was held by hand until stabilized.
2. Wind Speed Test:	The wind meter was calibrated in-situ and compared with the Anemometer.
3. Wind Direction Test:	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)
1.2	1.0
1.5	1.4
2.8	3.0

Wind Direction Test:

	Marine Compass (o)
358	358
266	264
154	150
243	244

Wan Ka Ho
Project Consultant

Report Date: 1/4/2021

CALIBRATION REPORT OF WIND METER

Project: Contract No. SPW 07/2020 Location: Yuen Long Sewage Treatment Works	Date of Calibration: 27-Sep-2021 Next Calibration Date: 26-Mar-2022 Technician: Sam Fong
Brand: Global Water Model: GL500-7-2	Serial No: 2012000974
Anemometer	
Brand: Benetech Model: GM816	Equipment ID: 08
Procedures:	
1. Wind Still Test: 2. Wind Speed Test: 3. Wind Direction Test:	The wind speed sensor was held by hand until stabilized. The wind meter was calibrated in-situ and compared with the Anemometer. 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)
1.7	1.5
2.5	2.4
1.4	1.6

Wind Direction Test:

	Marine Compass (o)
137	135
98	96
205	204
314	316



Wan Ka Ho
 Project Consultant

Report Date: 29/9/2021

Noise Monitoring Equipment

Report no.: 203258CA211142

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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.	0873599	02374	003916

Equipment ID : N-45

Next Calibration Date : 27-May-2022

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 : 28-May-2021

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 frequency response	4000Hz	2.6 to -0.6
	2000Hz	2.8 to -0.4
	1000Hz	1.1 to -1.1
	500Hz	-1.8 to -4.6
	250Hz	-7.2 to -10.0
	125Hz	-14.6 to -17.6
	63Hz	-24.7 to -27.7
	31.5Hz	-37.4 to -41.4
Differential level linearity	94dB-104dB	± 0.6
	104dB-114dB	± 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 unit under test and the values measured at the time of the test. 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 : William Date : 1-6-2021 Certified by : K. T. Leung Date : 1-6-2021

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

Leung Kwok Tai (Assistant Manager)

**** End of Report ****

Report no.: 203258CA202302(2)

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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	03876	002752

Equipment ID : N-62

Next Calibration Date : 29-Oct-2021

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 : 30-Oct-2020

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 frequency response	4000Hz	1.5 2.6 to -0.6
	2000Hz	1.3 2.8 to -0.4
	1000Hz	-0.1 1.1 to -1.1
	500Hz	-3.5 -1.8 to -4.6
	250Hz	-8.9 -7.2 to -10.0
	125Hz	-16.4 -14.6 to -17.6
	63Hz	-26.4 -24.7 to -27.7
	31.5Hz	-39.4 -37.4 to -41.4
Differential level linearity	94dB-104dB	0.0 ± 0.6
	104dB-114dB	0.0 ± 0.6

Remarks :

- The equipment used in this calibration is traceable to recognized National Standards.
- The mean value is the average of four measurements.
- For calibration: Reference SPL are 94, 104 & 114dB, range setting is 20-140dB & time weighting is fast.
- The UUT does comply with EN 61672-1: 2003 Class 1 sound level meter for the above measurement.
- 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 : William Date : 4-11-2020 Certified by : K.T. Leung Date : 4-11-2020
 CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)

** End of Report **

Report no.: 203258CA210891

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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. : 4358251
 Equipment ID : N-34

Next Calibration Date : 10-May-2022

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 : 11-May-2021

Calibration Location : Calibration Laboratory of FTS Ambient Temperature : 20±2 °C

Method Used : By direct comparison Relative Humidity : <80% R.H.

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 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 : William Date : 12-5-2021 Certified by : R. T. Leung Date : 12-5-2021

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

Leung Kwok Tai (Assistant Manager)

**** End of Report ****

Report no.: 212769CA212069(3)

Page 1 of 1

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. : 2383707
Equipment ID : N/A

Next Calibration Date : 25-Aug-2022

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 : 26-Aug-2021

Calibration Location : Calibration Laboratory of FTS Ambient Temperature : 20±2 °C

Method Used : By direct comparison Relative Humidity : <80% R.H.

Calibration Results :

Parameters (Setting of UUT)	Mean Value (error of measurement)	Specification Limit(dB)
94dB	-0.4 dB	±0.4dB
114dB	-0.3 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 : Canny Date : 27-8-2021 Certified by : K. Leung Date : 27-8-2021
CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)

**** End of Report ****

Report No. : 212769CA211145

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CALIBRATION CERTIFICATE OF ANEMOMETER

Client Supplied Information

Client : Fugro Technical Services Limited

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Anemometer

Manufacturer : SENSOR

Model No. : AR816

Serial No. : 2136513

Equipment ID.: NA

Next Calibration Date : 30-May-2022

Laboratory Information

Details of Reference Equipment –

Description : Reference Anemometer

Equipment ID.: R-101-4

Date of Calibration : 31-May-2021 Ambient Temperature : 22 °C

Calibration Location : Calibration Laboratory of FTS

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

Calibration Results :

Reference Reading (m/s)	UUT Reading (m/s)	Error (m/s)
1.99	2.0	0.0
4.00	4.3	0.3
6.01	6.3	0.3
7.99	8.2	0.2
10.03	9.9	-0.1

Remark :

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

Checked by : William Date : 2-6-2021 Certified by : P.T. Leung Date : 2-6-2021

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

Leung Kwok Tai (Assistant Manager)

** End of Report **

Water Quality Monitoring Equipment



Report No. : 142626WA211145(1)



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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 : Rm. 723-726, 7/F, Profit Industrial Building, No. 1-15, Kwai Fung Crescent, Kwai Chung, N.T.
Sample description : One YSI EXO-3 Multi-parameter Water Quality Meter
Client sample ID : Serial No. 19A105808
Test required : Calibration of the YSI EXO-3 Multi-parameter Water Quality Meter

Laboratory Information

Lab. sample ID : WA211145/2
Date sample received : 08/06/2021
Date of calibration : 21/06/2021
Next calibration date : 20/09/2021
Test method used : In-house comparison method

Note : This report refers only to the sample(s) tested.

Report No. : 142626WA211145(1)

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Results :

D. Temperature calibration

Thermometer reading, °C	Meter reading, °C
23.2	23.102

E. Turbidity calibration

Turbidity, N.T.U.			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
0	-	-	± 0.5
4	4.32	+0.32	± 0.6
8	8.12	+0.12	± 0.8
40	41.06	+1.06	± 3.0
80	79.39	-0.61	± 4.0

Certified by :

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

Date :

08/07/2011
 ** End of Report **

Note : This report refers only to the sample(s) tested.

Report No. : 142626WA211145



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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 : Rm. 723-726, 7/F, Profit Industrial Building, No. 1-15,
Kwai Fung Crescent, Kwai Chung, N.T.

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

Client sample ID : Serial No. 19A105807

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

Laboratory Information

Lab. sample ID : WA211145/1

Date sample received : 08/06/2021

Date of calibration : 21/06/2021

Next calibration date : 20/09/2021

Test method used : In-house comparison method

Note : This report refers only to the sample(s) tested.

Report No. : 142626WA211145

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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	9.16	-0.02
6.86	6.87	+0.01

B. Salinity calibration


Salinity, ppt			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
10	9.99	-0.01	± 0.5
20	19.72	-0.28	± 1.0
30	29.84	-0.16	± 1.5
40	39.86	-0.14	± 2.0

C. Dissolved Oxygen calibration

Trial No.	Dissolved oxygen content, mg/L	
	By Titration	By D.O. meter
1	7.44	7.61
2	7.44	7.60
3	7.62	7.65
Average	7.50	7.62

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

Certified by :


 Approved Signatory : CHAN Hoi Yan, Winnie
 Assistant Manager

Date :



Note : This report refers only to the sample(s) tested.

Report No. : 142626WA211145

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Results :

D. Temperature calibration

Thermometer reading, °C	Meter reading, °C
23.2	23.452

E. Turbidity calibration

Turbidity, N.T.U.			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
0	-	-	± 0.5
4	4.36	+0.36	± 0.6
8	8.64	+0.64	± 0.8
40	41.25	+1.25	± 3.0
80	80.40	+0.40	± 4.0

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

Date : 08-07-2021
 ** End of Report **

Note : This report refers only to the sample(s) tested.



Report No. : 142626WA211884



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 : Rm. 723-726, 7/F, Profit Industrial Building, No. 1-15,
Kwai Fung Crescent, Kwai Chung, N.T.
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 : WA211884/1
Date sample received : 14/09/2021
Date of calibration : 16/09/2021
Next calibration date : 15/12/2021
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. : 142626WA211884

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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	9.19	+0.01
6.86	6.82	-0.04


B. Salinity calibration

Salinity, ppt			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
1	1.00	0.00	± 0.1
10	9.95	-0.05	± 0.5
20	19.87	-0.13	± 1.0
30	29.91	-0.09	± 1.5
40	39.70	-0.30	± 2.0

C. Dissolved Oxygen calibration

Trial No.	Dissolved oxygen content, mg/L	
	By Titration	By D.O. meter
1	7.47	7.64
2	7.85	7.72
3	7.57	7.76
Average	7.63	7.71

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 : 6/10/2011

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

Report No. : 142626WA211884

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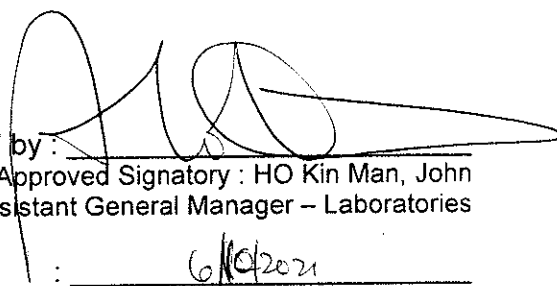
Results :

D. Temperature calibration

Thermometer reading, °C	Meter reading, °C
24.40	24.31

E. Turbidity calibration

Turbidity, N.T.U.			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
4	4.20	+0.20	± 0.6
8	8.08	+0.08	± 0.8
40	38.54	-1.46	± 3.0
80	80.26	+0.26	± 4.0

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

Date : 6/10/2021

**** 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. : 142626WA211884(1)



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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 : Rm. 723-726, 7/F, Profit Industrial Building, No. 1-15,
Kwai Fung Crescent, Kwai Chung, N.T.
Sample description : One YSI EXO-3 Multi-parameter Water Quality Meter
Client sample ID : Serial No. 19E100634
Test required : Calibration of the YSI EXO-3 Multi-parameter Water Quality Meter

Laboratory Information

Lab. sample ID : WA211884/2
Date sample received : 14/09/2021
Date of calibration : 16/09/2021
Next calibration date : 15/12/2021
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. : 142626WA211884(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
9.18	9.15	-0.03
6.86	6.81	-0.05

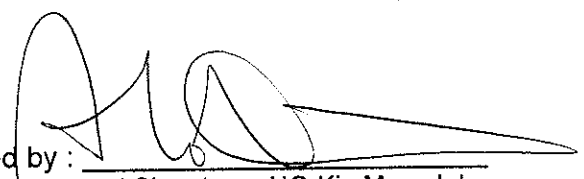
B. Salinity calibration

Salinity, ppt			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
1	1.00	0.00	± 0.1
10	9.96	-0.04	± 0.5
20	19.91	-0.09	± 1.0
30	29.97	-0.03	± 1.5
40	39.76	-0.24	± 2.0

C. Dissolved Oxygen calibration

Trial No.	Dissolved oxygen content, mg/L	
	By Titration	By D.O. meter
1	7.50	7.64
2	7.65	7.64
3	7.57	7.61
Average	7.57	7.63

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 : 6/10/2011

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

Report No. : 142626WA211884(1)

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Results :

D. Temperature calibration

Thermometer reading, °C	Meter reading, °C
23.30	23.31

E. Turbidity calibration

Turbidity, N.T.U.			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
4	4.26	+0.26	± 0.6
8	7.61	-0.39	± 0.8
40	39.98	-0.02	± 3.0
80	79.85	-0.15	± 4.0

F. Chlorophyll calibration

Chlorophyll reading at 22.4°C for Std. solution (62.5ug/L)		
Theoretical (ug/L) (Temp.-compensated)	Measured	Deviation
66.0	66.1	+0.1

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


Date : 6/10/2021

** 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 TH NOVEMBER 2019
Signed:	

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.

A large, stylized number '50' in a bold, sans-serif font, with a small square graphic element at the top right corner of the '0'.

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a xylem brand

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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 TM	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.