Station	Sheung Wun Yiu	(AM1A)		Operator: Chan Wai Shing			
Cal. Date:	30-Jul-12			Next Due Date:	30-Sep-12		
Equipment No.:	A-001-53T			Serial No.	10216		-
			Ambient	Condition			
Temperatu	re, Ta (K)	302	Pressure, F	Pa (mmHg)		752.7	
-							**
W.			Orifice Transfer S	tandard Information	on .		
Serial	l No:	843	Slope, mc	2.00834	Interce	ept, bc	-0.0292
Last Calibra	ation Date:	5-Nov-11		mc x Qstd + bc	= [DH x (Pa/760) x	(298/Ta)] ^{1/2}	
Next Calibra	ation Date:	5-Nov-12		Qstd = {[DH x (Pa/760) x (298/Ta)]	1/2 -bc} / mc	
			Calibration	4 TCD Complex			
			Orfice	of TSP Sampler	HV	S Flow Recorder	
Resistance	ance I						
Plate No.	DH (orifice), in. of water [DH x (Pa/760) x (298/Ta		60) x (298/Ta)] ^{1/2}	Qstd (m³/min) X - axis	Flow Recorder Reading (CFM)	Continuous Flor Reading IC (CF	
18	9.0		2.97	1.49	50.0	49.43	
13	5.8		2.38	1.20	41.0	40.53	
10	4.4	2.07		1.05	33.0	32.62	
7	3.2	1.77		0.90	29.0	28.67	
5	2.2		1.47	0.74	22.0	21.75	
Slope , mw = Correlation Coe	37.0859 fficient* = pefficient < 0.990,		9916 brate.	Intercept, bw =	-5.2	901	-
			Set Point	Calculation			
From the TSP Fie	eld Calibration Cu	rve, take Qstd =	1.30m ³ /min				
From the Regres	sion Equation, the	Y" value accor	ding to				
					40		
		mw	x Qstd + bw = IC	x [(Pa/760) x (298/	Ta)] ^{1/2}		
Therefore Set Pa	oint: IC = (mw x (Ostd + hw) x [(7	60 / Pa) x (Ta / 29	98)1 ^{1/2} =		43.42	
morotoro, com	omi, io (iiii x c	zota · Dii / X [()	0071 a 7 x (1 a 7 2 c	, 0 /]		10.12	-
Remarks:							
			7				
			-	1			
QC Reviewer:	K H SHEL	K	Signature:	Mike		Date: 31. J	11. 19

Station	Sheung Wun Yiu (AM1A)			Operator:	Gary	Choi	
Cal. Date:	28-Sep-12			Next Due Date:	28-No	28-Nov-12	
Equipment No.:	A-001-53T			Serial No.	102	10216	
				O Pri			
	T	004		Condition		755.7	
Temperatu	re, Ta (K)	301	Pressure, F	Pa (mmHg)		733.7	
			Orifice Transfer S	tandard Informatio	n		
Seria	l No:	843	Slope, mc	2.00834	Interce		
Last Calibra	ation Date:	5-Nov-11	2		= [DH x (Pa/760) x		
Next Calibra	ation Date:	5-Nov-12		Qstd = {[DH x (Pa/760) x (298/Ta)]	^{1/2} -bc} / mc	
			Oalthastions	4 TCD Complex			
			Orfice	of TSP Sampler	HV:	S Flow Recorder	
Resistance Plate No.	DH (orifice), in. of water		60) x (298/Ta)] ^{1/2}	Qstd (m³/min) X -	Flow Recorder Reading (CFM)	Continuous Flow Record Reading IC (CFM) Y-av	
18	9.2		3.01	1.51	52.0	51.59	
13	5.9		2.41		41.0	40.6	8
10	4.5		2.10		33.0	32.7	' 4
7	3.3		1.80 0.91 28.		28.0	27.78	
5	2.1		1.44	0.73	21.0	20.84	
By Linear Regre Slope , mw = Correlation Coe	assion of Y on X 39.7683 afficient* =	0.	9967	Intercept, bw =	-8.4	828	_
If Correlation Co	pefficient < 0.990,	check and recali	brate.				
			Set Point	Calculation	•		
rom the TSP Fi	eld Calibration Cu	rve, take Qstd =	1.30m ³ /min				
rom the Regres	ssion Equation, the	e "Y" value accor	ding to				
		mw	x Qstd + bw = IC	x [(Pa/760) x (298/	Ta)] ^{1/2}		
Γherefore, Set P	Point; IC = (mw x 0	Qstd + bw) x [(7	60 / Pa) x (Ta / 29	98)] ^{1/2} =		43.56	_
Remarks:				1	4		12
00.0	1 6 014	A 1	Cignoturo	DI		Date: _ 28/a	1/11
QC Reviewer: _	N) UT	1110	Signature:	4		Dato 01	

ation S	Shan Tong New Village (AM2)			Operator:			
I. Date:	03-Jul-12			Next Due Date:	03-Se	p-12	
uipment No.:	A-001-29T			Serial No.	10202		
			Amhient	Condition			
	T ((0)	200	Pressure, F			752.7	
Temperatur	re, Ta (K)	306	Flessuie, i	a (IIIIII 19)			
		(Orifice Transfer S	tandard Informatio			
Serial	No:	843	Slope, mc	2.00834	Interce		
Last Calibra	ation Date:	15-Nov-11		mc x Qstd + bc	= [DH x (Pa/760) x	[298/Ta)] " ²	
Next Calibra	ation Date:	15-Nov-12		Qstd = {[DH x (I	Pa/760) x (298/Ta)] ¹	^{/2} -bc} / mc	
			A 111 - 11 - 11	4 TCD Complex			
				of TSP Sampler	HVS	S Flow Recorder	
Desistence		1	rfice	1	I	Continuous Flow Recorder	
Resistance Plate No.	DH (orifice), in. of water	[DH x (Pa/7)	60) x (298/Ta)] ^{1/2}	Qstd (m³/min) X · axis	Flow Recorder Reading (CFM)	Reading IC (CFM) Y-axis	
18	9.6		3.04		48.0	47.14	
13	7.0		2.60		42.0	41.25	
10	5.1		2.22		34.0	33.39	
7	4.0		1.96		28.0	27.50	
- 1							
5	2.6		1.58	0.80	22.0	21.61	
5 By Linear Regre Slope , mw = Correlation Coe	2.6 ession of Y on X 36.3998		.9918	0.80		21.61 7015	
5 By Linear Regre Slope , mw = Correlation Coe	2.6 ession of Y on X 36.3998 efficient* =		. 9918 ibrate.				
5 By Linear Regre Slope , mw = Correlation Coe *If Correlation Coe	2.6 ession of Y on X 36.3998 efficient* = oefficient < 0.990	0, check and recal	.9918 ibrate. Set Poin	Intercept, bw =			
By Linear Regres Slope , mw = Correlation Coe *If Correlation Coe From the TSP F	ession of Y on X 36.3998 efficient* = oefficient < 0.990	o, check and recal	.9918 ibrate. Set Poin :1.30m³/min	Intercept, bw =			
By Linear Regres Slope , mw = Correlation Coe *If Correlation Coe From the TSP F	2.6 ession of Y on X 36.3998 efficient* = oefficient < 0.990	check and recal	.9918 ibrate. Set Point 1.30m³/min rding to	Intercept, bw =	-7.7		
By Linear Regres Slope , mw = Correlation Coe *If Correlation Coe From the TSP F	ession of Y on X 36.3998 efficient* = oefficient < 0.990	check and recal	.9918 ibrate. Set Point 1.30m³/min rding to	Intercept, bw =	-7.7		
By Linear Regression Correlation Coe *If Correlation Coe From the TSP F	ession of Y on X 36.3998 efficient* = oefficient < 0.990 field Calibration C ssion Equation, the	check and recal	.9918 ibrate. Set Point 1.30m³/min rding to v x Qstd + bw = 10	Intercept, bw =	-7.7	7015	
By Linear Regression Correlation Coe *If Correlation Coe From the TSP F	ession of Y on X 36.3998 efficient* = oefficient < 0.990 field Calibration C ssion Equation, the	check and recal	.9918 ibrate. Set Point 1.30m³/min rding to	Intercept, bw =	-7.7		
By Linear Regression Correlation Coe *If Correlation Coe From the TSP F	ession of Y on X 36.3998 efficient* = oefficient < 0.990 field Calibration C ssion Equation, the	check and recal	.9918 ibrate. Set Point 1.30m³/min rding to v x Qstd + bw = 10	Intercept, bw =	-7.7	7015	
By Linear Regression Correlation Coe *If Correlation Coe From the TSP F	ession of Y on X 36.3998 efficient* = oefficient < 0.990 field Calibration C ssion Equation, the	check and recal	.9918 ibrate. Set Point 1.30m³/min rding to v x Qstd + bw = 10	Intercept, bw =	-7.7	7015	
By Linear Regree Slope , mw = Correlation Coe *If Correlation Coe From the TSP F From the Regree Therefore, Set F	ession of Y on X 36.3998 efficient* = oefficient < 0.990 field Calibration C ssion Equation, the	check and recal	.9918 ibrate. Set Point 1.30m³/min rding to v x Qstd + bw = 10	Intercept, bw =	-7.7	7015	
By Linear Regres Slope , mw = Correlation Coe *If Correlation Coe From the TSP F From the Regres	ession of Y on X 36.3998 efficient* = oefficient < 0.990 field Calibration C ssion Equation, the	check and recal	.9918 ibrate. Set Point 1.30m³/min rding to v x Qstd + bw = 10	Intercept, bw =	-7.7	7015	
By Linear Regres Slope , mw = Correlation Coe *If Correlation Coe From the TSP F From the Regres	ession of Y on X 36.3998 efficient* = oefficient < 0.990 field Calibration C ssion Equation, the	check and recal	.9918 ibrate. Set Point 1.30m³/min rding to v x Qstd + bw = 10	Intercept, bw =	-7.7	7015	

Station	Shan Tong New	Village (AM2)		Operator:	Shum Ka	am Yuen
Cal. Date:	3-Sep-12			Next Due Date:	3-No	v-12
Equipment No.:	A-001-29T			Serial No.	102	202
			A -11'- 1	0 111		
	- 40	000		Condition		755.1
Temperatu	re, Ta (K)	302	Pressure,	Pa (mmHg)		755.1
			Orifice Transfer S	tandard Information	n	
Serial	l No:	843	Slope, mc	2.00834	Interce	
Last Calibra	ation Date:	15-Nov-11			= [DH x (Pa/760) x	
Next Calibra	ation Date:	15-Nov-12		Qstd = {[DH x (Pa/760) x (298/Ta)]	^{1/2} -bc} / mc
			Calibration	f TCD Complex		
			Orfice	of TSP Sampler	HV:	S Flow Recorder
Resistance Plate No.	DH (orifice), in. of water	[DH x (Pa/760) x (298/Ta)] ^{1/2}		Qstd (m³/min) X -	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) Y-axis
18	9.5	+	3.05	1.53	48.0	47.53
13	7.0		2.62		41.0	40.60
10	5.2		2.26		34.0	33.67
7	4.0		1.98	1.00	29.0	28.71
5	2.5		1.57	0.79	23.0	22.77
By Linear Regre Slope , mw = Correlation Coe	assion of Y on X 34.0835 fficient* =	_	9976	Intercept, bw =	-4.7	902
*If Correlation Co	efficient < 0.990,	check and recali	brate.			
			Set Point	Calculation	•	
From the TSP Fig	eld Calibration Cu	urve, take Qstd =	1.30m³/min			
From the Regres	sion Equation, th	e "Y" value accor	ding to			
		mw	v Oetd + bw = IC	x [(Pa/760) x (298/	Ta)] ^{1/2}	
		11144	A QSta · DH - 10	X [(1 &1100) X (2001	· u/j	
Therefore, Set Pe	oint; IC = (mw x	Qstd + bw) x [(7	60 / Pa) x (Ta / 29	98)] ^{1/2} =		39.91
					*	
Remarks:						(3)
	AT .					
QC Reviewer:	WS Ct	IM	Signature:	41		Date: _ 4 /9/12

Station	tion Riverain Bayside (AM3)			Operator:	ım Yuen	_	
Cal. Date:	03-Jul-12	· ·		Next Due Date:	03-Se	:p-12	
quipment No.:	A-001-69T	Serial No. 716			6	_	
-quipinoni in							
			TWO SAID PROPERTY OF THE	Condition			
Temperatu	re, Ta (K)	306	Pressure, F	Pa (mmHg)		752.7	
			wifier Transfer C	tandard Informatio	n		
•	I Maria	843	Slope, mc	2.00834	Interce	ept. bc	-0.0292
Seria		15-Nov-11	Slope, Illo		= [DH x (Pa/760) x		
Last Calibra		15-Nov-12		Ostd = {IDH x (Pa/760) x (298/Ta)]	1/2 -bc} / mc	
Next Calibr	ation Date:	15-1101-12		Water [[Dirk (i	un 00) x (=00.1 u)]	, , , , , , , , , , , , , , , , , , , ,	
			Calibration of	of TSP Sampler			
		0	rfice		HVS	S Flow Recorder	
Resistance Plate No.	DH (orifice), in. of water	[DH x (Pa/76	60) x (298/Ta)] ^{1/2}	Qstd (m³/min) X · axis	Flow Recorder Reading (CFM)	Continuous Flo Reading IC (C	
18	8.4	2.85		1.43	44.0	43.2	21
13	7.6		2.71	1.36	42.0	41.2	25
10	6.1		2.43	1.22	38.0	37.32	
7	4.8		2.15	1.09	32.0	31.43	
5	3.0		1.70	0.86	24.0	23.5	57
By Linear Regr Slope , mw = Correlation Co	ession of Y on X 34.9045 efficient* =	_	9953	Intercept, bw =	-6.2	2805	_
	oefficient < 0.990	, check and recali	brate.				
			Set Point	t Calculation			
From the TSP F	ield Calibration Co	urve, take Qstd =	1.30m ³ /min				
	ssion Equation, th						
					- v= 1/2		
		mw	x Qstd + bw = IC	x [(Pa/760) x (298/	ı a)]		
Therefore, Set F	Point; IC = (mw x	Qstd + bw) x [(7	60 / Pa) x (Ta / 2	98)] 1/2=		39.81	_
Demodra							
Remarks:							
	1 /					- 1	
	7 ~~			4/		Data Ju	1/2

Station	Riverain Bayside	(AM3)		Operator:	Shum Ka	am Yuen	
cal. Date:	3-Sep-12			Next Due Date:	3-No	3-Nov-12	
Equipment No.:	A-001-69T			Serial No.	71	6	1
				-			
				Condition			
Temperatu	re, Ta (K)	302	Pressure, F	Pa (mmHg)		755.1	
			Orifice Transfer S	tandard Informatio	n		
Serial	No:	843	Slope, mc	2.00834	Interce	ept, bc	-0.0292
Last Calibra		15-Nov-11		mc x Qstd + bc	= [DH x (Pa/760) x	(298/Ta)] ^{1/2}	
Next Calibra		15-Nov-12			Pa/760) x (298/Ta)]		
			Calibration of	f TSP Sampler			
Orfice				HVS	S Flow Recorder		
Resistance Plate No.	DH (orifice), in. of water	[DH x (Pa/7	[DH x (Pa/760) x (298/Ta)] ^{1/2}		Flow Recorder Reading (CFM)	Continuous Flow Reading IC (CFI	
18	8.6		2.90		45.0	44.56	
13	7.8		2.77	1.39	42.0	41.59	
10	6.2		2.47	1.24	36.0	35.65	8
7	4.9		2.19	1.11	33.0	32.67	
5	3.0		1.71	0.87	24.0	23.76	
Slope , mw = Correlation Coe	34.2608 officient* = 0.990,	0	.9935 ibrate.	Intercept, bw =	-5.9	363	
				Calculation			
	eld Calibration Cu						
From the Regres	ssion Equation, th	e "Y" value acco	rding to				
		mv	v x Qstd + bw = IC	x [(Pa/760) x (298/	Ta)] ^{1/2}		
The surface Cot D	laint: IC = / mw v	Octd + bw) v [(]	760 / Pa) x (Ta / 29	98 \1 ^{1/2} =		38.99	
inerefore, Set P	omt, ic – (mw x	QStu + DW) X [(i	100/174/1/20	50 /] -			-
Remarks:							
	1	Mary and the second					
						. 1. 1-	1
QC Reviewer: _	WS CHA	N	Signature:	41		Date:4/9	112

Station	tion 168 Shek Kwu Lung Village (AM4A)			Operator:	Chan W	ai Shing		
Cal. Date:	30-Jul-12			Next Due Date:	30-Se	30-Sep-12		
Equipment No.:	A-001-70T			Serial No.	102	273	_	
			Ambient	Condition				
Temperatu	re, Ta (K)	302		Pa (mmHg)		752.7		
·		l						
			Orifice Transfer S	tandard Information	on			
Seria	l No:	843	Slope, mc	2.00834	Interce	ept, bc -0.029		
Last Calibra	ation Date:	15-Nov-11		mc x Qstd + bc	= [DH x (Pa/760) x	(298/Ta)] ^{1/2}		
Next Calibra	ation Date:	15-Nov-12		Qstd = {[DH x (Pa/760) x (298/Ta)]	^{1/2} -bc} / mc		
				of TSP Sampler				
Resistance		1 0	rfice	_	HV	S Flow Recorder		
Plate No.	DH (orifice), in. of water	[DH x (Pa/76	50) x (298/Ta)] ^{1/2}	Qstd (m³/min) X - axis	Flow Recorder Reading (CFM)	Continuous Flow Record Reading IC (CFM) Y-az		
18	9.9		3.11	1.56	50.0	49.43		
13	7.4		2.69	1.35	44.0	43.50		
10	5.2	2.25		1.14	36.0	35.59		
7	3.8	1.93		0.97	31.0	30.65		
5	2.2		1.47	0.74	24.0	23.73		
By Linear Regre Slope, mw = Correlation Coe	31.8601 fficient* =	_	985	Intercept, bw =	-0.2	064	-	
ii correlation co	omoiorit - 0.000,	orroom arra rooding	rato.					
				Calculation				
From the TSP Fie	eld Calibration Cu	irve, take Qstd = 1	1.30m³/min					
From the Regres	sion Equation, the	e "Y" value accord	ling to					
			. 0-44 10	·· [/D-/700) ·· (000/	F-131/2			
		mw.	x Usta + bw = IC	x [(Pa/760) x (298/	(a)]			
Therefore, Set Po	oint; IC = (mw x	Qstd + bw) x [(76	60 / Pa) x (Ta / 29	98)] ^{1/2} =		41.69		
	Commence Commence Commence Section		, , , , , , , , , , , , , , , , , , , ,		÷	high	_	
Remarks:								
				11 2 20 12				
	2000					one of the same of		
QC Reviewer:	K. M. SHEK		Signature:	Mike		Date: <u> </u>	11-12	

Station	ation 168 Shek Kwu Lung Village (AM4A)				Gary	Choi			
Cal. Date:	28-Sep-12			Next Due Date:	28-Nov-12				
Equipment No.:	A-001-70T			Serial No.	102	273	e e		
				Condition					
Temperatu	re, Ta (K)	301	Pressure, I	Pa (mmHg)		755.7	P		
			Orifice Transfer S	tandard Information	on				
Serial	l No:	843	Slope, mc	2.00834	Interce	ept, bc	-0.0292		
Last Calibra		15-Nov-11		mc x Qstd + bc	= [DH x (Pa/760) x	(298/Ta)] ^{1/2}			
Next Calibra		15-Nov-12			Pa/760) x (298/Ta)]				
		·					1.4		
			Calibration of	of TSP Sampler					
Orfice				HVS	S Flow Recorder	rder			
Resistance Plate No.	DH (orifice), in. of water	[DH x (Pa/7	[DH x (Pa/760) x (298/Ta)] ^{1/2}		Flow Recorder Reading (CFM)	Continuous Flow Record Reading IC (CFM) Y-ax			
18	9.6		3.07	1.55	50.0	49.61			
13	7.4		2.70	1.36	45.0	44.65			
10	5.3		2.28	1.15	36.0	35.72			
7	3.6		1.88	0.95	30.0	29.77			
5	2.2		1.47	0.75	22.0	21.83			
By Linear Regre Slope, mw = Correlation Coe *If Correlation Co	35.2097 fficient* =	0	.9958 ibrate.	Intercept, bw =	-4.2	114	Ē		
		w established	Cat Bailet	Coloulation					
From the TSP Fi	eld Calibration C	urve. take Qstd =		Calculation					
From the Regres									
					00000				
		mw	x Qstd + bw = IC	x [(Pa/760) x (298/	Ta)] ^{1/2}				
Therefore, Set P	oint; IC = (mw x	Qstd + bw) x [(7	760 / Pa) x (Ta / 29	98)] ^{1/2} =	8	41.89			
Remarks:									
		9	F08 2	01		- 20 10 1	1		
QC Reviewer:	WS CHA	N	Signature:	4-1		Date: 28/9/	1		



TISCH ENVIROMENTAL, INC. 145 SOUTH MIAMI AVE. VILLAGE OF CLEVES, OH 45002 513.467.9000 877.263.7610 TOLL FREE 513.467.9009 FAX WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

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DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
0.9934 0.9891 0.9871 0.9859 0.9807	0.7193 1.0083 1.1269 1.1779 1.4233	1.4125 1.9976 2.2334 2.3424 2.8251	0.995 0.991 0.989 0.988 0.983	5 1.0107 5 1.1295 2 1.1807	0.8866 1.2538 1.4018 1.4703 1.7732
Qstd slop intercept coefficie	(b) =	2.00834 -0.02923 0.99994	inter	lope (m) = cept (b) = icient (r) =	1.25759 -0.01835 0.99994
y axis =	SQRT [H20 (I	?a/760) (298/	a)] y axi	s = SQRT[H2O(ra/Pa)]

CALCULATIONS

Vstd = Diff. Vol[(Pa-Diff. Hg)/760](298/Ta)

Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa]

Qa = Va/Time

For subsequent flow rate calculations:

Qstd = $1/m\{ [SQRT (H2O (Pa/760) (298/Ta))] = b \}$ Qa = $1/m\{ [SQRT H2O (Ta/Pa)] - b \}$

Type: Manufacturer/Brand Model No.: Equipment No.: Sensitivity Adjustme		Laser Do SIBATA LD-3 A.005.07 557 CPI	'a	tor		
Operator:		Mike She	ek (MSKN	М)		
Standard Equipmen	t					
Equipment: Venue: Model No.: Serial No: Last Calibration Dat	Sensor: 1. e*: 5 May 2012	Ying Seco 3 40AB2198 200C1436	99803 59803	K _o : <u>12500</u>		
Remarks: Recomme	ended interval for hardw	are calibra	tion is 1 y	year		
Calibration Result	de established					*
	ent Scale Setting (Before ent Scale Setting (After			557 CF		
Hour Date (dd-mm-yy	Time	A Section of the sect	dition R.H.	Concentration ¹ (mg/m ³) Y-axis	Total Count ²	Count/ Minute ³ X-axis
1 02-06-12	13:30 - 14:30		63	0.04070	1628	27.13
2 02-06-12	14:30 - 15:30		63	0.04167	1669	27.82
3 02-06-12	15:30 - 16:30		64	0.04283	1713	28.55
4 02-06-12	16:30 - 17:30		63	0.04146	1655	27.58
2. Total Cou 3. Count/mi By Linear Regression Slope (K-factor): Correlation coefficie	0.0015 ent: 0.9951	Dust Mon (Total Cou	itor	ashnick TEOM [®]		an and an
Validity of Calibratio Remarks:	n Record:1 June 2	2013				
			4/			

Type: Laser Dus Manufacturer/Brand: SIBATA Model No.: LD-3 Equipment No.: A.005.08a Sensitivity Adjustment Scale Setting: 702 CPM				nitor		
Operator:	are detung.	Mike Sh		(M)		
Standard Equipment		- 7				
Equipment: Venue: Model No.: Serial No: Last Calibration Date*: *Remarks: Recommended i	Sensor: 12 5 May 2012	Ying Sec 10AB2198 200C1436	ondary 199803 159803	School) K _o : _12:	500	
	Titerval for flaruwa	ile Calibra	ilion is	year		
Calibration Result						
Sensitivity Adjustment Sca Sensitivity Adjustment Sca				702 702	CPM CPM	
Hour Date (dd-mm-yy)	Time	Amb Cond Temp (°C)		Concentration ¹ (mg/m ³) Y-axis	Total Count ²	Count/ Minute ³ X-axis
	:30 - 14:30	28.9	73	0.04127	1545	25.75
	:30 - 15:30	29.0	73	0.04163	1566	26.10
	:30 - 16:30	29.0	73	0.04334	1630	27.17
	:30 - 17:30	29.1	74	0.04426	1665	27.74
Note: 1. Monitoring data 2. Total Count was 3. Count/minute was By Linear Regression of Y of Slope (K-factor): Correlation coefficient:	s logged by Laser as calculated by (Dust Mor	itor	AGENTION TEOM		
Validity of Calibration Reco	ord: <u>1 July 20</u>	13				
Remarks:			10			

Mod- Equi	e: ufacturer/Brand: el No.: pment No.: sitivity Adjustmer		ng:	Laser L SIBATA LD-3 A.005.0 797 CF)9a	nitor		
Operator:				Mike Sh	nek (MSK	(M)		
Stand	ard Equipment	•						
Venu Mode Seria Last (el No.:	Cybe Serie Contr Sense 5 May	or: 12 / 2012	Ying Sec 20AB2198 200C1436	ondary S 399803 559803	K _o : _12500)	
Calibra	ntion Result							,
Sensi	tivity Adjustment tivity Adjustment	Scale Settin	g (Before g (After C	alibration	on):):		PM PM	
Hour	Date (dd-mm-yy)	Tim	е		dition R.H.	Concentration ¹ (mg/m³) Y-axis	Total Count ²	Count/ Minute ³ X-axis
2	02-06-12 02-06-12	13:30 - 14:30 -	14:30	27.9	63	0.04070	1626	27.10
3	02-06-12	15:30 -	15:30 16:30	27.9 28.2	63	0.04167	1667	27.78
4	02-06-12	16:30 -	17:30	28.1	64 63	0.04283 0.04146	1708 1659	28.47
Slope (1. Monitoring of 2. Total Count 3. Count/minut ar Regression of (K-factor): ation coefficient:	was logged in the was calculary or X	by Laser [Dust Moni	itor	shnick TEOM®	.000	27.65
	of Calibration R		June 20	13				
Remarks	S:				i /			
QC Rev	viewer: YW Fu	ıng	Signatu	ıre:	4/	Date:	4 June 1	2012

Туре	:			Laser D	ust Mon	itor		
	ufacturer/Brand:		_	SIBATA				
	el No.:		_	LD-3				
Equipment No.:			_	A.005.10a				
Sensitivity Adjustment Scale Setting:				753 CPM				
Operator:				Mike Sh	ek (MSKI	M)		
Standa	ard Equipment							
Carrie		_	1		®			
Venue	oment:		precht & Pa			1 1)		
Mode			erport (Pui es 1400AB	ring Seco	ondary S	cnooi)		<u> </u>
Serial		Con		0AB2198	00002			
Octial	INO.	Sen		00C1436		V · 1250	0	
Last C	Calibration Date*		ay 2012	0001430	39603	K _o : <u>1250</u>)	
				W 2010				
*Remar	rks: Recommend	led interval	for hardwa	re calibra	ition is 1 y	year		
Calibra	ation Result			**************************************			-	
0 .	C. M. P. J. J.	0 1 0 11	. (D.	0 III . ()				
	tivity Adjustment						PM	
Sensi	tivity Adjustment	Scale Sett	ing (After C	alibration):	CI	PM	
Hour	Date	Ti	me	Ami	bient	Concentration ¹	Total	Count/
	(dd-mm-yy)			1	dition	(mg/m ³)	Count ²	Minute ³
	, ,,,			Temp	R.H.	Y-axis	Journ	X-axis
				(°C)	(%)			71 471.0
1	02-06-12		- 13:45	27.9	63	0.04041	1613	26.88
2	02-06-12		- 14:45	27.9	63	0.04085	1631	27.18
3	02-06-12		- 15:45	27.9	63	0.04154	1663	27.72
4	02-06-12		- 16:45	28.1	64	0.04272	1711	28.52
Note:						shnick TEOM®		
	2. Total Count							
	3. Count/minut	e was calc	ulated by (1	otal Cou	ni/60)			
By Linea	ar Regression of	Y or X						
	(K-factor):		0.0015					
	ation coefficient:		0.9939					
Validit	y of Calibration F	ecord:	1 June 20	112				
validit	y or Calibration i	ecoru.	1 June 20	13				
Remark	·s.							
Coman		-						
i								
	27.	-						
OC D-	viewen VIII		O'		1/		× 7 4	0015
QU Ke	eviewer: _YWF	ung	_ Signat	ure:		Date	e: 4 June	2012

Mode Equip	facturer/Brand:	Scale Settin	- - - ng: _	Laser D SIBATA LD-3 A.005.11 799 CP		itor		
Operator:			· · · · · · · · · · · · · · · · · · ·	Mike Shek (MSKM)				
Standa	ard Equipment							
	e: l No.:	Cyber Serie Contr Senso 5 May	or: 120 / 2012	Ying Seco 0AB2198 00C1436	99803 59803	K _o : <u>12500</u>)	
Calibra	tion Result	- 						
Sensit	tivity Adjustment tivity Adjustment					CONTRACTOR OF THE PARTY OF THE	PM PM	
Hour	Date (dd-mm-yy)	Tin	ne		dition R.H. (%)	Concentration ¹ (mg/m ³) Y-axis	Total Count ²	Count/ Minute ³ X-axis
1	02-07-12	13:45 -	14:45	29.0	73	0.04152	1659	27.65
2	02-07-12	14:45 -	15:45	29.0	73	0.04194	1670	27.83
3	02-07-12	15:45 -	16:45	29.1	74	0.04318	1725	28.75
4	02-07-12	16:45 -	17:45	29.1	74	0.04443	1780	29.67
Slope Correl	2. Total Count 3. Count/minut ar Regression of (K-factor): ation coefficient:	was logged e was calcu Y or X - -	by Laser [lated by (T 0.0015 0.9928	Oust Mon otal Cou	itor	shnick TEOM [®]		
Validity Remark	y of Calibration F s:	Record: _	1 July 201	13				
					(A /	/		
QC Re	eviewer: YW F	ung	Signat	ure:		Date	e: 3 July 2	2012

Model Equip	acturer/Brand: No.: ment No.: ivity Adjustment	Scale Setting		Laser Du SIBATA LD-3B A.005.14 786 CPN	а	tor		
Operator:			_	Mike She	k (MSKN	1)		
Standa	rd Equipment							
Equipo Venue Model Serial Last C	e: No.:	Cyberp Series Control Sensor	ort (Pui Y 1400AB : <u>140</u> : <u>120</u>	tashnick fing Seco DAB21989 DOC14365	ndary So 9803	chool) K _o : _1250	0	
*Remar	ks: Recommend	ed interval for	hardwar	e calibrat	ion is 1 y	/ear		
Calibra	tion Result							,
Sensit	ivity Adjustment ivity Adjustment						PM PM	
Hour	Date (dd-mm-yy)	Time		Amb Cond Temp (°C)		Concentration ¹ (mg/m ³) Y-axis	Total Count ²	Count/ Minute ³ X-axis
1	02-06-12	13:15 -	14:15	27.9	63	0.04073	1746	29.10
2	02-06-12	14:15 -	15:15	27.9	63	0.04154	1778	29.63
3	02-06-12 02-06-12	15:15 - 16:15 -	16:15 17:15	28.1 28.1	64 64	0.04269 0.04136	1830 1769	30.50 29.48
Slope Correl	1. Monitoring of 2. Total Count 3. Count/minut ar Regression of (K-factor): ation coefficient: y of Calibration F	was logged be was calculary or X	y Laser D	Oust Moni otal Cour	tor	shnick TEOM [®]		
Remark	s:							
QC Re	eviewer: YW F	ung	Signat	ure:	b /	Dat	te: _4 June	2012



G/F., 9/F., 12/F., 13/F. & 20/F., Leader Centre, 37 Wong Chuk Hang Road, Aberdeen, Hong Kong. 香港黃竹坑道37號利達中心地下,9樓,12樓,13樓及20樓 Website: www.cigismec.com E-mail: smec@cigismec.com

Tel: (852) 2873 6860 Fax: (852) 2555 7533



CERTIFICATE OF CALIBRATION

Certificate No.:

11CA1221 01-01

Page

2

Item tested

Description: Manufacturer: Type/Model No.: Sound Level Meter (Type 1)

Microphone Rion Co., Ltd.

NL-31

Rion Co., Ltd. UC-53A 90526

Preamp Rion Co., Ltd. NH-21

Serial/Equipment No.: 00320534 / N.007.02A Adaptors used:

03581

of

Item submitted by

Customer Name:

AECOM ASIA CO., LTD.

Address of Customer:

Request No.:

Date of receipt:

21-Dec-2011

Date of test:

23-Dec-2011

Reference equipment used in the calibration

Description: Multi function sound calibrator

Signal generator Signal generator Model: B&K 4226 DS 360

DS 360

2288444 33873 61227

Serial No.

Expiry Date:

09-May-2012 30-May-2012 30-May-2012

Traceable to:

CIGISMEC CEPREI CEPREI

Ambient conditions

Temperature: Relative humidity: Air pressure:

(22 ± 1) °C $(60 \pm 10) \%$ $(1000 \pm 5) hPa$

Test specifications

The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.

2, The electrical tests were performed using an electrical signal substituted for the microphone which was removed and replaced by an equivalent capacitance within a tolerance of +20%.

3. The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responsess of the Sound Level Meter.

Test results

This is to certify that the Sound Level Meter conforms to BS 7580: Part 1: 1997 for the conditions under which the test was performed.

Details of the performed measurements are presented on page 2 of this certificate

TVI i

Actual Measurement data are documented on worksheets.

Approved Signatory:

Date: h/Feng Jun Qi

16-Jan-2012

Company Chop:

The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument.

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Form No.CARP152-1/Issue 1/Rev.C/01/02/2007



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Tel: (852) 2873 6860 Fax: (852) 2555 7533



CERTIFICATE OF CALIBRATION

Certificate No.:

12CA0321 01-02

Page

2

Item tested

Description: Manufacturer: Sound Level Meter (Type 1) **B&K**

Microphone **B&K**

Type/Model No.:

2250-L

4950

Serial/Equipment No.: Adaptors used:

2681366 / N.011.01

2665582

Item submitted by

Customer Name:

AECOM ASIA CO LTD

Address of Customer:

Request No.:

21-Mar-2012

Date of receipt:

Date of test:

23-Mar-2012

Reference equipment used in the calibration

Description:

Model:

Serial No.

Expiry Date: 09-May-2012

Traceable to:

Multi function sound calibrator Signal generator Signal generator

B&K 4226 DS 360 DS 360

2288444 33873 61227

30-May-2012 30-May-2012

CIGISMEC CEPREI **CEPREI**

Ambient conditions

Temperature:

(22 ± 1) °C

Relative humidity: Air pressure:

 $(60 \pm 10) \%$ (1005 ± 5) hPa

Test specifications

The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.

The electrical tests were performed using an electrical signal substituted for the microphone which was removed and 2, replaced by an equivalent capacitance within a tolerance of +20%

The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference 3, between the free-field and pressure responsess of the Sound Level Meter.

Test results

This is to certify that the Sound Level Meter conforms to BS 7580: Part 1: 1997 for the conditions under which the test was performed.

Details of the performed measurements are presented on page 2 of this certificate

Feng Jun Qi

Actual Measurement data are documented on worksheets.

Huang Jian Mi

Approved Signatory:

23-Mar-2012

Company Chop:

ENGIN

Comments: The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument.

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Form No.CARP152-1/Issue 1/Rev.C/01/02/2007



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Tel: (852) 2873 6860 Fax: (852) 2555 7533



CERTIFICATE OF CALIBRATION

Certificate No.:

11CA1221 01-02

Page:

of

2

Item tested

Description:

Acoustical Calibrator (Class 1)

Manufacturer:

Rion Co., Ltd.

Type/Model No.:

NC-73

Serial/Equipment No .:

10307216 / N.004.06

Adaptors used:

Item submitted by

Curstomer:

AECOM ASIA CO., LTD.

Address of Customer:

Request No.:

Date of receipt:

21-Dec-2011

Date of test:

16-Jan-2012

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Lab standard microphone	B&K 4180	2341427	18-May-2012	SCL
Preamplifier	B&K 2673	2239857	14-Dec-2011	CEPREI
Measuring amplifier	B&K 2610	2346941	15-Dec-2011	CEPREI
Signal generator	DS 360	61227	30-May-2012	CEPREI
Digital multi-meter	34401A	US36087050	09-Dec-2011	CEPREI
Audio analyzer	8903B	GB41300350	27-May-2012	CEPREI
Universal counter	53132A	MY40003662	30-May-2012	CEPREI

Ambient conditions

Temperature:

22 ± 1 °C

Relative humidity: Air pressure:

65 ± 5 % 1005 ± 5 hPa

Test specifications

- The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B 1, and the lab calibration procedure SMTP004-CA-156.
- 2, The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.
- The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

Test results

This is to certify that the sound calibrator conforms to the requirements of annex B of IEC 60942: 1997 for the conditions under which the test was performed. This does not imply that the sound calibrator meets IEC 60942 under any other conditions.

Details of the performed measurements are presented on page 2 of this certificate.

Huang Jian Min/Feng Jun Qi

carry no implication regarding the long-term stability of the instrument.

Approved Signatory:

Date:

16-Jan-2012

Company Chop:

Comments: The results reported in this pertificate refer to the condition of the instrument on the date of calibration and

Soils & Materials Engineering Co., Ltd.

Form No.CARP156-1/Issue 1/Rev.D/01/03/2007

ENGIN



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CERTIFICATE OF CALIBRATION

Certificate No.:

12CA0817 01

Page:

of

2

Item tested

Description:

Acoustical Calibrator (Class 1)

Manufacturer:

Rion Co., Ltd.

Type/Model No.: Serial/Equipment No.: NC-73

Serial/Equipment N

10307223 / N.004.08

Adaptors used:

_

Item submitted by

Curstomer:

AECOM ASIA CO., LTD.

Address of Customer:

-

Request No.: Date of receipt:

17-Aug-2012

Date of test:

17-Aug-2012

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Lab standard microphone	B&K 4180	2412857	29-May-2013	SCL
Preamplifier	B&K 2673	2239857	05-Jan-2013	CEPREI
Measuring amplifier	B&K 2610	2346941	29-Dec-2012	CEPREI
Signal generator	DS 360	61227	29-May-2013	CEPREI
Digital multi-meter	34401A	US36087050	16-Dec-2012	CEPREI
Audio analyzer	8903B	GB41300350	29-May-2013	CEPREI
Universal counter	53132A	MY40003662	29-May-2013	CEPREI

Ambient conditions

Temperature:

22 ± 1 °C

Relative humidity: Air pressure:

60 ± 10 % 995 ± 5 hPa

Test specifications

- The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.
- 2, The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.
- 3, The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

Test results

Details of the performed measurements are presented on page 2 of this certificate.

Huang Jian Min/Feng Jun Qi

Approved Signatory:

Date:

17-Aug-2012

Company Chop:

WAS ENGINEER ING COMPANY OF THE STREET OF T

Comments: The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long term stability of the instrument.

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