Sibata LD-5R K-Factor Verification Test by Total Suspended Particulates HVS Test Report

Information of Calibrated Equipement

Verification Test Date:	**13-Sep-24**	to	**14-Sep-24**	Next Verification Test Date:	**12-Sep-25**
Unit-under-Test- Model No.:	Sibata LD-5R				
Unit-under-Test Serial No.:	0Z4545				
Our Report Refrence No.:	RPT-23-HVS-0065				
Calibration Location:	AM2, location near the Leachate Treatment Works within the NENTX Landfill				

Standard Equipment Information

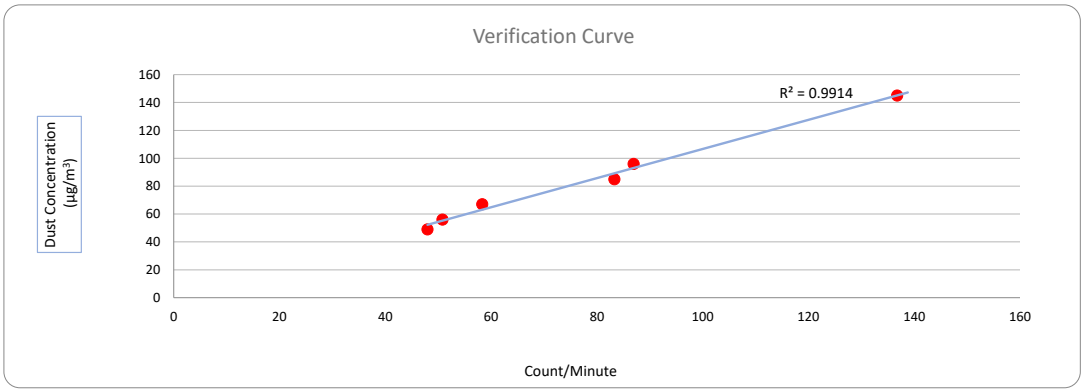
Verification Equipment Type:	Tisch TSP HVS	Tisch HVS Calibrator
Standard Equipment Model No.:	TE-5170X	TE-5025A
Equipment serial no.:	1106	3465
Last Calibration Date:	13-Sep-24	16-Jan-24
Next Calibration Date:	12-Sep-25	15-Jan-25

Equipement Vertification Result

Verification Test No.	Date	Duration			Results from Calibrated Equipement		Results from Standard Equipment
		Start-time	End-time	Elapsed Time (in min)	Total Counts	Counts/ Minute x-axis	Dust Concentration (µg/m^3) y-axis
1	28/11/23	8789.68	8792.68	180.00	15648	87	96
2	28/11/23	8792.68	8795.68	180.00	14993	83	85
3	28/11/23	8795.68	8798.68	180.00	8635	48	49
4	30/11/23	8798.68	8801.68	180.00	10501	58	67
5	30/11/23	8801.68	8804.68	180.00	24622	137	145
6	30/11/23	8804.68	8807.68	180.00	9145	51	56

Linear Regression of y on x

Slope, K factor:	**1.0451**	Intercept:	**2.1545**	*Correlation Coefficient,R:	**0.9957**
Verification Test Result:	Strong Correlation, Results were accepted.			* If the Correlation Coefficient, R is <0.5. Checking and Re-verification are required.	



Operated By: Andy Li — Date: 14-09-2024
Project Technician, Environmental

Checked By: Tandy Tse — Date: 14-09-2024
Senior Consultant, Environmental

Sibata LD-5R K-Factor Verification Test by Total Suspended Particulates HVS Test Report

Information of Calibrated Equipement

Verification Test Date:	**13-Sep-24**	to	**14-Sep-24**	Next Verification Test Date:	**12-Sep-25**
Unit-under-Test- Model No.:	Sibata LD-5R				
Unit-under-Test Serial No.:	882106				
Our Report Refrence No.:	RPT-23-HVS-0068				
Calibration Location:	AM2, location near the Leachate Treatment Works within the NENTX Landfill				

Standard Equipment Information

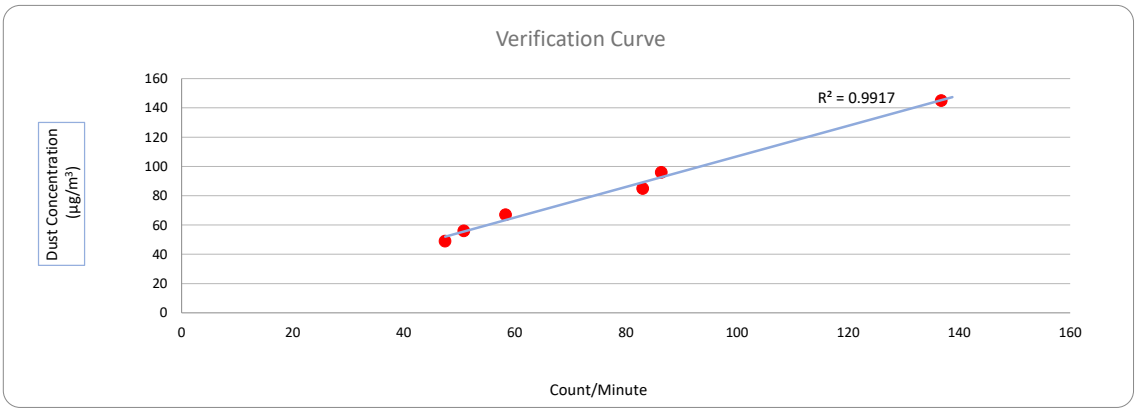
Verification Equipment Type:	Tisch TSP HVS	Tisch HVS Calibrator
Standard Equipment Model No.:	TE-5170X	TE-5025A
Equipment serial no.:	1106	3465
Last Calibration Date:	13-Sep-24	16-Jan-24
Next Calibration Date:	12-Sep-25	15-Jan-25

Equipement Vertification Result

Verification Test No.	Date	Duration			Results from Calibrated Equipement		Results from Standard Equipment
		Start-time	End-time	Elapsed Time (in min)	Total Counts	Counts/ Minute x-axis	Dust Concentration (µg/m^3) y-axis
1	28/11/23	8789.68	8792.68	180.00	15546	86	96
2	28/11/23	8792.68	8795.68	180.00	14944	83	85
3	28/11/23	8795.68	8798.68	180.00	8543	47	49
4	30/11/23	8798.68	8801.68	180.00	10499	58	67
5	30/11/23	8801.68	8804.68	180.00	24622	137	145
6	30/11/23	8804.68	8807.68	180.00	9145	51	56

Linear Regression of y on x

Slope, K factor:	**1.0437**	Intercept:	**2.4993**	*Correlation Coefficient,R:	**0.9958**
Verification Test Result:	Strong Correlation, Results were accepted.			* If the Correlation Coefficient, R is <0.5. Checking and Re-verification are required.	



Operated By: Andy Li — Date: 14-09-2024
Project Technician, Environmental

Checked By: Tandy Tse — Date: 14-09-2024
Senior Consultant, Environmental

Sibata LD-5R K-Factor Verification Test by Total Suspended Particulates HVS Test Report

Information of Calibrated Equipement

Verification Test Date:	**13-Sep-24**	to	**14-Sep-24**	Next Verification Test Date:	**12-Sep-25**
Unit-under-Test- Model No.:	Sibata LD-5R				
Unit-under-Test Serial No.:	942532				
Our Report Refrence No.:	RPT-23-HVS-0071				
Calibration Location:	AM2, location near the Leachate Treatment Works within the NENTX Landfill				

Standard Equipment Information

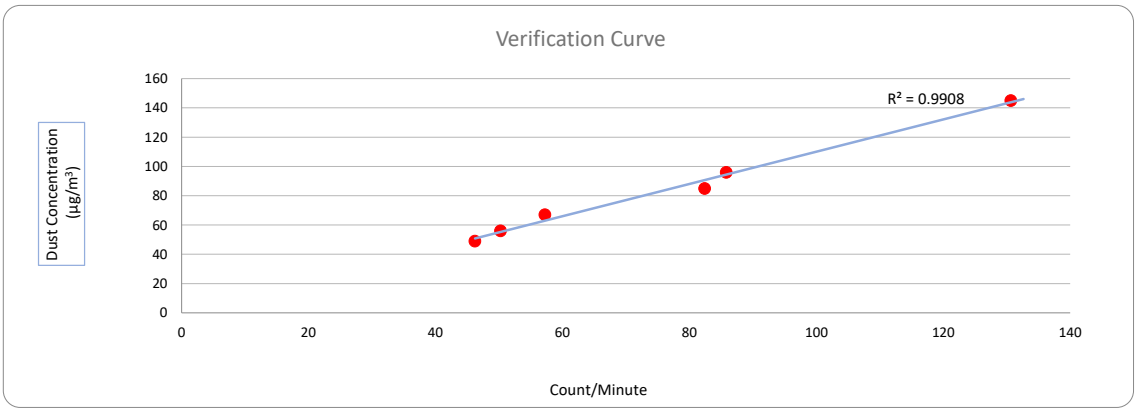
Verification Equipment Type:	Tisch TSP HVS	Tisch HVS Calibrator
Standard Equipment Model No.:	TE-5170X	TE-5025A
Equipment serial no.:	1106	3465
Last Calibration Date:	13-Sep-24	16-Jan-24
Next Calibration Date:	12-Sep-25	15-Jan-25

Equipement Vertification Result

Verification Test No.	Date	Duration			Results from Calibrated Equipement		Results from Standard Equipment
		Start-time	End-time	Elapsed Time (in min)	Total Counts	Counts/ Minute x-axis	Dust Concentration (µg/m^3) y-axis
1	28/11/23	8789.68	8792.68	180.00	15446	86	96
2	28/11/23	8792.68	8795.68	180.00	14835	82	85
3	28/11/23	8795.68	8798.68	180.00	8320	46	49
4	30/11/23	8798.68	8801.68	180.00	10303	57	67
5	30/11/23	8801.68	8804.68	180.00	23517	131	145
6	30/11/23	8804.68	8807.68	180.00	9043	50	56

Linear Regression of y on x

Slope, K factor:	**1.1020**	Intercept:	**-0.1223**	*Correlation Coefficient,R:	**0.9954**
Verification Test Result:	Strong Correlation, Results were accepted.			* If the Correlation Coefficient, R is <0.5. Checking and Re-verification are required.	



Operated By: Andy Li — Date: 14-09-2024
Project Technician, Environmental

Checked By: Tandy Tse — Date: 14-09-2024
Senior Consultant, Environmental

Certificate of Calibration

for

Description:	***Sound Level Meter***
Manufacturer:	***SVANTEK***
Type No.:	***SVAN 971 (Serial No.: 96062)***
Microphone:	***ACO 7052E (Serial No.: 85231)***
Preamplifier:	***SV-18 (Serial No.: 121481)***

Submitted by:

Customer:	*Aurecon Hong Kong Limited*
Address:	*Unit 1608, 16/F, Tower B,Manulife Financial Centre,*
	223-231 Wai Yip Street,
	Kwun Tong,Kowloon, Hong Kong

Upon receipt for calibration, the instrument was found to be:

☑ **Within (31.5Hz – 4kHz)**
☐ **Outside**

the allowable tolerance.

The test equipment used for calibration are traceable to National Standards via:
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 22 July 2024

Date of calibration: 24 July 2024

Date of NEXT calibration: 23 July 2025

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

ACOUSTICS AND AIR TESTING LABORATORY CO. LTD. (A+A)*L

Date of issue: **24 July 2024**

Certificate No.: APJ23-155-CC002

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

1. *Calibration Precaution:*

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

- The results presented are the mean of 3 measurements at each calibration point.

2. *Calibration Conditions:*

Air Temperature:	23.4 °C
Air Pressure:	1005 hPa
Relative Humidity:	56.7 %

3. *Calibration Equipment:*

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV240081	HOKLAS

4. *Calibration Results*

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
35-137	dBA SPL	Fast	94	1000	94.0	±0.4

Linearity

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
35-137	dBA SPL	Fast	94	1000	94.0	Ref
			104		104.0	±0.3
			114		114.0	±0.3

Time Weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
35-137	dBA SPL	Fast	94	1000	94.0	Ref
		Slow			94.0	±0.3

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Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

Frequency Response

Linear Response

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
35-137	dB SPL	Fast	94	31.5	94.6	±2.0
				63	94.4	±1.5
				125	94.4	±1.5
				250	94.3	±1.4
				500	94.2	±1.4
				1000	94.0	Ref
				2000	93.6	±1.6
				4000	93.5	±1.6

A-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
35-137	dBA SPL	Fast	94	31.5	55.2	-39.4 ±2.0
				63	68.3	-26.2 ±1.5
				125	78.2	-16.1 ±1.5
				250	85.6	-8.6 ±1.4
				500	90.9	-3.2 ±1.4
				1000	94.0	Ref
				2000	94.8	+1.2 ±1.6
				4000	94.5	+1.0 ±1.6

C-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
35-137	dBC SPL	Fast	94	31.5	91.6	-3.0 ±2.0
				63	93.6	-0.8 ±1.5
				125	94.2	-0.2 ±1.5
				250	94.3	-0.0 ±1.4
				500	94.2	-0.0 ±1.4
				1000	94.0	Ref
				2000	93.4	-0.2 ±1.6
				4000	92.7	-0.8 ±1.6

ACOUSTICS AND AIR TESTING LABORATORY CO LTD. (A+A)*L

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

5. *Calibration Results Applied*

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.05
	63 Hz	± 0.05
	125 Hz	± 0.10
	250 Hz	± 0.05
	500 Hz	± 0.05
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.05
104 dB	1000 Hz	± 0.05
114 dB	1000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.

Note:
The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)*L shall not be liable for any loss or damage resulting from the use of the equipment.

ACOUSTICS AND AIR TESTING LABORATORY CO LTD. (A+A) *L

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

Certificate of Calibration

for

Description:	***Sound Level Calibrator***
Manufacturer:	***RION***
Type No.:	***NC-75***
Serial No.:	***34724243***

Submitted by:

Customer:	*Aurecon Hong Kong Limited*
Address:	*Unit 1608, 16/F, Tower B, Manulife Financial Centre,*
	223-231 Wai Yip Street, Kwun Tong,
	Kowloon, Hong Kong

Upon receipt for calibration, the instrument was found to be:

☑ **Within**
☐ **Outside**

the allowable tolerance.

The test equipments used for calibration are traceable to National Standards via:
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 2 October 2024

Date of calibration: 4 October 2024

Date of NEXT calibration: 3 October 2025

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: **4 October 2024**

ACOUSTICS AND AIR TESTING LABORATORY CO. LTD. (A+A) *L

Certificate No.: APJ23-154-CC004

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

1. *Calibration Precautions:*

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

- The results presented are the mean of 3 measurements at each calibration point.

2. *Calibration Specifications:*

Calibration check

3. *Calibration Conditions:*

Air Temperature:	22.9 °C
Air Pressure:	1005 hPa
Relative Humidity:	50.7 %

4. *Calibration Equipment:*

Test Equipment	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV240081	HOKLAS
Sound Level Meter	RION NA-28	30721812	AV240109	HOKLAS

5. *Calibration Results*

5.1 Sound Pressure Level

Nominal value dB	Accept lower level dB	Accept upper level dB	Measured value dB
94.0	93.6	94.4	94.0

Note:
The values given in this certification only related to the values measured at the time of the calibration.

ACOUSTICS AND AIR TESTING LABORATORY CO LTD. (A+A)*L

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