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### SUB-CONTRACTING REPORT

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CONTACT	: MR MAGNUM FAN	WORK ORDER	: <b>HK2523080</b>
CLIENT	: ENVIROTECH SERVICES CO.		
ADDRESS	: RM 712, 7/F, MY LOFT 9 HOI WING ROAD, TUEN MUN, N.T. HK	SUB-BATCH	: 1
		DATE RECEIVED	: 3-JUN-2025
		DATE OF ISSUE	: 9-JUN-2025
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

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#### *General Comments*

- Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.
  - Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified. The result(s) is/are related only to the item(s) tested.
  - Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition.
  - Calibration was subcontracted to Envirotech Services Company.
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#### *Signatories*

This document has been signed by those names that appear on this report and are the authorised signatories

*Signatories*

*Position*

Richard Fung

Managing Director

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This report supersedes any previous report(s) with the same work order number.

All pages of this report have been checked and approved for release.

**ALS Technichem (HK) Pty Ltd**  
Part of the **ALS Laboratory Group**

WORK ORDER : HK2523080  
SUB-BATCH : 1  
CLIENT : ENVIROTECH SERVICES CO.  
PROJECT : ----



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2523080-001	Sibata LD-3B (476664)	Equipments	03-Jun-2025	S/N:476664

----- END OF REPORT -----



Equipment Verification Report (TSP)

Equipment Calibrated:

Type: Laser Dust Monitor  
Manufacturer: Sibata LD-3B  
Serial No.: 476664  
Equipment Ref.: N/A  
ALS Job Order: HK2521123

Standard Equipment

Standard Equipment: High Volume Sampler (TSP)  
Location: Envirotech Room (Calibration Room)  
Equipment Ref.: HVS 8162  
Last Calibration Date: 24-May-2025

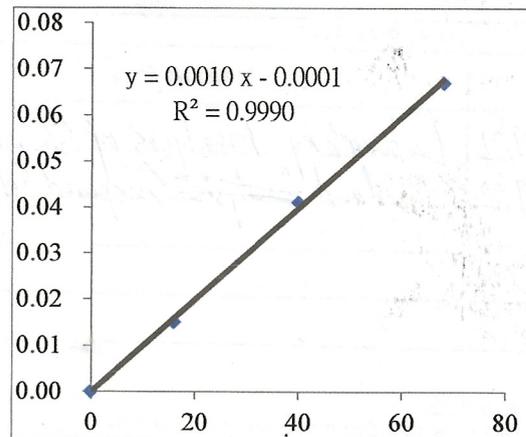
Equipment Verification Results:

Verification Date: 24-May-2025

Hour	Time	Mean Temp °C	Mean Pressure (hpa)	TSP Level in mg (Standard Equipment) (Y-Axis)	Total Count (Calibrated Equipment) (X-Axis)
1hr 00mins	0910-1010	23.8	1013.2	0.015	16
2hr 00mins	1015-1215	24.0	1013.4	0.041	40
3hr 00mins	1315-1615	24.4	1013.5	0.067	68

Linear Regression of Y or X

Slope (K-factor): 0.0010(mg)/Count  
Correlation Coefficient (R): 0.9995  
Date of Issue: 2-Jun-2025



Remarks:

1. Strong Correlation (>0.8)
2. Factor 0.0010(mg)/Count should be applied for TSP monitoring

\*If R<0.5, repair or verification is required for the equipment

Operator: P.F.Yeung Signature [Signature] Date: 02 June 2025

QC Reviewer: K.F.Ho Signature [Signature] Date: 02 June 2025

## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Rm. 712, My Loft, Tuen Mun      Date of Calibration: 24-May-25  
 HVS ID: 8162      Next Calibration Date: 24-Jul-25  
 Name and Model : TISCH HVS Model TE-5170      Operator: K.F.Ho

### CONDITIONS

Sea Level Pressure (hpa)	1013.2	Corrected Pressure (mm Hg)	759.9
Temperature (°C)	23.8	Temperature (K)	296.8

### CALIBRATION ORIFICE

Make:	TISCH	Qstd Slope	2.08315
Model:	TE-5025A	Qstd Intercept	-0.04938
Serial#:	2454		

### CALIBRATION

Plate No.	H2O(L) (in)	H2O(R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC (corrected)	LINEAR REGRESSION
18	6.4	6.4	12.8	1.745	58	58.13	Slope= 33.91 Intercept= -0.9035 Corr. Coeff.= 0.9999
13	5.1	5.1	10.2	1.560	52	52.12	
10	4.0	4.0	8.0	1.385	46	46.10	
7	2.4	2.5	4.9	1.089	36	36.08	
5	1.5	1.5	3.0	0.857	28	28.06	

**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)

**For subsequent calculation of sampler flow:**

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

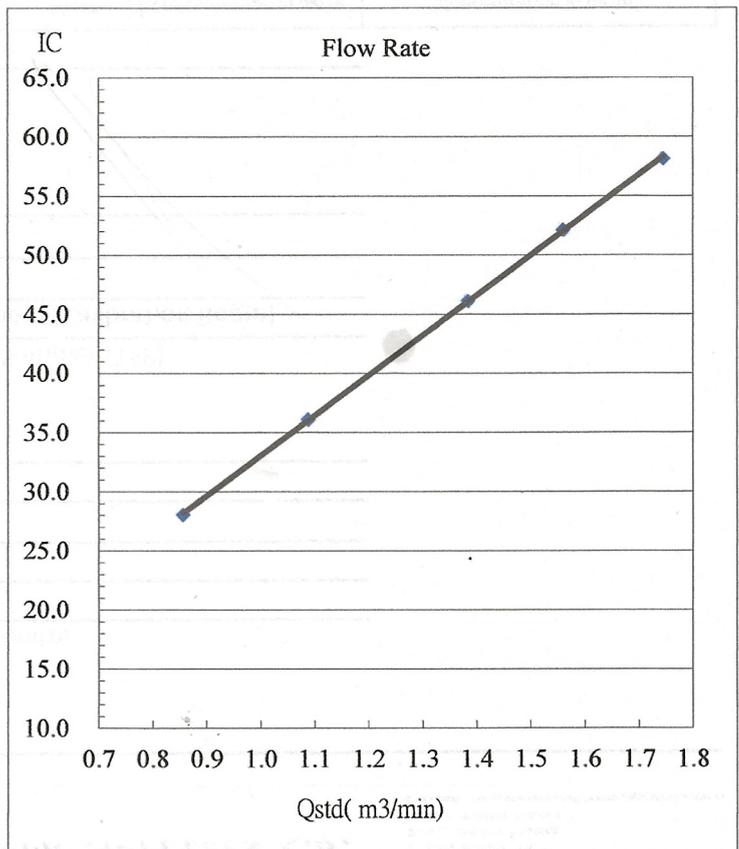
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



# Certificate of Calibration

Calibration Certification Information			
Cal. Date: December 2, 2024	Rootsmeter S/N: 438320	Ta: 293	°K
Operator: Jim Tisch		Pa: 757.4	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	1.4200	3.2	2.00
2	3	4	1	1.0170	6.4	4.00
3	5	6	1	0.9090	7.9	5.00
4	7	8	1	0.8700	8.8	5.50
5	9	10	1	0.7140	12.8	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)
1.0093	0.7108	1.4238	0.9958	0.7013	0.8796
1.0051	0.9883	2.0136	0.9916	0.9750	1.2439
1.0031	1.1035	2.2512	0.9896	1.0886	1.3907
1.0018	1.1515	2.3611	0.9884	1.1361	1.4586
0.9965	1.3956	2.8476	0.9831	1.3769	1.7592
<b>QSTD</b>	m=	<b>2.08315</b>	<b>QA</b>	m=	<b>1.30443</b>
	b=	<b>-0.04938</b>		b=	<b>-0.03050</b>
	r=	<b>0.99985</b>		r=	<b>0.99985</b>

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= $Vstd / \Delta Time$	Qa= $Va / \Delta Time$
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



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### SUB-CONTRACTING REPORT

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CONTACT	: MR MAGNUM FAN	WORK ORDER	: <b>HK2509157</b>
CLIENT	: ENVIROTECH SERVICES CO.		
ADDRESS	: RM 712, 7/F, MY LOFT 9 HOI WING ROAD, TUEN MUN, N.T. HK	SUB-BATCH	: 1
		DATE RECEIVED	: 6-MAR-2025
		DATE OF ISSUE	: 11-MAR-2025
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

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#### *General Comments*

- Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.
  - Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified. The result(s) is/are related only to the item(s) tested.
  - Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition.
- 

#### *Signatories*

This document has been signed by those names that appear on this report and are the authorised signatories

*Signatories*

*Position*

Richard Fung

Managing Director

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All pages of this report have been checked and approved for release.

**ALS Technichem (HK) Pty Ltd**  
Part of the **ALS Laboratory Group**

WORK ORDER : HK2509157  
SUB-BATCH : 1  
CLIENT : ENVIROTECH SERVICES CO.  
PROJECT : ----



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2509157-001	Sibata LD-5R (841723)	Equipments	25-Feb-2025	S/N: 841723

----- END OF REPORT -----



Equipment Verification Report (TSP)

Equipment Calibrated:

Type: Laser Dust Monitor  
Manufacturer: Sibata LD-5R  
Serial No.: 841723  
Equipment Ref.: N/A  
ALS Job Order: HK2507883

Standard Equipment

Standard Equipment: High Volume Sampler (TSP)  
Location : Envirotech Room (Calibration Room)  
Equipment Ref.: HVS 8162  
Last Calibration Date: 1-Jan-2025

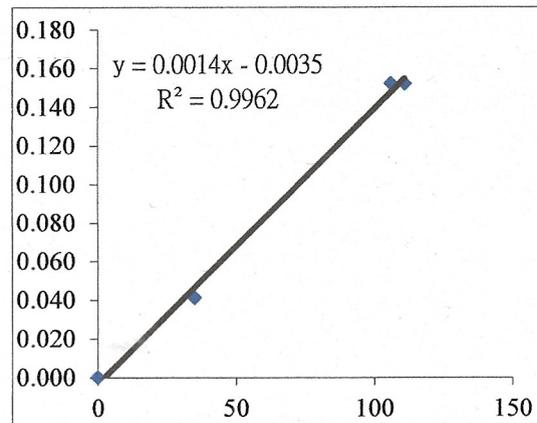
Equipment Verification Results:

Verification Date: 25-Feb-2025

Hour	Time	Mean Temp °C	Mean Pressure (hpa)	TSP Level in mg (Standard Equipment) (Y-Axis)	Total Count (Calibrated Equipment) (X-Axis)
1hr 00mins	1005-1105	16.2	1022.3	0.041	35
2hr 00mins	1310-1510	18.1	1022.5	0.152	106
3hr 00mins	1515-1815	18.2	1022.6	0.152	111

Linear Regression of Y or X

Slope (K-factor): 0.0014(mg)/Count  
Correlation Coefficient (R): 0.9981  
Date of Issue: 4-Mar-2025



Remarks:

- 1. Strong Correlation (>0.8)
- 2. Factor 0.0014(mg)/Count should be applied for TSP monitoring

\*If R<0.5, repair or verification is required for the equipment

Operator: P.F.Yeung Signature *Fai* Date: 04 March 2025

QC Reviewer: K.F.Ho Signature *at* Date: 04 March 2025

## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Rm. 712, My Loft, Tuen Mun	Date of Calibration:	1-Jan-25
HVS ID: 8162	Next Calibration Date:	31-Mar-25
Name and Model : TISCH HVS Model TE-5170	Operator:	K.F.Ho

### CONDITIONS

Sea Level Pressure (hpa)	1023	Corrected Pressure (mm Hg)	767.3
Temperature (°C)	15.8	Temperature (K)	288.8

### CALIBRATION ORIFICE

Make:	TISCH	Qstd Slope	2.08315
Model:	TE-5025A	Qstd Intercept	-0.04938
Serial#:	2454		

### CALIBRATION

Plate No.	H2O(L) (in)	H2O(R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC (corrected)	LINEAR REGRESSION
18	6.4	6.4	12.8	1.777	62	63.30	Slope= 35.208 Intercept= -0.0015 Corr. Coeff.= 0.9959
13	5.3	5.3	10.6	1.619	56	57.17	
10	4.2	4.2	8.4	1.444	48	49.00	
7	2.7	2.7	5.4	1.163	41	41.86	
5	1.7	1.7	3.4	0.927	32	32.67	

**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)

**For subsequent calculation of sampler flow:**

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

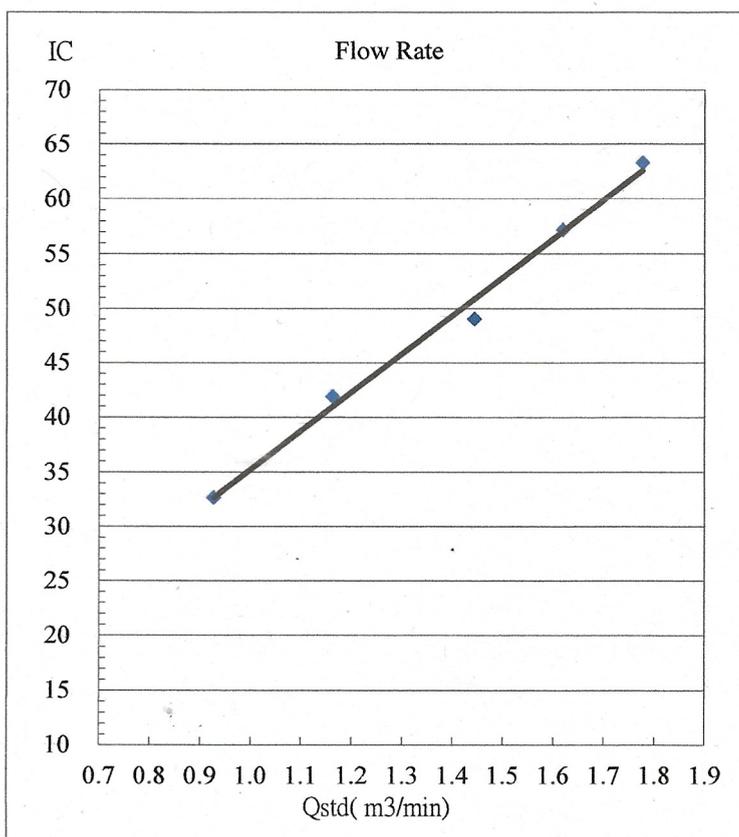
m = sampler slope

b = sampler intercept

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Tav = daily average temperature

Pav = daily average pressure



# Certificate of Calibration

Calibration Certification Information			
Cal. Date: December 2, 2024	Rootsmeter S/N: 438320	Ta: 293	°K
Operator: Jim Tisch		Pa: 757.4	mm Hg
Calibration Model #: TE-5025A	Calibrator S/N: <b>2454</b>		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
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	<b>b=</b>	<b>-0.04938</b>		<b>b=</b>	<b>-0.03050</b>
	<b>r=</b>	<b>0.99985</b>		<b>r=</b>	<b>0.99985</b>

Calculations	
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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