

ANNEX E1

CALIBRATION CERTIFICATES FOR AIR QUALITY

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



SUB-CONTRACTING REPORT

CONTACT : MR MAGNUM FAN WORK ORDER : HK2502558

CLIENT : ENVIROTECH SERVICES CO.

ADDRESS : RM 712, 7/F, MY LOFT 9 HOI WING ROAD, SUB-BATCH : 1

TUEN MUN, N.T. HK

DATE RECEIVED : 15-JAN-2025

DATE OF ISSUE : 21-JAN-2025

PROJECT : ---- 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.

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

: HK2502558 WORK ORDER

SUB-BATCH

: 1 : ENVIROTECH SERVICES CO. CLIENT

PROJECT



| ALS Lab | Client's Sample ID | Sample Type | Sample Date | External Lab Report No. |
|---------------|-----------------------|----------------|-------------|-------------------------|
| HK2502558-001 | Sibata LD-3B (456666) | Equipments | 02-Jan-2025 | S/N: 456666 |

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

 $\mathsf{Page}: 2 \ \mathsf{of} \ 2$



Envirotech Services Co.

Rm. 712, 7/F My Loft, 9 Hoi Wing Roed, Tuen Mun, H.K. Tel: 2560 8450 Fax: 2560 6553

E-mail; envirotech@netvigator.com

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:

Laser Dust Monitor

Manufacturer:

Sibata LD-3B

Serial No.:

456666

Equipment Ref.:

N/A

ALS Job Order:

HK2500343

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:

2-Jan-2025

| Hour | Time | Mean Temp°C | Mean Pressure | TSP Level in mg (Standard Equipment) | Total Count (Calibrated Equipment) |
|------------|-----------|----------------|------------------|--------------------------------------|---------------------------------------|
| | 3 | | (hpa) | (Y-Axis) | (X-Axis) |
| 1hr 00mins | 0900-1000 | 16.1 | 1023 | 0.096 | giaeh ta noitata 76 notinom quite? |
| 2hr 00mins | 1005-1205 | 20.5 | 1022 | 0.147 | 160 |
| 3hr 00mins | 1330-1630 | 21.0 | 1022 | 0.268 | 248 |

Linear Regression of Y or X

Slope (K-factor):

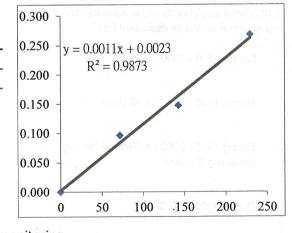
0.0011(mg)/Count

Correlation Coefficient (R):

0.9936

Date of Issue:

15-Jan-2025



Remarks:

- 1. Strong Correlation (>0.8)
- 2. Factor 0.0011 mg/Count should be applied for TSP monitoring

Operator:

P.F.Yeung

Signature

Val

Date: 15 Jan 2025

QC Reviewer:

K.F.Ho

Signature

at the

Date: 15 Jan 2025

^{*}If R<0.5, repair or verification is required for the equipment

TSP SAMPLER CALIBRATION CACULATION SPREADSHEET

| Location HVS ID: | 01.60 | | oft, Tuen M | un | | | Date of Calil | | 1-Jan-25 |
|--|--------------------------------|---------------|-----------------------------|--------|---------------------|----------|--|---|---|
| | | TICCII | IDIC Mada | 1 TO F | 170 | | Next Calibra | tion Date: | 31-Mar-25 |
| Name and Model: TISCH HVS Model TE- | | | | | | 2710 | Operator: | | K.F.Ho |
| ann e Metorthologia de l'A nton | | | | CON | DITIC | DIN2 | | ganetinet/fishem | |
| Sea Level Pressure (hpa) Temperature (°C) | | | | | 1023 15.8 | ione in | Corrected Pro Temperature | essure (mm Hg) (K) | 767.3 288.8 |
| | Province and the second second | | | CALI | BRA' | TION (| ORIFICE | s to xavelen this nam | |
| | | | Make: Model: Serial#: | TE-50 | SCH)25A 2454 | | Qstd Slope Qstd Intercep | ot [| 2.08315 -0.04938 |
| . Sen I | | | Station 3 | CALI | BRA' | TION | Los arossor | is in a The same in the real sec | |
| Plate | H2O(L) | H20(R) | H2O | Qst | td | I | IC | the his monitori | INEAR |
| No. | (in) | (in) | (in) | (m3/r | 1 | (chart) | (corrected) | BEELD VELLEBOAY I BUT | REGRESSION |
| 18 | 6.4 | 6.4 | 12.8 | 1.77 | 77 | 62 | 63.30 | Slope= 3 | |
| 13 | 5.3 | 5.3 | 10.6 | 1.63 | 19 | 56 | 57.17 | Intercept= - | |
| 10 | 4.2 | 4.2 | 8.4 | 1.44 | 14 | 48 | 49.00 | Corr. Coeff.= 0 | .9959 |
| 7 | 2.7 | 2.7 | 5.4 | 1.16 | 53 | 41 | 41.86 | | |
| 5 | 1.7 | 1.7 | 3.4 | 0.92 | 27 | 32 | 32.67 | era Dan (masos jur 1., | (Seed) paul to la |
| Calulations | | | | | | . 03 | <u>has snakkae</u> on sammet for | <mark>l instrumento le cesto d</mark> Secondal Audio mares | |
| | | 7° (D°4 4) (C | P-4-1/7P-1\ 1-1 | | IC 70 | | | Flow Rate | |
| | [Sqrt(H2O(F (Pa/Pstd)(Ts | | 1 Sta/ 1 a))-b] | | | E | orem enger son: of alastog prehess | nose messonemen - same idantifica mas | |
| ic – Ilodiu | (1 a/1 stu)(1 s | u/1a)] | | | 65 | - | | | yali Swieyasatap |
| Ostd = stan | dard flow ra | ite | | | 60 | Ē | | land made | |
| | ted chart res | | | | 55 | - | | 4 months 3511 3 | SECTION AND DESCRIPTION |
| | hart respons | _ | | | | E | | | 1091 - 0071 oni |
| | ator Qstd slo | | | | 50 | = | bos andianol and | bolomiest & italia | genolieum quit |
| = calibra | tor Qstd inte | ercept | | | 45 | - mril | tog optista ga | | d lood in to be |
| Ta = actual temperature during calibration (deg K) | | | | eg K) | 40 | = | onalyotha Theig | <u> </u> | eh iv day resing i iv iv designation |
| | | | ration (mm I | | 35 | 7.31 | | Miles in pancinom a | SP) including the |
| | | | | | 30 | - | | Anad Station Apple 175 | en Busino stuestus |
| | | | umpler flow: | | | - | | • | rina 1900 - 2200 |
| ı/m((1)[Sqri | t(298/Tav)(F | 'av//60)] | -b) | 18 | 25 | | Hocapons and | uelangiaeb is noteta | principada quil |
| n = sampl | er slope | | | | 20 | 10 | <u>POLYEDAD FORS</u> POÚS PEROPUO S | ika ficilisis panalinad dust nocialogistisch | Lasg sono buba Jasgmi dirik bok |
| | er intercept | | | | 15 | <u> </u> | * (927) | epended Semendore | A lost west to |
| = chart re | | | | | 10 | E | gramita a situte | enco revo faraso sel e edeb è bondo a lot | witos noitomen |
| | | | | | | 07.00 | 2 00 10 11 | 12 12 14 15 | 1 (17 10 |

Tav = daily average temperature

Pav = daily average pressure

0.7 0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9

Qstd(m3/min)



RECALIBRATION DUE DATE:

December 2, 2025

Certificate of Calibration

Calibration Certification Information

Cal. Date:

December 2, 2024

Rootsmeter S/N: 438320

Ta: 293
Pa: 757.4

°K

Operator: Jim Tisch

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 | Qstd | $\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right) \left(\frac{Tstd}{Ta}\right)}$ | | Qa | √∆H(Ta/Pa) | | | | | |
| (m3) | (x-axis) | (y-axis) | Va | (x-axis) | (y-axis) | | | | | |
| 1.0093 | 0.7108 | 1.4238 | 0.9958 | 0.7013 | 0.8796 | | | | | |
| 1.0051 | 0.9883 | 2.0136 | 0.9916 | 0.9750 | | | | | | |
| 1.0031 | 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 | | | | | | |
| | m= | 2.08315 | | m= | 1.30443 | | | | | |
| QSTD | b= | -0.04938 | QA | b= | -0.03050 | | | | | |
| 2010 | r= | 0.99985 | | r= | 0.99985 | | | | | |

| | Calculatio | ns | |
|------------------|--|---------------|---|
| Vstd= | ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta) | Va= | ΔVol((Pa-ΔP)/Pa) |
| Qstd= Vstd/ΔTime | | Qa= Va/∆Time | |
| | For subsequent flow ra | te calculatio | ns: |
| Qstd= | $1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$ | Qa= | $1/m\left(\left(\sqrt{\Delta H(Ta/Pa)}\right)-b\right)$ |

| | Standard Conditions |
|---------------|-------------------------------|
| Tstd: | 298.15 °K |
| Pstd: | 760 mm Hg |
| | Key |
| ΔH: calibrate | or manometer reading (in H2O) |
| ΔP: rootsme | ter manometer reading (mm Hg) |
| Ta: actual ab | solute temperature (°K) |
| Pa: actual ba | rometric 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

Tisch Environmental, Inc. 145 South Miami Avenue Village of Cleves, OH 45002 www.tisch-env.com

TOLL FREE: (877)263-7610 FAX: (513)467-9009

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



SUB-CONTRACTING REPORT

CONTACT : MR MAGNUM FAN WORK ORDER : HK2509157

CLIENT : ENVIROTECH SERVICES CO.

ADDRESS : RM 712, 7/F, MY LOFT 9 HOI WING ROAD, SUB-BATCH : 1

TUEN MUN, N.T. HK

DATE RECEIVED : 6-MAR-2025

DATE OF ISSUE : 11-MAR-2025

: ---- 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.

Signatories

PROJECT

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

Signatories Position

Richard Fung

Managing Director

: HK2509157 WORK ORDER

SUB-BATCH

: 1 : ENVIROTECH SERVICES CO. CLIENT

PROJECT



| ALS Lab | 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 -----

 $\mathsf{Page}: 2 \ \mathsf{of} \ 2$



Envirotech Services Co.

Rm. 712, 7/F My Loft, 9 Hoi Wing Road, Tuen Mun, H.K. Tel: 2560 8450 Fax: 2560 6553

E-mail: envirotech@netvigator.com

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):

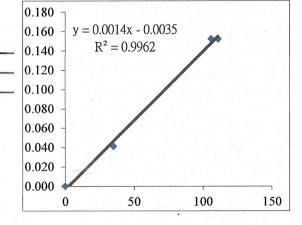
0.0014(mg)/Count

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

VI

Date: 04 March 2025

QC Reviewer:

K.F.Ho

Signature

Signature

190

Date: 04 March 2025

TSP SAMPLER CALIBRATION CACULATION SPREADSHEET

Location: Rm. 712, My Loft, Tuen Mun Date of Calibration: 1-Jan-25 HVS ID: 31-Mar-25 8162 Next Calibration Date: Name and Model: TISCH HVS Model TE-5170 Operator: K.F.Ho CONDITIONS 1023 Sea Level Pressure (hpa) Corrected Pressure (mm Hg) 767.3 15.8 288.8 Temperature (K) Temperature (°C) **CALIBRATION ORIFICE** Make: TISCH Ostd Slope 2.08315

CALIBRATION

2454

TE-5025A

Model:

Serial#:

| Plate | H2O(L) | H20(R) | H2O | Qstd | I | IC | LINEAR |
|-------|--------|--------|------|----------|---------|-------------|----------------------|
| No. | (in) | (in) | (in) | (m3/min) | (chart) | (corrected) | REGRESSION |
| 18 | 6.4 | 6.4 | 12.8 | 1.777 | 62 | 63.30 | Slope= 35.208 |
| 13 | 5.3 | 5.3 | 10.6 | 1.619 | 56 | 57.17 | Intercept= -0.0015 |
| 10 | 4.2 | 4.2 | 8.4 | 1.444 | 48 | 49.00 | Corr. Coeff.= 0.9959 |
| 7 | 2.7 | 2.7 | 5.4 | 1.163 | 41 | 41.86 | |
| 5 | 1.7 | 1.7 | 3.4 | 0.927 | 32 | 32.67 | |

Qstd Intercept

-0.0493

Calulations:

Qstd = 1/m[Sqrt(H2O(Pa/Pstd)(Tstd/Ta))-b]

IC = I[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)[Sqrt(298/Tav)(Pav/760)]-b)

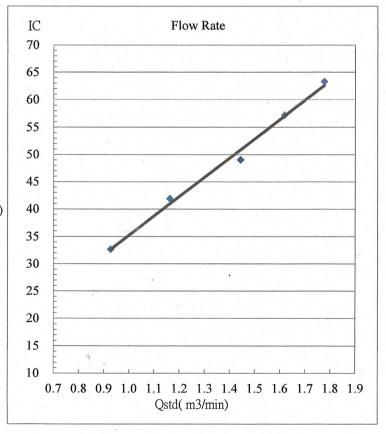
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure





RECALIBRATION DUE DATE:

December 2, 2025

Certificate of Calibration

Calibration Certification Information

Cal. Date: Dece

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 | Qstd | $\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right) \left(\frac{Tstd}{Ta}\right)}$ | | Qa | √∆H(Ta/Pa) | | | | | |
| (m3) | (x-axis) | (y-axis) | Va | (x-axis) | (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 | | | | | |
| | m= | 2.08315 | | m= | 1.30443 | | | | | |
| QSTD | b= | -0.04938 | QA | b= | -0.03050 | | | | | |
| رع ا دي | r= | 0.99985 | | r= | 0.99985 | | | | | |

| | Calculation | ns . | |
|-------|--|--------------|---|
| Vstd= | ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta) | Va= | ΔVol((Pa-ΔP)/Pa) |
| | Vstd/ΔTime | Qa= | Va/ΔTime |
| | For subsequent flow rat | e calculatio | ns: |
| Qstd= | $1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$ | Qa= | $1/m\left(\left(\sqrt{\Delta H(Ta/Pa)}\right)-b\right)$ |

| | Standard Conditions |
|---------------|-------------------------------|
| Tstd: | |
| Pstd: | 760 mm Hg |
| | Key |
| ΔH: calibrate | or manometer reading (in H2O) |
| ΔP: rootsme | ter manometer reading (mm Hg) |
| | solute temperature (°K) |
| Pa: actual ba | rometric 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

Tisch Environmental, Inc. 145 South Miami Avenue Village of Cleves, OH 45002 www.tisch-env.com

TOLL FREE: (877)263-7610

FAX: (513)467-9009