



ANNEX E

AIR QUALITY



ANNEX E1

CALIBRATION CERTIFICATES FOR AIR
QUALITY



SUB-CONTRACTING REPORT

CONTACT	: MR MAGNUM FAN	WORK ORDER	: HK2545418
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	: 18-OCT-2025
		DATE OF ISSUE	: 24-OCT-2025
PROJECT	: Not Specified	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ---

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

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**

11/F, Chung Shun Knitting Centre 1 - 3 Wing Yip Street Kwai Chung N.T. Hong Kong
Tel. +852 2610 1044 Fax. +852 2610 2021 www.alsglobal.com

WORK ORDER : HK2545418
SUB-BATCH : 1
CLIENT : ENVIROTECH SERVICES CO.
PROJECT : Not Specified



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2545418-001	Sibata LD-5R (781281)	Equipments	21-Oct-2025	S/N: 781281

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

**Equipment Verification Report (TSP)****Equipment Calibrated:**

Type: Laser Dust Monitor
Manufacturer: Sibata LD-5R
Serial No.: 781281
Equipment Ref.: N/A
ALS Job Order: HK2544216

Standard Equipment

Standard Equipment: High Volume Sampler (TSP)
Location : Envirotech Room (Calibration Room)
Equipment Ref.: HVS 8162
Last Calibration Date: 11-Oct-2025

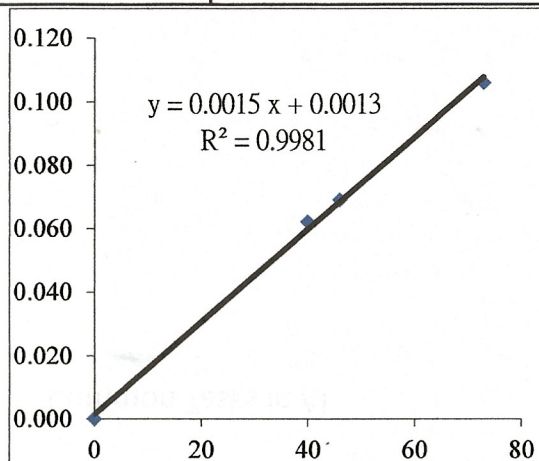
Equipment Verification Results:

Verification Date: 11-Oct-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	0905-1005	28.2	1013.1	0.062	40
2hr 00mins	1015-1215	28.5	1013.0	0.069	46
3hr 00mins	1410-1710	31.1	1012.8	0.106	73

Linear Regression of Y or X

Slope (K-factor): 0.0015(mg)/Count
Correlation Coefficient (R): 0.9991
Date of Issue: 18-Oct-2025

**Remarks:**

1. Strong Correlation (>0.8)
2. Factor 0.0015(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: 18 Oct 2025

QC Reviewer: K.F.Ho Signature [Signature] Date: 18 Oct 2025

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Rm. 712, My Loft, Tuen Mun	Date of Calibration: 11-Oct-25
HVS ID: 8162	Next Calibration Date: 11-Dec-25
Name and Model : TISCH HVS Model TE-5170	Operator: K.F.Ho

CONDITIONS

Sea Level Pressure (hpa)	1013.1	Corrected Pressure (mm Hg)	759.9
Temperature (°C)	28.2	Temperature (K)	301.2

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	6.8	6.6	13.4	1.772	58	57.70	Slope= 44.490 Intercept= -21.891 Corr. Coeff.= 0.9991
13	5.6	5.6	11.2	1.622	50	49.74	
10	4.2	4.0	8.2	1.391	40	39.79	
7	2.6	2.6	5.2	1.113	27	26.86	
5	1.6	1.6	3.2	0.878	18	17.91	

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:

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

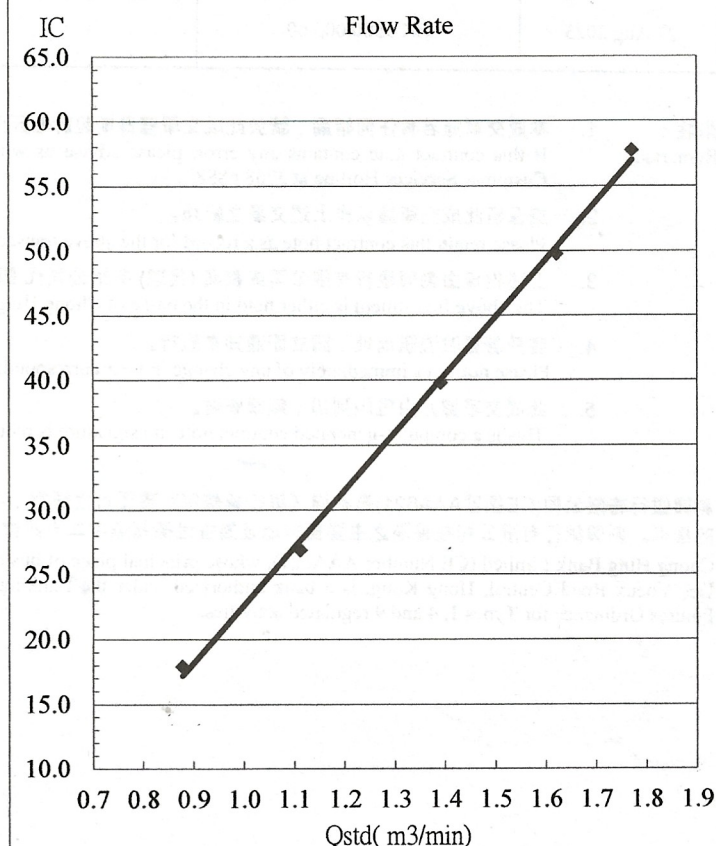
m = sampler slope

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

Rootsmer 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
QSTD	m=	2.08315	QA	m=	1.30443
	b=	-0.04938		b=	-0.03050
	r=	0.99985		r=	0.99985

Calculations

Vstd=	$\Delta Vol((Pa-\Delta P)/Pstd)(Tstd/Ta)$	Va=	$\Delta Vol((Pa-\Delta P)/Pa)$
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: rootsmer 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



ANNEX E2

MONITORING SCHEDULE FOR AIR
QUALITY

Tung Chung New Town Extension (East)
Air Quality Monitoring Schedule (August 2026)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1-Aug
						Air Quality Monitoring
2-Aug	3-Aug	4-Aug	5-Aug	6-Aug	7-Aug	8-Aug
					Air Quality Monitoring	
9-Aug	10-Aug	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug
				Air Quality Monitoring		
16-Aug	17-Aug	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug
			Air Quality Monitoring			
23-Aug	24-Aug	25-Aug	26-Aug	27-Aug	28-Aug	29-Aug
		Air Quality Monitoring				
30-Aug	31-Aug					
	Air Quality Monitoring					



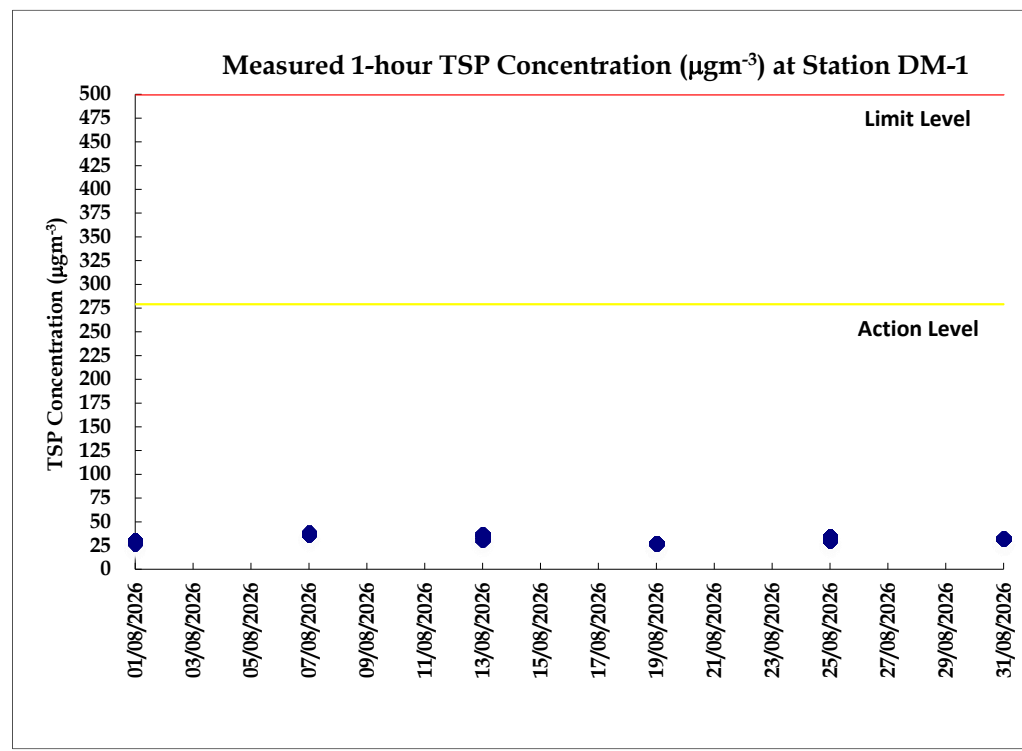
ANNEX E3

MONITORING RESULTS FOR AIR
QUALITY

Table E3 *Data for 1-hr TSP Monitoring at Station DM-1*

Date	Start Time	Finish Time	Weather	1-hour TSP ($\mu\text{g}/\text{m}^3$)
1/8/2026	9:01	10:01	Cloudy	31
1/8/2026	10:01	11:01	Cloudy	27
1/8/2026	11:01	12:01	Cloudy	28
7/8/2026	13:26	14:26	Sunny	36
7/8/2026	14:26	15:26	Sunny	39
7/8/2026	15:26	16:26	Sunny	38
13/8/2026	9:02	10:02	Sunny	31
13/8/2026	10:02	11:02	Sunny	37
13/8/2026	11:02	12:02	Sunny	35
19/8/2026	13:26	14:26	Sunny	27
19/8/2026	14:26	15:26	Sunny	28
19/8/2026	15:26	16:26	Sunny	27
25/8/2026	13:06	14:06	Cloudy	32
25/8/2026	14:06	15:06	Cloudy	35
25/8/2026	15:06	16:06	Cloudy	30
31/8/2026	9:00	10:00	Sunny	32
31/8/2026	10:00	11:00	Sunny	32
31/8/2026	11:00	12:00	Sunny	33

Figure E3 Graphical Presentation for 1-hr TSP Monitoring at Station DM-1





ANNEX E4

EVENT AND ACTION PLAN FOR AIR
QUALITY

Annex E4 Event and Action Plan for Air Quality

Event	Action			
	ET	IEC	ER	Contractor
Action level exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
Action level exceedance for two or more consecutive samples	1. Identify source; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Submit proposals for remedial to ER within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.

Event	Action			
	ET	IEC	ER	Contractor
Limit level exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.
Limit level exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.