						File No.	MA20003/18/0006
Project No.	CKL 1 - Flat 12	1 Cha Kwo Ling	Village				
Date:	6-Ja	n-21	Next Due Date:	6-N	Mar-21	Operator:	SK
Equipment No.:	A-0	1-18	Model No.:	TE	E 5170	Serial No.	0723
			Ambient C	ondition			
Temperatur	re, Ta (K)	290.1	Pressure, Pa	(mmHg)		764.9	
		Ori	fice Transfer Star	ndard Informa	ation		
Serial	No.	3746	Slope, mc	0.0592	Intercept	t, bc	-0.0274
Last Calibra		17-Jan-20			$c = [\Delta H \times (Pa/760]]$		
Next Calibra	ation Date:	17-Jan-21			(Pa/760) x (298/7		
	-						
	ı		Calibration of	ΓSP Sampler	ı		
Calibration		Or	fice		:	HVS	1.6
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	0) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of water	[ΔW x (Pa/	760) x (298/Ta)] ^{1/2} Y-axis
1	13.7		3.76	64.04	10.2		3.25
2	11.2		3.40	57.94	7.6		2.80
3	8.5		2.96	50.54	6.0		2.49
4	5.4		2.36	40.37	3.5		1.90
5	3.2	i	1.82	31.19	1.8		1.36
By Linear Regr Slope , mw =	ression of Y on X	<u> </u>]	Intercept, bw	-0.372	0	
Correlation	coefficient* =	0.	9983				
*If Correlation C	Coefficient < 0.99	00, check and rec	alibrate.				
			C-4 D-3-4 C	-11-4			
From the TSP Fi	eld Calibration C	Turve_take Ostd :	Set Point Ca	acuiation			
	sion Equation, th						
Tom the Regres	sion Equation, th	ic i value acce	rung to				
		mw x Q	$std + bw = [\Delta W x]$	(Pa/760) x (29	98/Ta)] ^{1/2}		
Thomason Co	at Dainte W = (m	O-44 1) ²	x (760 / Pa) x (7	F ₂ / 200) —	4.04		
Therefore, Se	et Point; w – (m	w x Qsia + bw)	x (/60 / Pa) x (.	1a / 298) –	4.01		
Remarks:							
			fa.1				
Conducted by:	SK Wong	Signature:		· <u>'</u>		Date:	6 January 2021
Cl 1 . 1.1	Henry Leung	G: t-	\ 0	√		Date	6 January 2021

						File No.	MA20003/55/0006
Project No.	CKL 2 - Flat 103	3 Cha Kwo Ling	; Village				
Date:	6-Jai	n-21	Next Due Date:	6-N	Mar-21	Operator:	SK
Equipment No.:	A-01	1-55	Model No.:	TE	E 5170	Serial No.	1956
			Ambient C	ondition			
Temperatur	re, Ta (K)	290.1	Pressure, Pa	(mmHg)		764.9	
		0	ifiaa Tuanafau Star	dand Inform	ntion .		
Serial	No	3746	Slope, mc	0.0592	Intercept	. he	-0.0274
Last Calibra		17-Jan-20			$c = [\Delta H \times (Pa/760]]$		
Next Calibra			1		(Pa/760) x (298/7		
Next Callor	ation Date:	17-Jan-21		<u> </u>	(1 a/ /00) x (290/ .	1 a) -DC /	iiic
			Calibration of	ΓSP Sampler			
Calibration	ATT / 'C' \	Oı	fice	0.41/0775	ANI (IIII'C)	HVS	(200 / 200 / 31/2
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	50) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of water		760) x (298/Ta)] ^{1/2} Y-axis
1	13.9		3.79	64.50	9.5		3.13
2	11.4		3.43	58.45	7.2		2.73
3	8.5	1	2.96	50.54	5.7		2.43
4	5.3		2.34	40.00	3.6		1.93
5	2.9	1	1.73	29.71	2.1		1.47
	2.9	<u>!</u>	1.75	29.71	2.1		1.17
By Linear Regr	ession of Y on X						
Slope , mw =	0.0466	_	I	ntercept, bw	0.073	6	
Correlation	coefficient* =	0	.9976				
*If Correlation C	Coefficient < 0.99	0, check and red	calibrate.				
			Set Point Ca	lculation			
From the TSP Fi	eld Calibration C	urve, take Qstd	= 43 CFM				
From the Regres	sion Equation, th	e "Y" value acc	ording to				
					1/2		
		mw x ($\mathbf{Qstd} + \mathbf{bw} = [\Delta \mathbf{W} \ \mathbf{x}]$	(Pa/760) x (29	98/Ta)] ^{1/2}		
Therefore, Se	et Point: W = (m	w x Ostd + bw)	² x (760 / Pa) x (7	Γa / 298) =	4.17		
1110101010, 20	(11		(,00,10,11()				
Remarks:							
a 1	CV W.		Ln I			.	CI 2021
Conducted by:	SK Wong	Signature:		,•	•	Date:	6 January 2021
Checked by:	Henry Leung	Signature:	1-1-	Mar		Date:	6 January 2021

5-POINT CALIBRATION DATA SHEET

						File No.	MA20003/04/0003	
Project No.	KER 1 - Future	Residential Deve	elopment at Kerry	Godown				
Date:	3-De	c-20	Next Due Date:	3-I	Feb-21	Operator:	SK	
Equipment No.:	A-01	1-04	Model No.:	TE	E 5170	Serial No.	10595	
			Ambient C	ondition				
Temperatur	re, Ta (K)	290.4	Pressure, Pa			765.8		
*			·	<u> </u>				
		Ori	fice Transfer Star					
Serial		3746	Slope, mc	0.0592	Intercept		-0.0274	
Last Calibra		17-Jan-20			$std + bc = [\Delta H x (Pa/760) x (298/Ta)]^{1/2}$			
Next Calibra	ation Date:	17-Jan-21	($Qstd = \{ [\Delta H \ x] $	(Pa/760) x (298/7	Γa)] ^{1/2} -bc} /	mc	
		•	Calibration of T	ΓSP Sampler				
Calibration		Or	fice	_		HVS		
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	0) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of water	[ΔW x (Pa	/760) x (298/Ta)] ^{1/2} Y-axis	
1	13.3	3	3.71	63.10	6.5		2.59	
2	10.8	3	3.34	56.91	5.2		2.32	
3	8.3	2	2.93	49.95	4.0		2.03	
4	4.5	2	2.16	36.90	2.6		1.64	
5	2.5		1.61	27.62	1.8		1.36	
Slope, mw = Correlation	coefficient < 0.99	0.	9963	ntercept, bw =	0.391	6		
	Social Control of the	, encent and rec						
E 41 TCD E:	-14 C-13	4-1 O-4-1	Set Point Ca	lculation				
	ield Calibration C sion Equation, th							
Tom the Regres	sion Equation, th	ic i value acci	ording to					
		mw x Q	$\mathbf{std} + \mathbf{bw} = [\Delta \mathbf{W} \ \mathbf{x}]$	(Pa/760) x (29	$[0.8/Ta]^{1/2}$			
Therefore, Se	et Point; W = (m	w x Qstd + bw)	² x (760 / Pa) x (7	Γa / 298) =	3.33			
Remarks:								
			[n]					
Conducted by:	SK Wong	Signature:	<u> 10/L.</u>			Date:	03 December 2020	
Checked by:	Henry Leung	Signature:	\-lema X	~~ <u>7</u>		Date:	03 December 2020	

 $F: \c Note the Solutions \c Equipment \c Calibration Cert \c Note \c Note that \c Note \c No$

5-POINT CALIBRATION DATA SHEET

						File No.	MA20003/44/0004
•			Paediatrics (Childr	•			
Date:		c-20	Next Due Date:	3-I	Feb-21		SK
Equipment No.:	A-01	-44	Model No.:	TE	5-5170	Serial No.	1316
			Ambient C	ondition			
Temperatu	re, Ta (K)	290.4	Pressure, Pa	(mmHg)		765.8	
		Orri	ifice Transfer Star	adard Informa	ntion		
Serial	l No	3746	Slope, mc	0.0592	Intercept	t be	-0.02740
Last Calibra		17-Jan-20			$c = [\Delta H \times (Pa/760)]$		
					$(Pa/760) \times (298/7)$		
Next Calibra	ation Date:	17-Jan-21	<u> </u>	<u> 28ια = {[ΔH X</u>	(Pa//00) X (298/)	1 a) [-bc _} /	inc
		•	Calibration of	ΓSP Sampler			
Calibration		Or	fice			HVS	
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	50) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of water	[ΔW x (Pa	/760) x (298/Ta)] ^{1/2} Y-axis
1	12.9		3.65		8.7		3.00
2	10.4		3.28	55.86	6.6		2.61
3	7.9		2.86	48.74	4.9		2.25
4	5.9		2.47	42.18	3.4		1.87
5	3.1		1.79	30.71	1.8		1.36
Slope , mw = Correlation	ression of Y on X 0.0520 coefficient* =	0	.9982	Intercept, bw	-0.269	9	-
*If Correlation (Coefficient < 0.99	0, check and re	calibrate.				
			Set Point Ca	lculation			
	ield Calibration C ssion Equation, th	e "Y" value acc		(Pa/760) x (29	98/Ta)] ^{1/2}		
Therefore, Se	et Point; W = (m	w x Qstd + bw)	² x (760 / Pa) x (7	Γa / 298) =	3.73		-
Remarks:							
Conducted by:	SK Wong	Signature:	- EN			Date:	03 December 2020
Checked by:	Henry Leung	Signature:	-lema	Xon		Date:	03 December 2020

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5-POINT CALIBRATION DATA SHEET

File No. MA20003/41/0003 Project No. KTD 2c - G/IC Zone next to Kwun Tong Bypass (Next to the Kowloon Bay Sewage Interception Station) 3-Dec-20 3-Feb-21 Date: Next Due Date: SK Operator: TE 5170 Equipment No.: A-01-41 5280 Model No.: Serial No. **Ambient Condition** 290.4 Pressure, Pa (mmHg) 765.8 Temperature, Ta (K) **Orifice Transfer Standard Information** 3746 Slope, mc 0.0592 Intercept, bc -0.0274 Serial No. mc x Qstd + bc = $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ Last Calibration Date: 17-Jan-20 Qstd = $\{ [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} -bc \} / mc$ Next Calibration Date: 17-Jan-21 **Calibration of TSP Sampler** Orfice **HVS** Calibration $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ ΔH (orifice), Qstd (CFM) ΔW (HVS), in. $[\Delta H \ x \ (Pa/760) \ x \ (298/Ta)]^{1/2}$ Point in. of water X - axis of water Y-axis 1 13.5 3.74 63.57 6.5 2.59 2 11.1 3.39 57.69 5.2 2.32 3 8.1 2.89 49.35 4.1 2.06 4 4.6 2.18 37.30 2.5 1.61 2.6 5 1.8 1.64 28.16 1.36 By Linear Regression of Y on X Slope, mw = 0.0346Intercept, bw : 0.3558 Correlation coefficient* = *If Correlation Coefficient < 0.990, check and recalibrate. **Set Point Calculation** From the TSP Field Calibration Curve, take Qstd = 43 CFM From the Regression Equation, the "Y" value according to mw x Ostd + bw = $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Therefore, Set Point; W = $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 3.28 Remarks: 03 December 2020 Conducted by: SK Wong Date: Signature:

03 December 2020

Date:

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Checked by: Henry Leung Signature:

						File No.	MA20003/04/0004
Project No.	KER 1 - Future	Residential Deve	elopment at Kerry (Godown			
Date:	2-Fe	b-21	Next Due Date:	2-4	Apr-21	Operator:	SK
Equipment No.:	A-0	1-04	Model No.:	TE	E 5170	Serial No.	10595
			Ambient C	ondition			
Temperatu	re, Ta (K)	293.9	Pressure, Pa			764.6	
	T		ifice Transfer Star				
Serial		3864	Slope, mc	0.05846	Intercept		-0.00313
Last Calibra	ation Date:	11-Jan-21			$c = [\Delta H \times (Pa/760]]$		
Next Calibr	ration Date:	11-Jan-22	($Qstd = \{ [\Delta H \ x]$	(Pa/760) x (298/7	Γa)] ^{1/2} -bc} /	mc
		•	Calibration of 7	ΓSP Sampler			
C-13.		Or	fice			HVS	
Calibration Point	ΔH (orifice), in. of water		(0) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of water		/760) x (298/Ta)] ^{1/2} Y-axis
1	13.2		3.67	62.82	7.2		2.71
2	10.8		3.32	56.83	5.6		2.39
3	8.2	2	2.89	49.53	4.4		2.12
4	4.8		2.21	37.90	2.8		1.69
5	2.8		1.69	28.96	1.8		1.36
By Linear Regr Slope , mw = Correlation		_	.9980	Intercept, bw =	0.206	7	
*If Correlation (Coefficient < 0.99	0, check and rec	alibrate.	•			
			Set Point Ca	alculation			
From the TSP Fi	ield Calibration C	Curve, take Qstd	= 43 CFM				
From the Regres	ssion Equation, th	e "Y" value acco	ording to				
		es ()	$\mathbf{0std} + \mathbf{bw} = [\Delta \mathbf{W} \ \mathbf{x}]$	(Da/7(0) - (20	00/Ta)1 ^{1/2}		
		mw x Q	$\sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{j=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{j$	(Pa//00) X (2)	96/1a)j		
Therefore, Se	et Point; W = (m	w x Qstd + bw)	² x (760 / Pa) x (7	Γa / 298) =	3.49		
Remarks:							
Conducted by:	SK Wong	Signature:				Date:	2 February 2021
- manered oy.	222 11 0115	2.5			•		21101441 7 2021
Checked by:	Henry Leung	Signature:	1_0	Y. m. 17		Date:	2 February 2021

						File No.	MA20003/44/0005
Project No.	KTD1 - Centre o	of Excellence in	Paediatrics (Childr	en's Hospital)		-	
Date:	2-Fe	b-21	Next Due Date:	2-1	Apr-21	Operator:	SK
Equipment No.:	A-0	1-44	Model No.:	TE	E-5170	Serial No.	1316
			A k-! 4 C	3'4'			
Tommomotiv	To (V)	293.9	Ambient C		I	764.6	
Temperatu	ire, Ta (K)	293.9	Pressure, Pa	(шшпд)		/04.0	
		Ori	ifice Transfer Star	ndard Informa	ation		
Serial	l No.	3864	Slope, mc	0.05846	Intercept	t, bc	-0.00313
Last Calibra	ation Date:	11-Jan-21		mc x Qstd + bo	$c = [\Delta H \times (Pa/760)]$] ^{1/2}
Next Calibr		11-Jan-22			(Pa/760) x (298/7		
	•	•					
			Calibration of	ΓSP Sampler	T		
Calibration		Orfice		T		HVS	
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	(0) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of water	[ΔW x (Pa	/760) x (298/Ta)] ^{1/2} Y-axis
1	13.1		3.66	62.58	8.9		3.01
2	10.5		3.27	56.04	6.8		2.63
3	7.9		2.84	48.61	5.2		2.30
4	5.9		2.45	42.02	3.4		1.86
5	3.0		1.75	29.98	1.8		1.36
By Linear Regr Slope , mw =	ression of Y on X 0.0512		ì	Intercept, bw :	-0.216	59	
Correlation		0.	.9975	•			•
	Coefficient < 0.99	0, check and rec	alibrate.	•			
			Set Point Ca	alculation			
From the TSP Fi	ield Calibration C	urve_take Ostd		aculation			
	ssion Equation, th	_					
		mw v O	$\mathbf{pstd} + \mathbf{bw} = \mathbf{\Delta W} \mathbf{x}$	(Pa/760) x (29	98/Ta)l ^{1/2}		
		mw x Q	gotta i biii	(1 w 700) A (2)	70/1 a)]		
Therefore, Se	et Point; W = (m	w x Qstd + bw)	² x (760 / Pa) x (7	Γa / 298) =	3.86		
Remarks:							
						_	
Can do sée 3.1	SK Work	Si ma stari	fa).			Date	2 E-1 2021
Conducted by:	SK Wong	Signature:	<u> </u>		-	Date:	2 February 2021
Checked by	Henry Leung	Signature:	_0 x	, ^9~7		Date:	2 February 2021

						File No.	MA20003/41/0004
Project No.	KTD 2c - G/IC	Zone next to Kw	un Tong Bypass (N	ext to the Kow	loon Bay Sewage	Interception	Station)
Date:	2-F	eb-21	Next Due Date:	2-4	Apr-21	Operator:	SK
Equipment No.:	A-()1-41	•		E 5170		5280
z-q		,1 11					0200
			Ambient C	ondition			
Temperatur	re, Ta (K)	293.9	Pressure, Pa	(mmHg)		764.6	
		Or	ifice Transfer Star	ndard Informa	ation		
Serial	No.	3864	Slope, mc	0.05846	Intercept		-0.00313
Last Calibra		11-Jan-21	1	nc x Qstd + bo	$c = [\Delta H \times (Pa/760)]$) x (298/Ta)]1/2
Next Calibra	ation Date:	11-Jan-22		$Qstd = \{ [\Delta H \ x]$	(Pa/760) x (298/7	[a)]" ² -bc} /	mc
			G 19 41 65	ECD C I			
		0-	Calibration of	ISP Sampler		IIVC	
Calibration	ΔH (orifice),		fice	Qstd (CFM)	ΔW (HVS), in.	HVS [AW x (Pa)	/760) x (298/Ta)] ^{1/2}
Point	in. of water	[ΔH x (Pa/76	$(50) \times (298/Ta)]^{1/2}$	X - axis	of water	[Z W X (I W	Y-axis
1	13.4		3.70	63.30	6.8		2.63
2	10.8		3.32	56.83	5.4		2.35
3	7.8		2.82	48.30	4.2		2.07
4	5.4		2.35	40.20	3.2		1.81
5	2.6		1.63	27.91	1.8		1.36
By Linear Regr		X					
Slope, mw =		_		ntercept, bw =	0.368	4	
	coefficient* =		.9990				
*If Correlation C	coefficient < 0.9	90, check and rec	calibrate.				
			Set Point Ca	lculation			
From the TSP Fi	eld Calibration	Curve, take Ostd		ilculation			
From the Regres							
S	1 ,		-		4.0		
		mw x Q	$\mathbf{pstd} + \mathbf{bw} = [\mathbf{\Delta W} \ \mathbf{x}]$	(Pa/760) x (29	98/Ta)] ^{1/2}		
Therefore Se	et Point· W = (n	nw x Ostd + hw)	² x (760 / Pa) x (7	Га / 298) =	3.50		
1110101010, 20	(1	Qota - o)	(/ 00 / 1) (
Remarks:							
			£2.1				
Conducted by:	SK Wong	Signature:			•	Date:	2 February 2021
Checked by:	Henry Leung	Signature:		X27		Date:	2 February 2021

Certificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

Description:	Digital Dust Indicator	Date	Date of Calibration 5-Feb-		
Manufacturer:	Sibata Scientific Technology LTI	O. Validity of Calib	ration Record	5-Apr-21	
Model No.:	LD-5R				
Serial No.:	972778				
Equipment No.:	SA-01-07	Sensitivity 0.001 mg/m3	_		
High Volume Sa	ampler No.: <u>A-01-01A</u>	Before Sensitivity Adjustment	735 CPM		
Tisch Calibration	n Orifice No.: 3607	After Sensitivity Adjustment	735 CPM		
		Calibration of 1 hr TSP			
Calibration	Laser Dust Moni	tor	HVS		
Point	$\mathbf{M} = \mathbf{C} + \mathbf{A}^{*} + (\mathbf{C} + \mathbf{A}^{*})$		Mass concentration (μg/m³) Y-axis		
1	51.0		107.0		
2	45.0		101.0		
3	40.0		95.0		
Average	45.3		101.0		
By Linear Regr	ession of Y on X				
Slope, $mw =$	1.0879	Intercept, bw =	51.6813		
Correlation co	pefficient* = 0.99	286			
		Set Correlation Factor			
Particaulate Con	centration by High Volume Sampl	$er (\mu g/m^3)$	101.0		
Particaulate Con	centration by Dust Meter (µg/m ³)		45.3		
Measureing time	e, (min)		60.0		
Set Correlation I	Factor, SCF				
SCF = [K=Hig	h Volume Sampler / Dust Meter,	(μg/m3)] 2.2			
In-house method	l in according to the instruction ma	nual:			
	or was compared with a calibrated yeen the Dust Monitor and High V	High Volume Sampler and The result	was used to gener	rate the Correlation	

Those filter papers are weighted by HOKLAS laboratory (HPCT Litimed)

Calibrated by: Approved by: Leng Xong Shing Kwai

Approved by: Henry Leung



RECALIBRATION **DUE DATE:**

January 17, 2021

ertificate o

Calibration Certification Information

Cal. Date: January 17, 2020

Rootsmeter S/N: 438320

Ta: 295 Pa: 744.2 °K

Operator: Jim Tisch

mm Hg

Calibration Model #: TE-5025A

Calibrator S/N: 3746

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4340	3.2	2.00
2	3	4	1	1.0180	6.4	4.00
3	5	6	1	0.9080	7.9	5.00
4	7	8	1	0.8700	8.7	5.50
5	9	10	1	0.7150	12.6	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)	
0.9849	0.6868	1.4066	0.9957	0.6944	0.8904	
0.9807	0.9633	1.9892	0.9914	0.9739	1.2592	
0.9787	1.0779	2.2240	0.9894	1.0896	1.4078	
0.9776	1.1237	2.3325	0.9883	1.1360	1.4765	
0.9724	1.3601	2.8131	0.9831	1.3749	1.7808	
	m=	2.09221		m=	1.31010	
QSTD	b=	-0.02779	QA	b=	-0.01759	
	r=	0.99994		r=	0.99994	

	Calculations				
Vstd=	ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	Va=	ΔVol((Pa-ΔP)/Pa)		
Qstd=	Vstd/∆Time	Qa=	Va/∆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=	$1/m\left(\left(\sqrt{\Delta H\left(Ta/Pa\right)}\right)-b\right)$		

Standard Conditions					
Tstd:	298.15 °K				
Pstd:	760 mm Hg				
Key					
ΔH: calibrator manometer reading (in H2O)					
ΔP: rootsme	ter manometer reading (mm Hg)				
Ta: actual ab	solute temperature (°K)				
Pa: actual barometric pressure (mm Hg)					
b: intercept					
m: clono					

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



RECALIBRATION
DUE DATE:

January 11, 2022

Certificate of Calibration

Calibration Certification Information

Cal. Date: January 11, 2021

Rootsmeter S/N: 438320

°K

Operator: Jim Tisch

Ta: 297
Pa: 750.1

mm Hg

Calibration Model #: TE-5025A

Calibrator S/N: 3864

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4470	3.2	2.00
2	3	4	1	1.0210	6.4	4.00
3	5	6	1	0.9140	8.0	5.00
4	, 7	8	1	0.8670	8.8	5.50
5	9	10	1	0.7140	12.9	8.00

	Data Tabulation				
Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right) \left(\frac{Tstd}{Ta}\right)}$		Qa	$\sqrt{\Delta H (Ta/Pa)}$
(m3)	(x-axis)	(y-axis)	Va	(x-axis)	(y-axis)
0.9860	0.6814	1.4073	0.9957	0.6881	0.8899
0.9818	0.9616	1.9902	0.9915	0.9711	1.2585
0.9797	1.0719	2.2251	0.9893	1.0824	1.4071
0.9786	1.1288	2.3337	0.9883	1.1399	1.4757
0.9732	1.3630	2.8146	0.9828	1.3765	1.7798
	m=	2.06566		m=	1.29348
QSTD	b=	0.00315	QA	b=	0.00199
	r=	0.99996		r=	0.99996

Calculations			
Vstd=	ΔVoI((Pa-ΔP)/Pstd)(Tstd/Ta)	Va=	ΔVol((Pa-ΔP)/Pa)
Qstd=	Qstd= Vstd/ΔTime		Va/∆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=	$1/m\left(\left(\sqrt{\Delta H\left(Ta/Pa\right)}\right)-b\right)$

	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

FAX: (513)467-9009

www.tisch-env.com



Cerificate of Calibration - Wind Monitoring Station

Description:	Yau Lai Estate, Bik Lai House

Manufacturer: <u>Davis Instruments</u>

Model No.: <u>Davis7440</u>

Serial No.: <u>MC01010A44</u>

Equipment No.: <u>SA-03-04</u>

Date of Calibration <u>21-Aug-2020</u>

Next Due Date <u>21-Feb-2021</u>

1. Performance check of Wind Speed

Wind Sp	peed, m/s	Difference D (m/s)
Wind Speed Reading (V1)	Anemometer Value (V2)	D = V1 - V2
0.0	0.0	0.0
1.5	1.5	0.0
2.2	2.3	-0.1
3.5	3.4	0.1

2. Performance check of Wind Direction

Wind Di	rection (°)	Difference D (°)
Wind Direction Reading (W1)	Marine Compass Value (W2)	D = W1 - W2
0	0	0.0
90	90	0.0
180	180	0.0
270	270	0.0

Test Specification:

- 1. Performance Wind Speed Test The wind meter was on-site calibrated against the anemometer
- 2. Performance Wind Direction Test The wind meter was on-site calibrated against the marine compass at four direction

Calibrated by:		Approved by:	I lema chang	
	Wong Shing Kwai	_	Henry Leung	



Certificate of Calibration - Wind Monitoring Station

Description: Yau Lai Estate, Bik Lai House

Manufacturer: <u>Davis Instruments</u>

Model No.: <u>Davis7440</u>

Serial No.: <u>MC01010A44</u>

Equipment No.: <u>SA-03-04</u>

Date of Calibration <u>20-Feb-2021</u>

Next Due Date <u>20-Aug-2021</u>

1. Performance check of Wind Speed

Wind Sp	peed, m/s	Difference D (m/s)
Wind Speed Reading (V1)	Anemometer Value (V2)	D = V1 - V2
0.0	0.0	0.0
1.5	1.6	-0.1
2.5	2.5	0.0
3.5	3.4	0.1

2. Performance check of Wind Direction

Wind Di	rection (°)	Difference D (°)
Wind Direction Reading (W1)	Marine Compass Value (W2)	D = W1 - W2
0	0	0.0
90	90	0.0
180	180	0.0
270	270	0.0

Test Specification:

- 1. Performance Wind Speed Test The wind meter was on-site calibrated against the anemometer
- 2. Performance Wind Direction Test The wind meter was on-site calibrated against the marine compass at four direction

Calibrated by:		Approved by:	Leany Chang
	Wong Shing Kwai	_	Henry Leung