# Calibration Certificate

Certificate Number 2020014198 Customer: Lam Geotechnics Ltd

Model Number Serial Number Test Results Initial Condition	LxT SE 000630 <b>Pass</b> As Man		Procedure Number Technician Calibration Date Calibration Due		arris c 2020	
Description	Class 1	Expert LxT Sound Level Meter are Revision: 2.404	Temperature Humidity Static Pressure	23.25 51.6 85.71	%RH	± 0.25 °C ± 2.0 %RH ± 0.13 kPa
Evaluation Metho	od	<i>Tested with:</i> Larson Davis PRMLxT1L. S/N 070008 PCB 377B02. S/N 325638 Larson Davis CAL200. S/N 9079 Larson Davis CAL291. S/N 0108	Dat	a report	ed in di	B re 20 μPa.
Compliance StandardsCompliant to Manufacturer Specificati Calibration Certificate from procedureIEC 60651:2001 Type 1IEC 60804:2000 Type 1IEC 61252:2002IEC 61260:2001 Class 1IEC 61672:2013 Class 1		-	1 ss 1	n comb	ined with	

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017.

Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

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Correction data from Larson Davis LxT Manual for SoundTrack LxT & SoundExpert Lxt, I770.01 Rev J Supporting Firmware Version 2.301, 2015-04-30

LARSON DAVIS - A PCB PIEZOTRONICS DIV. 1681 West 820 North Provo,UT 84601,United States 716-684-0001





#### Certificate Number 2020014198

For 1/4" microphones, the Larson Davis ADP024 1/4" to 1/2" adaptor is used with the calibrators and the Larson Davis ADP043 1/4" to 1/2" adaptor is used with the preamplifier.

Calibration Check Frequency: 1000 Hz; Reference Sound Pressure Level: 114 dB re 20 µPa

Periodic tests were performed in accordance with precedures from IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part3.

No Pattern approval for IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1 available.

The sound level meter submitted for testing successfully completed the periodic tests of IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part 3, for the environmental conditions under which the tests were performed. However, no general statement or conclusion can be made about conformance of the sound level meter to the full specifications of IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1 because (a) evidence was not publicly available, from an independent testing organization responsible for pattern approvals, to demonstrate that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1 or correction data for acoustical test of frequency weighting were not provided in the Instruction Manual and (b) because the periodic tests of IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part 3 cover only a limited subset of the specifications in IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1.

	Standards Used	1	
Description	Cal Date	Cal Due	Cal Standard
Larson Davis CAL291 Residual Intensity Calibrator	2020-09-18	2021-09-18	001250
Hart Scientific 2626-S Humidity/Temperature Sensor	2020-05-12	2021-05-12	006943
Larson Davis CAL200 Acoustic Calibrator	2020-07-21	2021-07-21	007027
Larson Davis Model 831	2020-03-02	2021-03-02	007182
PCB 377A13 1/2 inch Prepolarized Pressure Microphone	2020-03-05	2021-03-05	007185
SRS DS360 Ultra Low Distortion Generator	2020-04-14	2021-04-14	007635
Larson Davis 1/2" Preamplifier for Model 831 Type 1	2020-10-06	2021-10-06	PCB0004783

## **Acoustic Calibration**

#### Measured according to IEC 61672-3:2013 10 and ANSI S1.4-2014 Part 3: 10

Measurement	Test Result [dB]	Lower Limit [dB]	Upper Limit [dB]	Expanded Uncertainty [dB]	Result
1000 Hz	114.01	113.80	114.20	0.14	Pass

### Loaded Circuit Sensitivity

Measurement	Test Result [dB re 1 V / Pa]	Lower Limit [dB re 1 V / Pa]	Upper Limit [dB re 1 V / Pa]	Expanded Uncertainty [dB]	Result
1000 Hz	-27.74	-29.61	-26.24	0.14	Pass

-- End of measurement results--





#### Certificate Number 2020014198

## Acoustic Signal Tests, C-weighting

Measured according to IEC 61672-3:2013 12 and ANSI S1.4-2014 Part 3: 12 using a comparison coupler with Unit Under Test (UUT) and reference SLM using slow time-weighted sound level for compliance to IEC 61672-1:2013 5.5; ANSI S1.4-2014 Part 1: 5.5

Frequency [Hz]	Test Result [dB]	Expected [dB]	Lower Limit [dB]	Upper Limit [dB]	Expanded Uncertainty [dB]	Result
125	-0.18	-0.20	-1.20	0.80	0.23	Pass
1000	0.16	0.00	-0.70	0.70	0.23	Pass
8000	-3.19	-3.00	-5.50	-1.50	0.32	Pass

-- End of measurement results--

## **Self-generated Noise**

Measured according to IEC 6167	72-3:2013 11.1 and ANSI S1.4-2014 Part 3: 11.1	
Measurement	Test Result [dB]	
A-weighted	40.20	

-- End of measurement results--

-- End of Report--

Signatory: <u>Ron Harris</u>

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# 線合試驗介限公司 SOILS & MATERIALS ENGINEERING CO., LTD. 香港新界葵涌永基路22-24號好爸爸創科大廈 Good Ba Ba Hitech Building, Nos. 22-24 Wing Kei Road, Kwai Chung, New Territories, Hong Kong

Tel: (852) 2873 6860 Fax: (852) 2555 7533 E-mail: smec@cigismec.com Website: www.cigismec.com



# CERTIFICATE OF CALIBRATION

Certificate No.:	20CA1119 02-01		Page:	1 of 2
Item tested				
Description:	Acoustical Calibra	tor (Class 1)		
Manufacturer:	Larson Davis			
Type/Model No.:	CAL200			
Serial/Equipment No.:	13437			
Adaptors used:	-			
Item submitted by				
Curstomer:	Lam Environment	al Services Limited.		
Address of Customer:	-			
Request No.:	-			
Date of receipt:	19-Nov-2020			
Date of test:	20-Nov-2020			
Reference equipment	used in the calib	ration		
Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Lab standard microphone	B&K 4180	2341427	11-May-2021	SCL
Preamplifier	B&K 2673	2743150	03-Jun-2021	CEPREI
Measuring amplifier	B&K 2610	2346941	03-Jun-2021	CEPREI
Signal generator	DS 360	33873	19-May-2021	CEPREI
Digital multi-meter	34401A	US36087050	19-May-2021	CEPREI
Audio analyzer	8903B	GB41300350	18-May-2021	CEPREI
Universal counter	53132A	MY40003662	18-May-2021	CEPREI
Ambient conditions				
Temperature:	22 ± 1 °C			
Relative humidity:	55 ± 10 %			
Air pressure:	1005 ± 5 hPa			
Test specifications				
			requirements as specifie	ed in IEC 60942 1997 Anne
	on procedure SMTP00 ested with its axis vert		at the specific frequency	using insert voltage techni
				or variations from a referer
				it is insensitive to pressure
Test results				
				ENGINE
				1.5 CHOMEER

Approved Signatory:

Fenglungi

Date: 21-Nov-2020

**Comments:** The results reported in this certificate refer to the conditon of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument. The results apply to the item as received.

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Form No.CARP156-1/Issue 1/Rev.D/01/03/2007

**Company Chop:** 

HKAS has accredited this laboratory (Reg. No. HOKLAS 028) under HOKLAS for specific calibration activities as listed in the HOKLAS directory of accredited laboratories. The results shown in this certificate are traceable to the International System of Units (SI) or recognised measurement standards. The results relate only to the item(s) calibrated. This certificate shall not be reproduced except in full without approval of the laboratory.



#### 綜 合 試 驗 有 限 公 司 SOILS & MATERIALS ENGINEERING CO., LTD.

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## **CERTIFICATE OF CALIBRATION**

(Continuation Page)

Certificate No.:

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Page: of

2

#### Measured Sound Pressure Level 1.

The output Sound Pressure Level in the calibrator head was measured at the setting and frequency shown using a calibrated laboratory standard microphone and insert voltage technique. The results are given in below with the estimated uncertainties.

Frequency	Output Sound Pressure	Measured Output	Estimated Expanded
Shown	Level Setting	Sound Pressure Level	Uncertainty
Hz	dB	dB	dB
1000	94.00	93.66	0.10

#### 2, Sound Pressure Level Stability - Short Term Fluctuations

The Short Term Fluctuations was determined by measuring the maximum and minimum of the fast weighted DC output of the B&K 2610 measuring amplifier over a 20 second time interval as required in the standard. The Short Term Fluctuation was found to be:

At 1000 Hz	STF = 0.013 dB
Estimated expanded uncertainty	0.005 dB

#### 3, **Actual Output Frequency**

The determination of actual output frequency was made using a B&K 4180 microphone together with a B&K 2673 preamplifier connected to a B&K 2610 measuring amplifier. The AC output of the B&K 2610 was taken to an universal counter which was used to determine the frequency averaged over 20 second of operation as required by the standard. The actual output frequency at 1 KHz was:

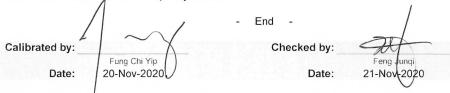
At 1000 Hz	Actual Frequency = 1000.1 Hz	
Estimated expanded uncertainty	0.1 Hz	Coverage factor k = 2.2

#### **Total Noise and Distortion** 4,

For the Total Noise and Distortion measurement, the unfiltered AC output of the B&K 2610 measuring amplifier was connected to an Agilent Type 8903 B distortion analyser. The TND result at 1 KHz was:

At 1000 Hz	TND = 0.5%
Estimated expanded uncertainty	0.7 %

The expanded uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.



The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.

C Soils & Materials Engineering Co., Ltd.

Form No.CARP156-2/Issue 1/Rev.C/01/05/2005

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#### Portable Dust Meter Performance Check Record

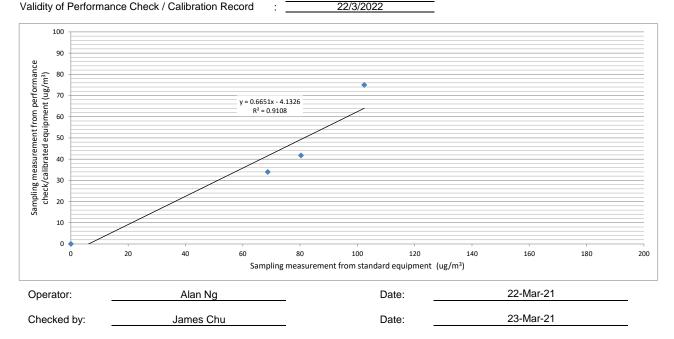
Portable Dust Meter			
Туре	:	Particulare Monitor	
Manufacturer	:	Metone AEROCET 831	
Model Number	:	831	
Serial Number	:	R14332	
Performance Check Date	: _	22-Mar-21	
Standard Equipment			
Туре	:	High Volume Sampler	
Manufacturer	: _	TISCH	
Model Number	:	TE-5170	
Equipment Number	:	HVS018	
Last Calibration Date	:	08-Mar-21	

#### Portable Dust Meter Performance Check Results

Trial no. in 1-hr period	Time	Mean Pressure (hPa)	Mean Temp (°C)	Concentration in ug/m <sup>3</sup> (Standard equipment) (X - Axis)	Concentration in ug/m <sup>3</sup> (Performance Check / Calibrated equipment) (Y - Axis)
Zero Check	28/12/2020 08:00	0	0	0	0
1	22/3/2021 08:00	1015	21	102	75
2	22/3/2021 09:01	1015	21	80	42
3	22/3/2021 10:02	1015	21	69	34

\* Filter paper weighting was conducted by HOKLAS accredited laboratory.

# Linear Regression of Y on X Slope (K- factor) : 1.4000 Correlation Coefficient : 0.9544 Validity of Performance Check / Calibration Record : 22/3/202





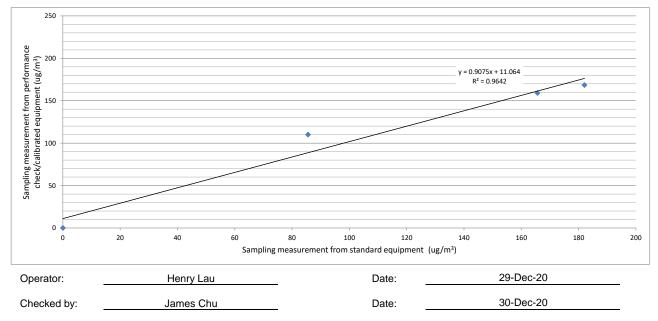
#### Portable Dust Meter Performance Check Record

Portable Dust Meter			
Туре	: _	Particulare Monitor	
Manufacturer	: _	Metone AEROCET 831	
Model Number	: _	831	
Serial Number	: _	Y23153	
Performance Check Date	: _	29-Dec-20	
Standard Equipment			
Туре	: _	High Volume Sampler	
Manufacturer	: _	TISCH	
Model Number	: _	TE-5170	
Equipment Number	: _	HVS000	
Last Calibration Date	:	28-Dec-20	

#### Portable Dust Meter Performance Check Results

Trial no. in 1-hr period	Time	Mean Pressure (hPa)	Mean Temp (°C)	Concentration in ug/m <sup>3</sup> (Standard equipment) (X - Axis)	Concentration in ug/m <sup>3</sup> (Performance Check / Calibrated equipment) (Y - Axis)
Zero Check	28/12/2020 08:00	0	0	0	0
1	29/12/2020 08:04	1015	21	182	168
2	29/12/2020 09:05	1015	21	166	159
3	29/12/2020 10:06	1015	21	86	110







#### Portable Dust Meter Performance Check Record

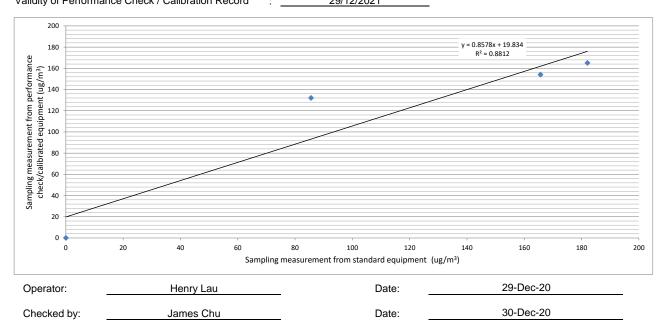
Portable Dust Meter			
Туре	: _	Particulare Monitor	
Manufacturer	: _	Metone AEROCET 831	
Model Number	: _	831	
Serial Number	: _	Y23154	
Performance Check Date	: _	29-Dec-20	
Standard Equipment			
Туре	: _	High Volume Sampler	
Manufacturer	: _	TISCH	
Model Number	: _	TE-5170	
Equipment Number	: _	HVS000	
Last Calibration Date	:	28-Dec-20	

#### Portable Dust Meter Performance Check Results

Trial no. in 1-hr period	Time	Mean Pressure (hPa)	Mean Temp (°C)	Concentration in ug/m <sup>3</sup> (Standard equipment) (X - Axis)	Concentration in ug/m <sup>3</sup> (Performance Check / Calibrated equipment) (Y - Axis)
Zero Check	28/12/2020 08:00	0	0	0	0
1	29/12/2020 08:04	1015	21	182	165
2	29/12/2020 09:05	1015	21	166	154
3	29/12/2020 10:06	1015	21	86	132

\* Filter paper weighting was conducted by HOKLAS accredited laboratory.

# Linear Regression of Y on X Slope (K- factor) : Correlation Coefficient : Validity of Performance Check / Calibration Record :





#### Portable Dust Meter Performance Check Record

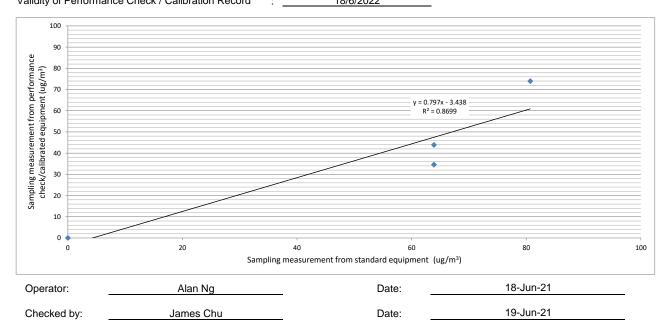
Portable Dust Meter		
Туре	: _	Particulare Monitor
Manufacturer	: _	Metone AEROCET 831
Model Number	: _	831
Serial Number	:	W15449
Performance Check Date	:	18-Jun-21
Standard Equipment		
Туре	: _	High Volume Sampler
Manufacturer	:	TISCH
Model Number	: _	TE-5170
Equipment Number	: _	HVS018
Last Calibration Date	:	06-May-21

#### Portable Dust Meter Performance Check Results

Trial no. in 1-hr period	Time	Mean Pressure (hPa)	Mean Temp (°C)	Concentration in ug/m <sup>3</sup> (Standard equipment) (X - Axis)	Concentration in ug/m <sup>3</sup> (Performance Check / Calibrated equipment) (Y - Axis)
Zero Check	18/6/2021 08:00	0	0	0	0
1	18/6/2021 09:30	1007	28	81	74
2	18/6/2021 10:31	1007	28	64	44
3	18/6/2021 13:00	1007	28	64	35

\* Filter paper weighting was conducted by HOKLAS accredited laboratory.

# Linear Regression of Y on X Slope (K- factor) : 1.1000 Correlation Coefficient : 0.9327 Validity of Performance Check / Calibration Record : 18/6/2023





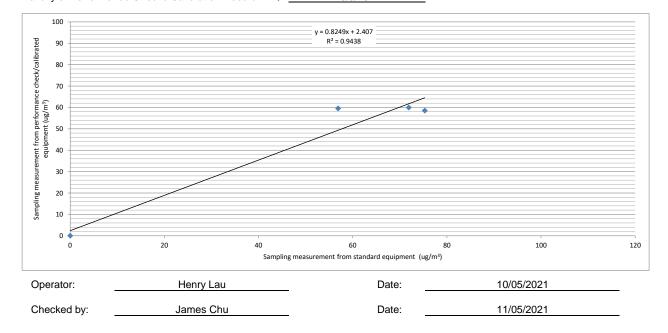
#### Portable Dust Meter Performance Check Record

Portable Dust Meter	
Туре	: Particulare Monitor
Manufacturer	: MET ONE INSTRUMENTS
Model Number	:BT-645
Serial Number	: X19299
Performance Check Date	:10-May-21
Standard Equipment	
Туре	: High Volume Sampler
Manufacturer	:TISCH
Model Number	:TE-5170
Equipment Number	: HVS018
Last Calibration Date	: 06-May-21

#### Portable Dust Meter Performance Check Results

Trial no. in 1-hr period	Time	Mean Temp (°C)	Mean Pressure (hPa)	Concentration in ug/m <sup>3</sup> (Standard equipment) (Y - Axis)	Concentration in ug/m <sup>3</sup> (Performance Check / Calibrated equipment) (X - Axis)
Zero Check	9/5/21 08:00	28	1009	0	0
1	10/5/21 08:05	28	1009	72	60
2	10/5/21 09:06	28	1009	75	59
3	10/5/21 10:07	28	1009	57	60







#### Portable Dust Meter Performance Check Record

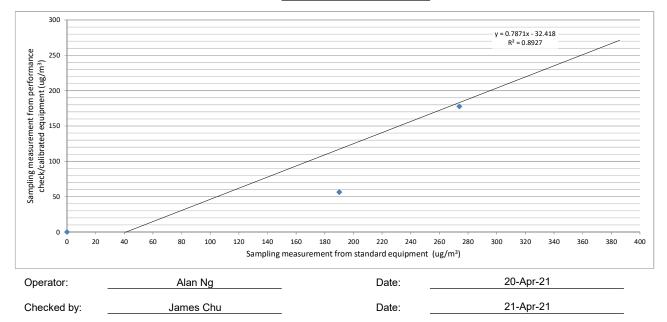
Portable Dust Meter			
Туре	:	Particulare Monitor	
Manufacturer	:	Metone AEROCET 831	
Model Number	:	BT-645	
Serial Number	:	X19295	
Performance Check Date	:	20-Apr-21	
Standard Equipment			
Туре	:	High Volume Sampler	
Manufacturer	: .	TISCH	
Model Number	: .	TE-5170	
Equipment Number	: .	HVS018	
Last Calibration Date	: .	20-Apr-21	

#### Portable Dust Meter Performance Check Results

					Concentration in ug/m <sup>3</sup>	Concentration in ug/m <sup>3</sup>
	no. in 1-hr oeriod	Time	Mean Pressure (hPa)	Mean Temp (°C)	(Standard equipment)	(Performance Check / Calibrated equipment)
					(X - Axis)	(Y - Axis)
Zer	o Check	19/4/2021 08:00	0	0	0	0
	1	20/4/2021 10:28	1013	23	190	56
	2	20/4/2021 11:30	1013	23	386	305
	3	20/4/2021 12:31	1013	23	274	178

\* Filter paper weighting was conducted by HOKLAS accredited laboratory.

# Linear Regression of Y on X Slope (K- factor) : 1.2000 Correlation Coefficient : 0.9448 Validity of Performance Check / Calibration Record : 20/4/2022





#### Portable Dust Meter Performance Check Record

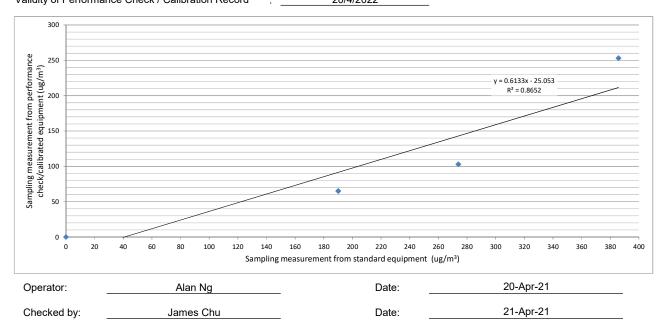
Portable Dust Meter			
Туре	:	Particulare Monitor	
Manufacturer	:	Metone AEROCET 831	
Model Number	: .	BT-645	
Serial Number	: .	X19297	
Performance Check Date	: .	20-Apr-21	
Standard Equipment			
Туре	: .	High Volume Sampler	
Manufacturer	: .	TISCH	
Model Number	: .	TE-5170	
Equipment Number	: .	HVS018	
Last Calibration Date	:	20-Apr-21	

#### Portable Dust Meter Performance Check Results

Trial no. in 1-hr	Time	Mean Pressure (hPa)	Mean Temp (°C)	Concentration in ug/m <sup>3</sup> (Standard equipment)	Concentration in ug/m <sup>3</sup> (Performance Check / Calibrated equipment)
penod		(IIFa)		(X - Axis)	(Y - Axis)
Zero Check	19/4/2021 08:00	0	0	0	0
1	20/4/2021 10:17	1013	23	190	65
2	20/4/2021 11:18	1013	23	386	253
3	20/4/2021 12:19	1013	23	274	103

\* Filter paper weighting was conducted by HOKLAS accredited laboratory.

# Linear Regression of Y on X Slope (K- factor) : 1.5000 Correlation Coefficient : 0.9302 Validity of Performance Check / Calibration Record : 20/4/2022





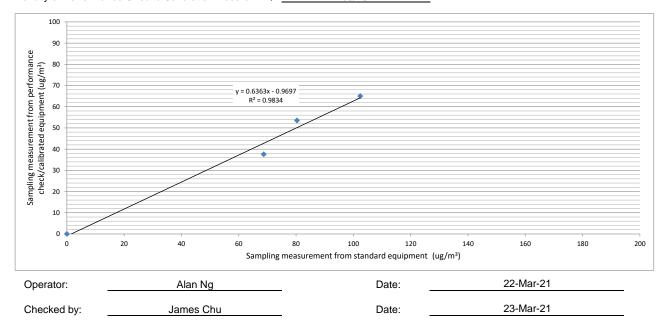
#### Portable Dust Meter Performance Check Record

Portable Dust Meter			
Туре	:	Particulare Monitor	
Manufacturer	:	Metone AEROCET 831	
Model Number	:	BT-645	
Serial Number	:	X19298	
Performance Check Date	:	22-Mar-21	
Standard Equipment			
Туре	:	High Volume Sampler	
Manufacturer	:	TISCH	
Model Number	:	TE-5170	
Equipment Number	:	HVS018	
Last Calibration Date	:	08-Mar-21	

#### Portable Dust Meter Performance Check Results

Trial no. in 1-hr period	Time	Mean Pressure (hPa)	Mean Temp (°C)	Concentration in ug/m <sup>3</sup> (Standard equipment) (X - Axis)	Concentration in ug/m <sup>3</sup> (Performance Check / Calibrated equipment) (Y - Axis)
Zero Check	28/12/2020 08:00	0	0	0	0
1	22/3/2021 08:00	1015	21	102	65
2	22/3/2021 09:01	1015	21	80	54
3	22/3/2021 10:01	1015	21	69	38





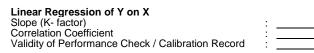


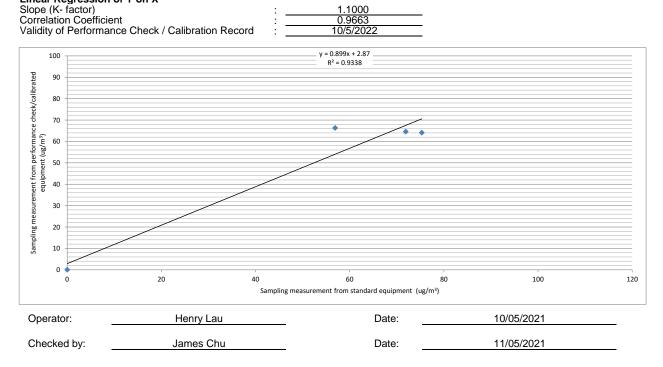
#### Portable Dust Meter Performance Check Record

Portable Dust Meter		
Туре	:	Particulare Monitor
Manufacturer	:	MET ONE INSTRUMENTS
Model Number	:	BT-645
Serial Number	:	R22586
Performance Check Date	:	10-May-21
Standard Equipment		
Туре	:	High Volume Sampler
Manufacturer	:	TISCH
Model Number	:	TE-5170
Equipment Number	:	HVS018
Last Calibration Date	:	06-May-21

#### Portable Dust Meter Performance Check Results

Trial no. in 1-hr period	Time	Mean Temp (°C)	Mean Pressure (hPa)	Concentration in ug/m <sup>3</sup> (Standard equipment) (Y - Axis)	Concentration in ug/m <sup>3</sup> (Performance Check / Calibrated equipment) (X - Axis)
Zero Check	9/5/21 08:00	28	1009	0	0
1	10/5/21 08:05	28	1009	72	65
2	10/5/21 09:06	28	1009	75	64
3	10/5/21 10:07	28	1009	57	66







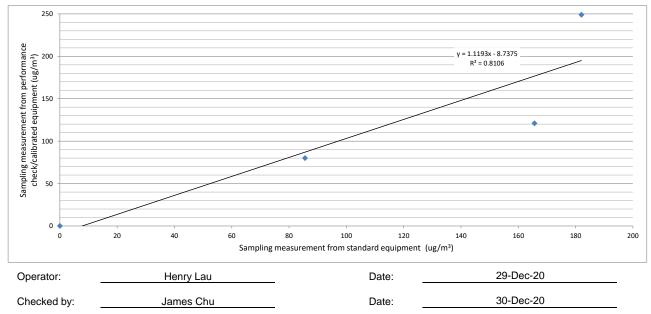
#### Portable Dust Meter Performance Check Record

Portable Dust Meter			
Туре	: _	Particulare Monitor	
Manufacturer	: _	Metone AEROCET 831	
Model Number	: _	831	
Serial Number	: _	W16848	
Performance Check Date	: _	29-Dec-20	
Standard Equipment			
Туре	: _	High Volume Sampler	
Manufacturer	: _	TISCH	
Model Number	: _	TE-5170	
Equipment Number	: _	HVS000	
Last Calibration Date	:	28-Dec-20	

#### Portable Dust Meter Performance Check Results

Trial no. in 1-hr period	Time	Mean Pressure (hPa)	Mean Temp (°C)	Concentration in ug/m <sup>3</sup> (Standard equipment) (X - Axis)	Concentration in ug/m <sup>3</sup> (Performance Check / Calibrated equipment) (Y - Axis)
Zero Check	28/12/2020 08:00	0	0	0	0
1	29/12/2020 08:04	1015	21	182	249
2	29/12/2020 09:05	1015	21	166	121
3	29/12/2020 10:06	1015	21	86	80







ALS Technichem (HK) Pty Ltd 11/F, Chung Shun Knitting Centre 1-3 Wing Yip Street, Kwai Chung N.T., Hong Kong T: +852 2610 1044 | F: +852 2610 2021

# REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT: CLIENT:	JAMES CHU LAM ENVIRONMENTAL SERVICES LTD	WORK ORDER:	HK2138595
ADDRESS:	19/F, REMEX CENTRE, 42 WONG CHUK HANG ROAD,	SUB-BATCH: LABORATORY:	0 HONG KONG
	HONG KONG	DATE RECEIVED: DATE OF ISSUE:	20-Sep-2021 30-Sep-2021

# SPECIFIC COMMENTS

Equipment information (Brand name, Model No., Serial No. and Equipment No.) is provided by client. The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

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

The "Next Calibration Date" is recommended according to best practice principle as practised by the laboratory or quoted from relevant international standards.

The validity of equipment/ meter performance only applies to the result(s) stated in the report.

Equipment Type:	Multifunctional Meter
Service Nature:	Performance Check
Scope:	Dissolved Oxygen, pH Value, Salinity and Temperature
Brand Name/ Model No.:	[YSI]/ [Professional Plus]
Serial No./ Equipment No.:	[14E101065/19H100656]/ [N/A]
Date of Calibration:	29-September-2021

## **GENERAL COMMENTS**

This is the Final Report and supersedes any preliminary report with this batch number.

Ms. Lin Wai Yu, Iris Assistant Manager - Inorganic

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# REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER:	HK2138595		ALS
SUB-BATCH: DATE OF ISSUE: CLIENT:	0 30-Sep-2021 LAM ENVIRONMENTAL SERVICE	ES LTD	
Equipment Type:	Multifunctional Meter		
Brand Name/ Model No.:	[YSI]/ [Professional Plus]		
Serial No./ Equipment No.:	[14E101065/19H100656]/ [N/	/A]	
Date of Calibration:	29-September-2021	Date of Next Calibration:	29-December-2021

### PARAMETERS:

Dissolved Oxygen Method Ref: APHA (21st edition), 45000: G

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)			
3.98	4.12	+0.14			
5.39	5.46	+0.07			
7.21	7.11	-0.10			
	Tolerance Limit (mg/L)	±0.20			

pH Value

Method Ref: APHA (21st edition), 4500H: B

Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)
4.0	4.08	+0.08
7.0	7.12	+0.12
10.0	10.09	+0.09
	Tolerance Limit (pH unit)	±0.20

Salinity

#### Method Ref: APHA (21st edition), 2520B

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.02	
10	9.95	-0.5
20	19.87	-0.6
30	29.19	-2.7
	Tolerance Limit (%)	±10.0

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

Ms. Lin Wai Yu, Iris Assistant Manager - Inorganic

# REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER:	HK2138595		ALS
SUB-BATCH: DATE OF ISSUE: CLIENT:	0 30-Sep-2021 LAM ENVIRONMENTAL SERVIO	CES LTD	
Equipment Type:	Multifunctional Meter		
Brand Name/ Model No.:	[YSI]/ [Professional Plus]		
Serial No./ Equipment No.:	[14E101065/19H100656]/[I	N/A]	
Date of Calibration:	29-September-2021	Date of Next Calibration:	29-December-2021
PARAMETERS:			
Temperature		national Accreditation New Zealan arch 2008: Working Thermometer	

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)
10.5	10.3	-0.2
21.5	20.6	-0.9
39.5	38.9	-0.6
	Tolerance Limit (°C)	±2.0

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

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Ms. Lin Wai Yu, Iris Assistant Manager - Inorganic



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

Information supplied	by customer:		
CONTACT:	MR. JAMES CHU	<b>JOB REFERENCE NO.:</b>	22777053-K02B3101
CLIENT:	LAM ENVIRONMENTAL SERVIC	CES	
DATE RECEIVED:	02/10/2021		
DATE OF ISSUE:	02/10/2021		
ADDRESS:	19/F, REMAX CENTRE,42 WONG	<b>CHUK HANG ROAD, HONG</b>	
	KONG		
<b>PROJECT:</b>			

#### METHOD OF PERFORMANCE CHECK/ CALIBRATION: Ref: APHA22nd ed 2130B

#### **COMMENTS**

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It is certified that the item under performance check/calibration has been calibrated/checked by corresponding calibrated equipment in the laboratory.

Maximum Tolerance and calibration frequency stated in the report, unless otherwise stated, the internal acceptance criteria of FT Laboratories Ltd will be followed.

Scope of Test:	Turbidity	
Equipment Type:	Turbidimeter	
Brand Name:	Xin Rui	
Model No.:	WGZ-3B	
Serial No.:	1807077	
Equipment No.:		
Date of Calibration:	02/10/2021	

Remarks:

This is the Final Report. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

Certified By:

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Wong Chi Wai Chemist Issue Date:

02/10/2021

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

WORK ORDER:	22777053-K02B3101
DATE OF ISSUE:	02/10/2021
CLIENT:	LAM ENVIRONMENTAL SERVICES

Equipment Type:	Turbidimeter	
Brand Name:	Xin Rui	
Model No.:	WGZ-3B	
Serial No.:	1807077	
Equipment No.:		
Date of Calibration:	02/10/2021	
Date of next Calibation:	02/01/2022	
Lab I.D.:	H210072-01	

#### **Parameters:**

Turbidity

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Method Ref: APHA 22<sup>nd</sup> ed. 2130B

Expected Reading (NTU)	Display Reading (NTU)	Tolerance	
0	0.00		
4	3.87	-3.3%	
10	9.85	-1.5%	
40	39.03	-2.4%	
100	99.10	-0.9%	
400	400	0.0%	
1000	1000	0.0%	
	Tolerance Limit (±)	10%	

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

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