

Appendix E

Copies of
Calibration
Certificates for Air
Quality
Monitoring and
Water Quality
Monitoring

High-Volume TSP Sampler
5-Point Calibration Record

Location : ASR 5
 Calibrated by : P.F.Yeung
 Date : 08/04/2020

Sampler

Model : TE-5170
 Serial Number : S/N 0816

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 18 February 2020
 Slope (m) : 2.07134
 Intercept (b) : -0.04091
 Correlation Coefficient(r) : 0.99999

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1016
 Ta(K) : 298

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1 18 holes	12.0	3.469	1.695	55	55.08
2 13 holes	9.5	3.087	1.510	50	50.07
3 10 holes	6.8	2.612	1.281	44	44.07
4 7 holes	4.6	2.148	1.057	37	37.05
5 5 holes	2.5	1.583	0.784	28	28.04

Notes: $Z = \sqrt{\frac{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{\frac{Pa/Pstd}{Tstd/Ta}}\}$

Sampler Calibration Relationship (Linear Regression)

Slope(m): 29.595 Intercept(b): 5.420 Correlation Coefficient(r): 0.9986

Checked by: Magnum Fan

Date: 14/04/2020

High-Volume TSP Sampler
5-Point Calibration Record

Location : ASR10
 Calibrated by : P.F.Yeung
 Date : 08/04/2020

Sampler

Model : TE-5170
 Serial Number : S/N 8162

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 18 February 2020
 Slope (m) : 2.07134
 Intercept (b) : -0.04091
 Correlation Coefficient(r) : 0.99999

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1016
 Ta(K) : 298

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1 18 holes	11.4	3.381	1.652	54	54.08
2 13 holes	9.2	3.038	1.486	50	50.07
3 10 holes	6.5	2.553	1.252	45	45.07
4 7 holes	4.4	2.101	1.034	37	37.05
5 5 holes	2.2	1.485	0.737	27	27.04

Notes: $Z = \sqrt{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{Pa/Pstd}(Tstd/Ta)\}$

Sampler Calibration Relationship (Linear Regression)

Slope(m): 29.613 Intercept(b): 6.169 Correlation Coefficient(r): 0.9943

Checked by: Magnum Fan

Date: 14/04/2020

High-Volume TSP Sampler
5-Point Calibration Record

Location : AQMS1
 Calibrated by : P.F.Yeung
 Date : 08/04/2020

Sampler

Model : TE-5170
 Serial Number : S/N 1253

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 18 February 2020
 Slope (m) : 2.07134
 Intercept (b) : -0.04091
 Correlation Coefficient(r) : 0.99999

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1016
 Ta(K) : 298

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1 18 holes	12.0	3.469	1.695	54	54.08
2 13 holes	9.2	3.038	1.486	50	50.07
3 10 holes	6.6	2.573	1.262	44	44.07
4 7 holes	4.4	2.101	1.034	36	36.05
5 5 holes	2.4	1.551	0.769	28	28.04

Notes: $Z = \sqrt{\frac{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{\frac{Pa/Pstd)(Tstd/Ta)}\}$

Sampler Calibration Relationship (Linear Regression)

Slope(m): 28.778

Intercept(b): 6.516

Correlation Coefficient(r): 0.9955

Checked by: Magnum Fan

Date: 14/04/2020

High-Volume TSP Sampler
5-Point Calibration Record

Location : ASR 1
 Calibrated by : P.F.Yeung
 Date : 08/04/2020

Sampler

Model : TE-5170
 Serial Number : S/N 0146

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 18 February 2020
 Slope (m) : 2.07134
 Intercept (b) : -0.04091
 Correlation Coefficient(r) : 0.99999

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1016
 Ta(K) : 298

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1 18 holes	11.6	3.411	1.666	52	52.08
2 13 holes	9.0	3.004	1.470	48	48.07
3 10 holes	6.7	2.592	1.271	43	43.06
4 7 holes	4.4	2.101	1.034	35	35.05
5 5 holes	2.2	1.485	0.737	27	27.04

Notes: $Z = \sqrt{\frac{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{\frac{Pa/Pstd}{Tstd/Ta}}\}$

Sampler Calibration Relationship (Linear Regression)

Slope(m): 27.603 Intercept(b): 6.950 Correlation Coefficient(r): 0.9971

Checked by: Magnum Fan

Date: 14/04/2020

High-Volume TSP Sampler
5-Point Calibration Record

Location : ASR 6
 Calibrated by : P.F.Yeung
 Date : 08/04/2020

Sampler

Model : TE-5170
 Serial Number : S/N 3957

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 18 February 2020
 Slope (m) : 2.07134
 Intercept (b) : -0.04091
 Correlation Coefficient(r) : 0.99999

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1016
 Ta(K) : 298

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1 18 holes	11.8	3.440	1.681	54	54.08
2 13 holes	9.2	3.038	1.486	49	49.07
3 10 holes	6.4	2.534	1.243	45	45.07
4 7 holes	4.5	2.124	1.045	38	38.06
5 5 holes	2.4	1.551	0.769	30	30.04

Notes: $Z = \sqrt{\frac{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{\frac{Pa/Pstd)(Tstd/Ta)}\}$

Sampler Calibration Relationship (Linear Regression)

Slope(m): 26.126 Intercept(b): 10.743 Correlation Coefficient(r): 0.9935

Checked by: Magnum Fan

Date: 14/04/2020

High-Volume TSP Sampler
5-Point Calibration Record

Location : ASR5
 Calibrated by : P.F.Yeung
 Date : 07/06/2020

Sampler

Model : TE-5170
 Serial Number : S/N 0816

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 18 February 2020
 Slope (m) : 2.07134
 Intercept (b) : -0.04091
 Correlation Coefficient(r) : 0.99999

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1006
 Ta(K) : 302

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1 18 holes	12.2	3.458	1.689	55	54.45
2 13 holes	9.5	3.051	1.493	50	49.50
3 10 holes	7.0	2.619	1.284	46	45.54
4 7 holes	4.8	2.169	1.067	38	37.62
5 5 holes	2.6	1.596	0.790	30	29.70

Notes: $Z = \sqrt{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{Pa/Pstd}(Tstd/Ta)\}$

Sampler Calibration Relationship (Linear Regression)

Slope(m): 27.714 Intercept(b): 8.311 Correlation Coefficient(r): 0.9954

Checked by: Magnum Fan

Date: 10/06/2020

High-Volume TSP Sampler
5-Point Calibration Record

Location : ASR10
 Calibrated by : P.F.Yeung
 Date : 07/06/2020

Sampler

Model : TE-5170
 Serial Number : S/N 8162

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 18 February 2020
 Slope (m) : 2.07134
 Intercept (b) : -0.04091
 Correlation Coefficient(r) : 0.99999

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1006
 Ta(K) : 302

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1 18 holes	11.2	3.313	1.619	54	53.46
2 13 holes	9.0	2.970	1.453	50	49.50
3 10 holes	6.5	2.524	1.238	45	44.55
4 7 holes	4.2	2.029	0.999	37	36.63
5 5 holes	2.4	1.534	0.760	28	27.72

Notes: $Z = \sqrt{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{Pa/Pstd}(Tstd/Ta)\}$

Sampler Calibration Relationship (Linear Regression)

Slope(m): 29.805 Intercept(b): 6.184 Correlation Coefficient(r): 0.9943

Checked by: Magnum Fan

Date: 10/06/2020

High-Volume TSP Sampler
5-Point Calibration Record

Location : AQMS1
 Calibrated by : P.F.Yeung
 Date : 07/06/2020

Sampler

Model : TE-5170
 Serial Number : S/N 1253

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 18 February 2020
 Slope (m) : 2.07134
 Intercept (b) : -0.04091
 Correlation Coefficient(r) : 0.99999

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1006
 Ta(K) : 302

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1 18 holes	12.0	3.429	1.675	54	53.46
2 13 holes	9.2	3.003	1.469	48	47.52
3 10 holes	6.8	2.581	1.266	43	42.57
4 7 holes	4.6	2.123	1.045	37	36.63
5 5 holes	2.2	1.468	0.729	28	27.72

Notes: $Z = \sqrt{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \sqrt{Pa/Pstd}(Tstd/Ta)$

Sampler Calibration Relationship (Linear Regression)

Slope(m): 26.943

Intercept(b): 8.253

Correlation Coefficient(r): 0.9997

Checked by: Magnum Fan

Date: 10/06/2020

High-Volume TSP Sampler
5-Point Calibration Record

Location : ASR1
 Calibrated by : P.F.Yeung
 Date : 07/06/2020

Sampler

Model : TE-5170
 Serial Number : S/N 0146

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 18 February 2020
 Slope (m) : 2.07134
 Intercept (b) : -0.04091
 Correlation Coefficient(r) : 0.99999

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1006
 Ta(K) : 302

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1 18 holes	11.8	3.400	1.661	54	53.46
2 13 holes	9.2	3.003	1.469	49	48.51
3 10 holes	6.6	2.543	1.248	44	43.56
4 7 holes	4.2	2.029	0.999	37	36.63
5 5 holes	2.3	1.501	0.745	29	28.71

Notes: $Z = \sqrt{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \sqrt{Pa/Pstd}(Tstd/Ta)$

Sampler Calibration Relationship (Linear Regression)

Slope(m): 26.712 Intercept(b): 9.464 Correlation Coefficient(r): 0.9982

Checked by: Magnum Fan

Date: 10/06/2020

High-Volume TSP Sampler
5-Point Calibration Record

Location : ASR6
 Calibrated by : P.F.Yeung
 Date : 07/06/2020

Sampler

Model : TE-5170
 Serial Number : S/N 3957

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 18 February 2020
 Slope (m) : 2.07134
 Intercept (b) : -0.04091
 Correlation Coefficient(r) : 0.99999

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1006
 Ta(K) : 302

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1 18 holes	12.2	3.458	1.689	55	54.45
2 13 holes	9.4	3.035	1.485	50	49.50
3 10 holes	6.8	2.581	1.266	45	44.55
4 7 holes	4.6	2.123	1.045	38	37.62
5 5 holes	2.4	1.534	0.760	30	29.70

Notes: $Z = \sqrt{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{Pa/Pstd}(Tstd/Ta)\}$

Sampler Calibration Relationship (Linear Regression)

Slope(m): 26.773 Intercept(b): 9.721 Correlation Coefficient(r): 0.9984

Checked by: Magnum Fan

Date: 10/06/2020

Certificate of Calibration

Calibration Certification Information			
Cal. Date: February 18, 2020	Rootsmeter S/N: 438320	Ta: 294	°K
Operator: Jim Tisch		Pa: 753.1	mm Hg
Calibration Model #: TE-5025A	Calibrator S/N: 2454		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4190	3.2	2.00
2	3	4	1	1.0100	6.4	4.00
3	5	6	1	0.9020	7.9	5.00
4	7	8	1	0.8600	8.8	5.50
5	9	10	1	0.7110	12.7	8.00

Data Tabulation					
Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H \left(\frac{Pa}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H \left(\frac{Ta}{Pa} \right)}$ (y-axis)
1.0001	0.7048	1.4173	0.9958	0.7017	0.8836
0.9959	0.9860	2.0044	0.9915	0.9817	1.2496
0.9939	1.1019	2.2410	0.9895	1.0970	1.3971
0.9927	1.1543	2.3504	0.9883	1.1492	1.4653
0.9875	1.3889	2.8347	0.9831	1.3828	1.7672
QSTD	m=	2.07134	QA	m=	1.29704
	b=	-0.04091		b=	-0.02551
	r=	0.99999		r=	0.99999

Calculations			
Vstd=	$\Delta Vol \left(\frac{Pa - \Delta P}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)$	Va=	$\Delta Vol \left(\frac{Pa - \Delta P}{Pa} \right)$
Qstd=	Vstd/ΔTime	Qa=	Va/ΔTime
For subsequent flow rate calculations:			
Qstd=	$1/m \left(\left(\sqrt{\Delta H \left(\frac{Pa}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)} \right) - b \right)$	Qa=	$1/m \left(\left(\sqrt{\Delta H \left(\frac{Ta}{Pa} \right)} \right) - b \right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg
Key	
ΔH:	calibrator manometer reading (in H2O)
ΔP:	rootsmeter manometer reading (mm Hg)
Ta:	actual absolute temperature (°K)
Pa:	actual barometric pressure (mm Hg)
b:	intercept
m:	slope

RECALIBRATION
US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30



輝創工程有限公司

Sun Creation Engineering Limited

Calibration & Testing Laboratory

Certificate of Calibration

校正證書

Certificate No. : C193443

證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC19-1283)

Date of Receipt / 收件日期 : 21 June 2019

Description / 儀器名稱 : Anemometer

Manufacturer / 製造商 : Lutron

Model No. / 型號 : AM-4201

Serial No. / 編號 : AF.27513

Supplied By / 委託者 : Envirotech Services Co.

Room 113, 1/F, My Loft, 9 Hoi Wing Road, Tuen Mun,
New Territories, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : $(23 \pm 2)^{\circ}\text{C}$

Relative Humidity / 相對濕度 : $(50 \pm 25)\%$

Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 2 July 2019

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.

The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- Testo Industrial Services GmbH, Germany

Tested By

測試

T F Lee

Assistant Engineer

Certified By

核證

H C Chan

Engineer

Date of Issue

簽發日期

5 July 2019

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗室書面批准。

Sun Creation Engineering Limited - Calibration & Testing Laboratory

c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

輝創工程有限公司 - 校正及檢測實驗室

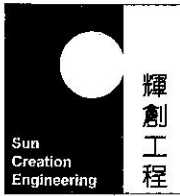
c/o 香港新界屯門興安里一號四樓

Tel/電話: (852) 2927 2606

Fax/傳真: (852) 2744 8986

E-mail/電郵: callab@suncreation.com

Website/網址: www.suncreation.com



Certificate of Calibration

校正證書

Certificate No. : C193443
證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
- The results presented are the mean of 10 measurements at each calibration point.
- Test equipment :

<u>Equipment ID</u>	<u>Description</u>	<u>Certificate No.</u>
CL386	Multi-function Measuring Instrument	S16493

- Test procedure : MA130N.

- Results :

Air Velocity

Applied Value (m/s)	UUT Reading (m/s)	Measured Correction		
		Value (m/s)	Measurement Uncertainty	
			Expanded Uncertainty (m/s)	Coverage Factor
2.0	1.8	+0.2	0.2	2.0
4.0	3.8	+0.2	0.3	2.0
6.0	5.8	+0.2	0.3	2.0
8.1	7.9	+0.2	0.3	2.0
10.1	10.0	+0.1	0.4	2.0

Remarks : - The Measured Corrections are defined as :
Value = Applied Value - UUT Reading

- The expanded uncertainties are for a level of confidence of 95 %.

Note :

Only the original copy or the laboratory's certified true copy is valid.

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted 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. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗室書面批准。

ENVIROTECH SERVICES CO.

Calibration Report of Wind Meter

Date of Calibration : 30 December 2019

Brand of Test Meter: Davis

Model: Vantage Pro 2 (s/n: AS160104014)

Location : Roof of Tuen Mun Firestation

Procedures :

- 1. Wind Still Test: The wind speed sensor was hold by hand until it keep still
- 2. Wind Speed Test: The wind meter was on-site calibrated against the Anemometer
- 3. Wind Direction Test : The wind meter was on-site calibrated against the marine compass at four directions

Results:

Wind Still Test

Wind Speed (m/s)
0.00

Wind Speed Test

Davis (m/s)	Anemometer (m/s)
3.1	3.3
2.6	2.8
1.4	1.2

Wind Direction Test

Davis (o)	Marine Compass (o)
271	270
0	0
89	90
179	180

Calibrated by: *Ho*
Yeung Ping Fai
(Technical Officer)

Checked by : *Fai*
Ho Kam Fat
(Senior Technical Officer)



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

Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AJ060054
Date of Issue : 10 June 2020
Page No. : 1 of 2

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Flat 2207, Yu Fun House,
Yu Chui Court, Shatin
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment : YSI ProDSS (Multi-Parameters)
Manufacturer : YSI (a xylem brand)
Serial Number : 16H104234
Date of Received : Jun 10, 2020
Date of Calibration : Jun 10, 2020
Date of Next Calibration^(a) : Sep 09, 2020

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

<u>Parameter</u>	<u>Reference Method</u>
pH at 25°C	APHA 21e 4500-H ⁺ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS^(b,c)

(1) pH at 25°C

Target (pH unit)	Displayed Reading ^(d) (pH Unit)	Tolerance ^(e) (pH Unit)	Results
4.00	3.98	-0.02	Satisfactory
7.42	7.46	0.04	Satisfactory
10.01	9.96	-0.05	Satisfactory

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

(2) Temperature


Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
10.0	10.1	0.1	Satisfactory
35.0	35.5	0.5	Satisfactory
50.0	50.2	0.2	Satisfactory

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

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

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


LEE Chun-ning, Desmond
Senior Chemist



REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AJ060054
Date of Issue : 10 June 2020
Page No. : 2 of 2

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.40	0.40	0.00	Satisfactory
2.66	2.78	0.12	Satisfactory
5.80	5.80	0.00	Satisfactory
7.78	7.91	0.13	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 ($\mu\text{S/cm}$)	Displayed Reading ($\mu\text{S/cm}$)	Tolerance (%)	Results
0.001	146.9	148.2	0.88	Satisfactory
0.01	1412	1409	-0.21	Satisfactory
0.1	12890	13068	1.38	Satisfactory
0.5	58670	57992	-1.16	Satisfactory
1.0	111900	112936	0.93	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.94	-0.60	Satisfactory
20	19.92	-0.40	Satisfactory
30	30.21	0.70	Satisfactory

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

(6) Turbidity

Expected Reading (NTU)	Displayed Reading ^(f) (NTU)	Tolerance ^(g) (%)	Results
0	0	--	Satisfactory
10	9.90	-1.00	Satisfactory
20	19.92	-0.40	Satisfactory
100	106.12	6.12	Satisfactory
800	796.40	-0.45	Satisfactory

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

~ END OF REPORT ~

Remark(s): -

^(f) "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 from relevant international standards.