Station Sheung Wun Yiu (AM1A) Operator: Shum Kam Yuen							
Cal. Date:	al. Date: 19-Apr-11			Next Due Date:	19-Jun-11		
Equipment No.:	A-001-53T	A-001-53T Serial No. 10216					
			Ambien	Condition			
Temperati	ure, Ta (K)	292		Pa (mmHg)	<u> </u>	765.1	
	10, 74 (17)		11000010,	(111111 1g)		700.1	
			rifice Transfer S	tandard Informatic)n		
Seria	al No:	988	Slope, mc	2.01259	Interce	ept, bc -0.01532	
Last Calibr	ation Date:	7-May-10		mc x Qstd + bc	= [DH x (Pa/760) x	(298/Ta)] ^{1/2}	
Next Calibr	ration Date:	7-May-11			Pa/760) x (298/Ta)]		
			Calibration of	of TSP Sampler			
		0	rfice		HV	S Flow Recorder	
Resistance Plate No.	DH (orifice), in. of water	[DH x (Pa/76	0) x (298/Ta)} ^{1/2}	Qstd (m³/min) X - axis	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) Y-axis	
18	18 10.4 3.27 1.63 54.0 54.73						
13	13 6.3 2.54 1.27 41.0 41.56						
10	4.7		2.20	1.10	33.0	33.45	
7	3.6		1.92	0.96	30.0	30.41	
5	2.3		1.54	0.77	21.0	21.29	
By Linear Regre Slope , mw = Correlation Coe	985ion of Y on X 38.4641 9fficient* =	 0.9	953	Intercept, bw =	-7.8	509	
	pefficient < 0.990,			_			
			Set Point	Calculation			
From the TSP Fi	eld Calibration Cu	rve, take Qstd = 1	.30m³/min				
From the Regres	ssion Equation, the	"Y" value accord	ing to				
		mw :	Qstd + bw = IC	x [(Pa/760) x (298/∖	Га)] ^{1/2}		
)	0.45) (7.40	20.21/2			
Therefore, Set P	oint; IC = (mw x C	ov)] x (wa + bisk	0/Pa)x(1a/29	98)] =		41.59	
			· · · · · · · · · · · · · · · · · · ·				
Remarks:							
Nomains.							
QC Reviewer:	- lec	fu :	Signature:	Joe		Date: YO Apr 11	

Station Sheung Wun Yiu (AM1A)

Cal. Date:

19-Apr-11

Next Due Date:

19-Jun-11

Set Point (IC)

) <u>41.59</u>

IC (CFM)	Qstd (m³/min)
24	0.828
25	0.854
26	0.000
27	0.906
28 29	0.958
29 30	0.956
31	1.010
33	1.062
34	**************************************
35	1.114
a de e	11/0
37	1.166
40	i lex
39	1.218
10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	10,440
41	1.270
\mathcal{M}_{i}	1/280
43	1.322
44	1520
45 46	1.374 1.400
47	1.426
71	
48	1402
49	1.478
800	4,500
51	1.530
52 53	1.582
	1.002
55	1.634
55	1506
57	1.686
(i) (ii)	HAZ T
59	1.738
60 61	1.764 1.790
62	1.816
63	1.842
64	1.868
65	1.894
	· · · · · · · · · · · · · · · · · · ·

Station	Sheung Wun Yiu	(AM1A)		Operator:	Shum Ka	m Yuen	<u>.</u> :
Cal. Date:	15-Jun-11	` '		Next Due Date:	15-Au	g-11	
quipment No.:	A-001-53T			Serial No.	102	16	_
-quipmont tron							
				Condition			·
Temperatu	ıre, Ta (K)	297.5	Pressure, I	Pa (mmHg)	·	759.2	
			The second secon			a Has in a comme	
		California de la comencia		tandard Informatio		<u>3 (3 de marco 3 de</u> Jan 1860)	-0.02214
Seria		843	Slope, mc	2.00691	Interce	·	-0.02214
Last Calibra	ation Date:	8-Nov-10		mc x Qstd + bc	= [DH x (Pa/760) x	(298/1a)]	
Next Calibra	ation Date:	8-Nov-11		Qstd = {[DH x (I	Pa/760) x (298/Ta)] ¹	-bc} / mc	
							e Nationalista († 18
			All States and the second of the	of TSP Sampler	187	Class Decorder	
		C	rfice		mv.	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 Flor Reading IC (C	
18	10.3		3.21	1.61	55.0	55.0)2
13	6.4	 	2.53	1.27	42.0	42.0	01
10	4.7		2.17	1.09	34.0	34.0	01
7	3.5		1.87	0.94	31.0	31.0	01
5	2.2		1.48	0.75	22.0	22.0	01
Slope , mw =	ession of Y on X 37.7709	-	00.40	Intercept, bw =	-6.0	0065	_
Correlation Coe	_		9943				
If Correlation Co	pefficient < 0.990,	check and recali	brate.				
* 	er paal Newster e		Set Poin	t Calculation			TO PART OF THE PART OF A
From the TSD Fi	ield Calibration Cu	rve_take Ostd =		arvaración	aranging a Waren		
	ssion Equation, the						
From the Negles	onon Equation, the	, , , , , , , , , , , , , , , , , , , ,					
		mw	x Qstd + bw = IC	x [(Pa/760) x (298	/Ta)] ^{1/2}		
•							
Therefore, Set P	oint; IC = (mw x o	Qstd + bw) x [(7	60 / Pa) x (Ta / 2	!98)] ^{1/2} =		43.08	
				•			
_ :							
Remarks:							
				\ \			
	utha al	int.		Hilo	3	Date:	11.41
QC Reviewer: _	TIKE S	<u> </u>	Signature:	111/		Date	UNITI

Station Sheung Wun Yiu (AM1A)

Cal. Date: <u>15-Jun-11</u>

Next Due Date: 15-Aug-11

Set Point (IC) <u>43.08</u>

	3
IC (CFM)	Qstd (m ³ /min)
24	0.794
25	0.821
26	0.847
27.	0.874
28	0.900
29	0.927
30	0.953
31	0.980
32	1.006
33	1.033
34	1.059
35	1.086
36	1.112
37	1.139
38	1.165
39	1.192
40	1.218
<u>an ga kan a Nagaranan di Abias</u>	Committee Took as to see that they are
41	1.245
42	1.271
43	1.297
44	1.324
45	1.350
46	1.377
47	1.403
48	1.430
49	1.456
50	1,483
51	1.509
52	1.536
53	1.562
54	1.589
55	1.615
56	1.642
57	1.668
58	1.695
59	1.721
60	1.748
61	1.774
62	1.801
63	1.827
64	1.853
65	1.880

Operator:

Choi wing ho

Shan Tong New Village (AM2)

Station

Cal. Date:	24-May-11			Next Due Date:	24-J	ul-11
quipment No.:	A-001-29T		Serial No.	102	202	
 			Ambien	: Condition		
Temperati	ure, Ta (K)	297		Pa (mmHg)		755.5
. топфотак	, , , , , , , , , , , , , , , , , ,	20,	11000010,	a (minig)		100.0
		(Orifice Transfer S	tandard Informatio)n	
Seria	ıl No:	843	Slope, mc	2.00691	Interce	ept, bc -0.021
Last Calibr	ation Date:	8-Nov-10		mc x Qstd + bc	= [DH x (Pa/760) x	(298/Ta)] ^{1/2}
Next Calibr	ration Date:	8-Nov-11		Qstd = {[DH x (Pa/760) x (298/Ta)]	^{1/2} -bc} / mc
			Calibration	of TSP Sampler		
		0	rfice		HV:	S Flow Recorder
Resistance	DII (arifica)			3		
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 Flow Recorde Reading IC (CFM) Y-axis
18	10.8		3.28	1.65	48.0	47.94
13	8.0		2.82	1.42	42.0	41.95
10	5.4		2.32	1.17	34.0	33.96
7	4.2		2.05	1.03	28.0	27.96
5	2.5		1.58	0.80	22.0	21.97
y Linear Regre Iope , mw =	ession of Y on X 31.4651			Intercept, bw =	-3.3	763
orrelation Coe	efficient* =	0.9	946	_		
f Correlation Co	pefficient < 0.990,	check and recalit	orate.			
· · · · · · · · · · · · · · · · · · ·			Set Point	Calculation		
rom the TSP Fi	eld Calibration Cu	rve, take Qstd =	1.30m ³ /min			·
rom the Regres	sion Equation, the	e "Y" value accord	ling to			
-	•					
		mw	x Qstd + bw = IC	x [(Pa/760) x (298/	Ta)] ^{1/2}	
herefore Set P	oint: IC = (mw x () x (76	Sn / Pa \ v / Ta / 20	98)1 ^{1/2} =		27 50
110101070, 0001		aota · ow / x [(/ c	7071 d / X (1d / 20	,O)j –		37.30
Therefore, Set P	oint; IC = (mw x C	Qstd + bw) x [(76	60 / Pa) x (Ta / 29	98)] ^{1/2} =		37.58
Remarks:						
				1		
C Reviewer:	- he	tra	Signature [.]	100		Date 30 May 1

Station Shan Tong New Village (AM2)

Cal. Date:

24-May-11

Next Due Date:

24-Jul-11

Set Point (IC)

(IC) <u>37.58</u>

IC (CFM)	Qstd (m ³ /min)
24	0.870
25	0.902
26	0.934
27	0.965
28	0.997
29	1.029
sas er 30	1,061
31	1.093
32	1.124
33	1.156
34	1.488
35	1.220
36	1.251
37	1.283
38	1,315
39	1.347
40	1.379
41	1.410
42	1,442
43	1.474
44 -	1.506
45	1.537
46	1.569
47	1.601
/0	1 633
48 49	1.665
50	1.696
51	1.728
52	1.760
53	1.792
54	1,823
55	1.855
rangan ka 50 a kasa	1.887
57	1.919
56	1,951
59	1.982
60	2.014
61	2.046
62	2,078
63	2.110
64	2.141
65	2.173

Operator:

Choi wing ho

Riverain Bayside (AM3)

Station

Equipment No.:	24-May-11			Next Due Date:	24-Jı	ul-11	
quipment No.: A-001-69T				Serial No.	716		
							
				Condition			
Temperatur	re, Ia (K)	297	Pressure, I	Pa (mmHg)		755.5	
	——————————————————————————————————————	, , , , , , , , , , , , , , , , , , ,	Naidhea Turaige o			Bargan Lington Will Hillands	
Serial	No	843	Slope, mc	tandard Information 2.00691		ept, bc -0.021	
Last Calibra		8-Nov-10	Slope, Inc		Interce = [DH x (Pa/760) x		
Next Calibra		8-Nov-11			- [DH X (Pai760) X Pai760) x (298/Ta)]		
- TOXE GUILDIG	aton Dato.	01107 11		ון א ווכוןן – מופש	arr 00 / X (290/1 a)]	-5077 1110	
			Calibration of	of TSP Sampler			
	······································	0	rfice	<u> </u>	HV	S Flow Recorder	
Resistance 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 Recorde Reading IC (CFM) Y-axis	
18 10.5 3.24 1.62 50.0					49.94		
13	8.5		2.91	1.46	46.0	45.94	
10	6.4		2.53	1.27	40.0	39.95	
7 4.5 2.12 1.07					34.0	33.96	
5 2.7 1.64			1.64	0.83	24.0	23.97	
By Linear Regres	32.4101	· -	.000	Intercept, bw =	-1.7	559	
Slope , mw = Correlation Coeff	32.4101 ficient* =	0.9	908 vrate.	Intercept, bw = _	-1.7	559	
Slope , mw = Correlation Coeff	32.4101 ficient* =		rate.	_	-1.7	559	
Slope , mw = Correlation Coeff If Correlation Coe	32.4101 ficient* = efficient < 0.990,		rate. Set Point	_		559	
Slope , mw = Correlation Coeff If Correlation Coeff From the TSP Fiel	32.4101 ficient* = efficient < 0.990,	check and recalib	Set Point	_		559	
Slope , mw = Correlation Coeff If Correlation Coeff From the TSP Fiel	32.4101 ficient* = efficient < 0.990,	check and recalib rve, take Qstd = 1 e "Y" value accord	Set Point 30m³/min ling to	Calculation		559	
Slope , mw = Correlation Coeff If Correlation Coeff From the TSP Fiel	32.4101 ficient* = efficient < 0.990,	check and recalib rve, take Qstd = 1 e "Y" value accord	Set Point 30m³/min ling to	_		559	
Correlation Coeff If Correlation Coeff From the TSP Fiel	32.4101 ficient* = efficient < 0.990, Id Calibration Cusion Equation, the	check and recalib rve, take Qstd = 1 e "Y" value accord mw 2	Set Point 30m³/min ling to	Calculation x [(Pa/760) x (298/1		40.43	

Station Riverain Bayside (AM3)

Cal. Date: <u>24-May-11</u>

Next Due Date: 24-Jul-11

Set Point (IC) <u>40.43</u>

IC (CFM) Qstd (m³/min) 24 0.795 25 0.826 26 0.856 27 0.887 28 0.918 29 0.949 30 0.980 31 1.011 32 1.042 33 1.072 34 1.103 35 1.134 36 1.365 37 1.196 38 1.227 39 1.258 40 1.288 41 1.319 42 1.350 43 1.381 44 1.412 45 1.443 46 1.473 47 1.504 48 1.535 49 1.566 50 1.597 51 1.628 52 1.659 53 1.689 54 1.720
26 0.856 27 0.887 28 0.918 29 0.949 30 0.980 31 1.011 32 1.042 33 1.072 34 1.103 35 1.134 36 1.165 37 1.196 38 1.227 39 1.258 40 1.288 41 1.319 42 1.350 43 1.381 44 1.412 45 1.443 46 1.473 47 1.504 48 1.535 49 1.566 50 1.597 51 1.628 52 1.659 53 1.689
27 0.887 28 0.948 30 0.980 31 1.011 32 1.042 33 1.072 34 1.103 35 1.134 38 1.27 39 1.258 40 1.288 41 1.319 42 1.350 43 1.381 44 1.442 45 1.443 46 1.473 47 1.504 48 1.535 49 1.566 50 1.597 51 1.628 52 1.659 53 1.689
28 0.918 29 0.949 30 0.980 31 1.011 32 1.042 33 1.072 34 3.103 35 1.134 36 1.165 37 1.196 38 1.227 39 1.258 40 1.288 41 1.319 42 1.350 43 1.381 44 1.412 45 1.443 46 1.473 47 1.504 48 1.535 49 1.566 50 1.597 51 1.628 52 1.659 53 1.689
29 0.949 30 0.980 31 1.011 32 1.042 33 1.072 34 1.103 35 1.134 36 1.165 37 1.196 38 1.227 39 1.258 40 1.288 41 1.319 42 1.350 43 1.381 44 1.442 45 1.443 46 1.473 47 1.504 48 1.535 49 1.566 50 1.597 51 1.628 52 1.659 53 1.689
30 0.980 31 1.011 32 1.042 33 1.072 34 1.103 35 1.134 36 1.165 37 1.196 38 1.227 39 1.258 40 1.288 41 1.319 42 1.350 43 1.381 44 1.412 45 1.443 46 1.473 47 1.504 48 1.535 49 1.566 50 1.597 51 1.628 52 1.659 53 1.689
31 1.011 32 1.042 33 1.072 34 1.103 35 1.134 36 1.165 37 1.196 38 1.227 39 1.258 40 1.288 41 1.319 42 1.350 43 1.381 44 1.412 45 1.443 46 1.473 47 1.504 48 1.535 49 1.566 50 1.597 51 1.628 52 1.659 53 1.689
32 1.042 33 1.072 34 1.103 35 1.134 36 1.165 37 1.196 38 1.227 39 1.258 40 1.288 41 1.319 42 1.350 43 1.381 44 1.412 45 1.443 46 1.473 47 1.504 48 1.535 49 1.566 50 1.597 51 1.628 52 1.659 53 1.689
33 1.072 34 1.103 35 1.134 36 1.165 37 1.196 38 1.227 39 1.258 40 1.288 41 1.319 42 1.350 43 1.381 44 1.412 45 1.443 46 1.473 47 1.504 48 1.535 49 1.566 50 1.597 51 1.628 52 1.659 53 1.689
34 1,103 35 1,165 37 1,196 38 1,227 39 1,258 40 1,288 41 1,319 42 1,350 43 1,381 44 1,412 45 1,443 46 1,473 47 1,504 48 1,535 49 1,566 50 1,597 51 1,628 52 1,659 53 1,689
35 1.134 36 1.165 37 1.196 38 1.227 39 1.258 40 1.288 41 1.319 42 1.350 43 1.381 44 1.412 45 1.443 46 1.473 47 1.504 48 1.535 49 1.566 50 1.597 51 1.628 52 1.659 53 1.689
36 1.165 37 1.196 38 1.227 39 1.258 40 1.288 41 1.319 42 1.350 43 1.381 44 1.412 45 1.443 46 1.473 47 1.504 48 1.535 49 1.566 50 1.597 51 1.628 52 1.659 53 1.689
37 1.196 38 4.227 39 1.258 40 1.288 41 1.319 42 1,350 43 1.381 44 1.412 45 1.443 46 1.473 47 1.504 48 1.535 49 1.566 50 1.597 51 1.628 52 1.659 53 1.689
38 1.227 39 1.258 40 1.268 41 1.319 42 1.350 43 1.381 44 1.412 45 1.443 46 1.473 47 1.504 48 1.535 49 1.566 50 1.597 51 1.628 52 1.659 53 1.689
39 1.258 40 1.288 41 1.319 42 1.350 43 1.381 44 1.412 45 1.443 46 1.473 47 1.504 48 1.535 49 1.566 50 1.597 51 1.628 52 1.659 53 1.689
40 1.288 41 1.319 42 1.350 43 1.381 44 1.412 45 1.443 46 1.473 47 1.504 48 1.535 49 1.566 50 1.597 51 1.628 52 1.659 53 1.689
41 1.319 42 1.350 43 1.381 44 1.412 45 1.443 46 1.473 47 1.504 48 1.535 49 1.566 50 1.597 51 1.628 52 1.659 53 1.689
42 1,350 43 1.381 44 1.412 45 1.443 46 1,473 47 1.504 48 1,535 49 1.566 50 1,597 51 1.628 52 1,659 53 1.689
42 1,350 43 1.381 44 1.412 45 1.443 46 1,473 47 1.504 48 1,535 49 1.566 50 1,597 51 1.628 52 1,659 53 1.689
42 1,350 43 1.381 44 1.412 45 1.443 46 1,473 47 1.504 48 1,535 49 1.566 50 1,597 51 1.628 52 1,659 53 1.689
43 1.381 44 1.412 45 1.443 46 1.473 47 1.504 48 1.535 49 1.566 50 1.597 51 1.628 52 1.659 53 1.689
44 1.412 45 1.443 46 1.473 47 1.504 48 1.535 49 1.566 50 1.597 51 1.628 52 1.659 53 1.689
45 1.443 46 1.473 47 1.504 48 1.535 49 1.566 50 1.628 52 1.659 53 1.689
46 1,473 47 1.504 48 1,535 49 1.566 50 1,597 51 1.628 52 1,659 53 1,689
47 1.504 48 1.535 49 1.566 50 1.597 51 1.628 52 1.659 53 1.689
48 1.535 49 1.566 50 1.597 51 1.628 52 1.659 53 1.689
49 1.566 50 1.597 51 1.628 52 1.659 53 1.689
50 1.597 51 1.628 52 1.659 53 1.689
51 1.628 52 1.659 53 1.689
52 1.659 53 1.689
53 1.689
KA AMM
54 1.720
55 1.751
56 1.782
57 1.813
58 - 1.844
59 1.875
60 1.905
62 1.967
63 1.998
· · · · · · · · · · · · · · · · · · ·
64 2.029 65 2.060

Operator:

Choi wing ho

Tai Kwong Secondary School (AM4)

Station

Cal. Date:	24-May-11			Next Due Date:	24-J	ul-11	-
quipment No.: A-001-70T				Serial No.	10273		
			Ambien	t Condition			
Temperatu	ire, Ta (K)	297		Pa (mmHg)		755.3	
					ta night the setting the		,
			The state of the s	Standard Informatio			
Seria		843	Slope, mc	2.00691	Y	ept, bc	-0.021
Last Calibra		8-Nov-10			= [DH x (Pa/760) x		
Next Calibra	ation Date:	8-Nov-11		Qstd = {[DH x (F	Pa/760) x (298/Ta)]	"bc} / mc	
			Calibration (of TSP Sampler			
		C	Orfice		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 - axis	Flow Recorder Reading (CFM)	Continuous Flow Reading IC (CFI	
18	11.0		3.31	1.66	55.0	54.92)
13	9.0		3.00	1.50	50.0	49.93	}
10	6.2		2.49	1.25	41.0	40.94	
7	4.4		2.09	1.05	35.0	34.95	;
5	2.8		1.67	0.84	27.0	26.96)
ly Linear Regre llope , mw =	ssion of Y on X			Intercept, bw =	-1.4	331	
orrelation Coe	fficient* =	0.9	9991	-			-
f Correlation Co	efficient < 0.990	, check and recalil	orate.	_			
		**	Cat Dalat	o vertical			
rom the TSP Fie	eld Calibration C	urve, take Qstd =		Calculation	······································	<u> </u>	<u> </u>
		ne "Y" value accor					
. om aro mogree	oron aquation, tr	io i valuo accon	ung to				
		mw	x Qstd + bw = IC	x [(Pa/760) x (298/1	[a)] ^{1/2}		
horofers O.C.	aint 10 - 1	0-14 / 5- / 1/ 7/	00 (D- \	20.11/2			
nererore, Set Po	oint; IC = (mw x)] X (Wa + DISL	60 / Pa) x (Ta / 29	ap)]=		42.89	-
Remarks:							
							
	1	~		i			
C Reviewer	~ 07	Ha	Signature:	~ INF -		Date: < 30 M	m. /1

Station	Tai Kwong Secondary School (AM4	.)

Cal. Date: <u>24-May-11</u>

Next Due Date: 24-Jul-11

Set Point (IC) <u>42.89</u>

IC (CFM)	Qstd (m³/min)
24	0.747
25	0.776
44 26 30 443	0.806
27	0.835
28	0.865
29	0.894
30	0.923
31	0.953
32	0.982
33	1.011
34	1.041
35	1.070
36	1.100
37	1.129
38	1.158
39	1.188
40.	1.217
41	1.246
42	1.276
43	1.305
44	1.385
45	1.364
46	1.393
47	1.423
48	1.452
49	1.481
50	1.511
51	1.540
52	1.570
53	1.599
54	:1.628
55	1.658
56	1.687
57	1.716
58	1.746
59	1.775
60 61	1.805
61 62	1.834
62	1.863
63 64	1.893
64 65	1.922
CO	1.951



AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Ma Operator	y 07, 2010 Tisch	Rootsmeter Orifice I.D	~ / - '	333620)988	Ta (K) - Pa (mm) -	744.22
PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1 2 3 4 5	NA NA NA NA NA	NA NA NA NA NA	1.00 1.00 1.00 1.00	1.3890 0.9800 0.8730 0.8330 0.6890	3.2 6.4 8.1 9.0 12.9	2.00 4.00 5.00 5.50 8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
0.9750 0.9707 0.9685 0.9674 0.9622	0.7019 0.9905 1.1094 1.1613 1.3966	1.3995 1.9791 2.2127 2.3207 2.7989		0.9957 0.9913 0.9890 0.9879 0.9826	0.7168 1.0115 1.1329 1.1860 1.4262	0.8949 1.2656 1.4150 1.4840 1.7898
Ostd slo intercep coeffici	t (b) =	2.01259 -0.01532 0.99996		Qa slop intercep coeffici	t (b) = ent (r) = 	1.26025 -0.00980 0.99996
y axis =	SQRT [H20(Pa/760)(298/	Ta)]	y axis =	SQRT [H20 ([a/Pa)]

CALCULATIONS

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

Qstd = Vstd/Time

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

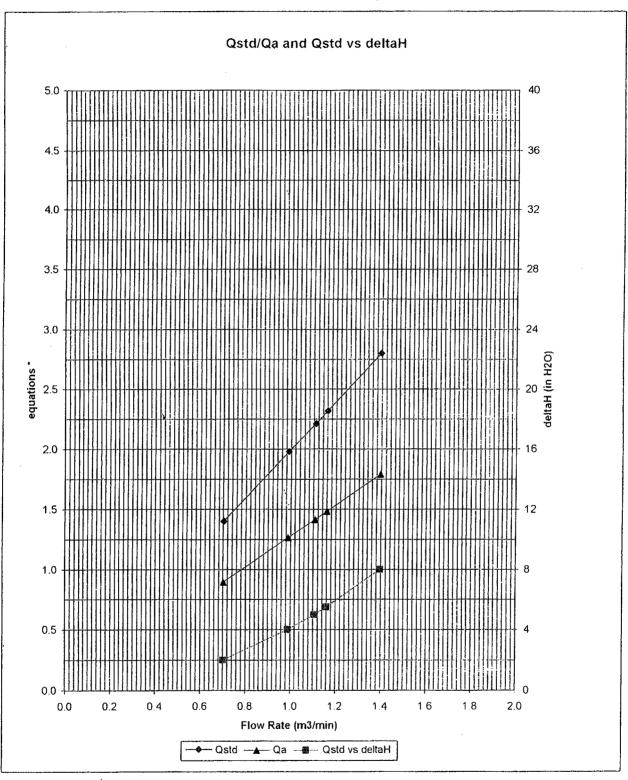
Qa = Va/Time

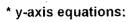
For subsequent flow rate calculations:

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



AIR POLLUTION MONITORING EQUIPMENT





Qstd series:

$$\sqrt{\Delta H \left(\frac{P a}{P s t d}\right) \left(\frac{T s t d}{T a}\right)}$$

Qa series:

$$\sqrt{(\Delta H (Ta / Pa))}$$

#0988



AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Nov 08, 2010 Rootsmeter S/N 9833620 Ta (K) - Operator Tisch Orifice I.D 0843 Pa (mm) -									
PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)			
1 2 3 4 5	NA NA NA NA NA	NA NA NA NA NA	1.00 1.00 1.00 1.00	1.4030 0.9880 0.8850 0.8440 0.6970	3.2 6.4 7.9 8.8 12.7	2.00 4.00 5.00 5.50 8.00			

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
1.0087 1.0044 1.0023 1.0012 0.9959	0.7189 1.0166 1.1325 1.1862 1.4289	1.4234 2.0130 2.2506 2.3604 2.8468	,	0.9957 0.9915 0.9894 0.9883 0.9831	0.7097 1.0036 1.1180 1.1710 1,4105	0.8799 1.2443 1.3912 1.4591 1.7597
Qstd slop intercept coefficie	(b) = ent (r) =	2.00691 -0.02214 0.99996		Qa slope intercept coefficie	(b) = ent (r) =	1.25670 -0.01369 0.99996
y axis =	SQRT [H2O (F	a/760)(298/i	[a)]	y axis =	SQRT [H2O (T	'a/Pa)]

CALCULATIONS

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

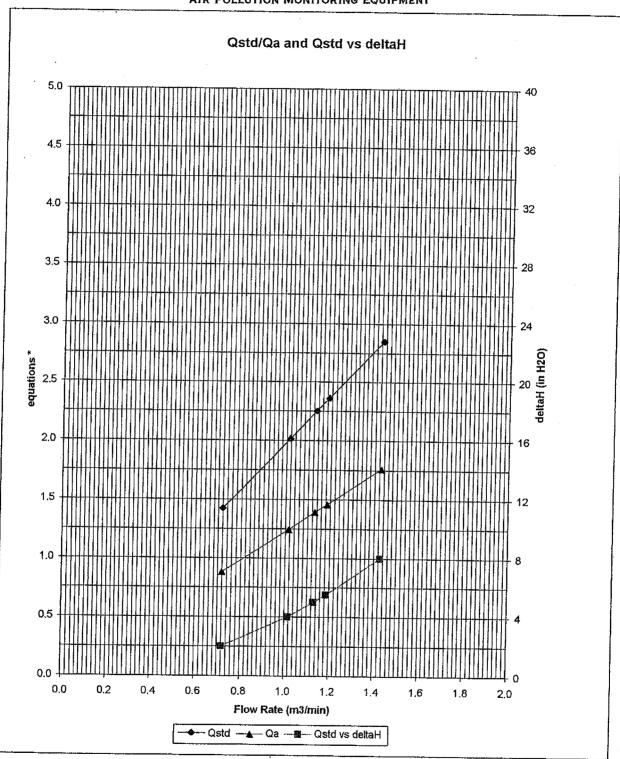
Va = Diff Vol [(Pa-Diff Hg)/Pa] Qa = Va/Time

For subsequent flow rate calculations:

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



AIR POLLUTION MONITORING EQUIPMENT



* y-axis equations:

Qstd series:

$$\sqrt{\Delta H \left(\frac{P a}{P s t d}\right) \left(\frac{T s t d}{T a}\right)}$$

Qa series:

$$\sqrt{(\Delta H (Ta/Pa))}$$

#0843

Туре:				Laser Du	ıst Moni	itor		
	facturer/Brand:			SIBATA		**************************************		
Model				LD-3				
	ment No.:	Carla Cai	ut	A.005.07				
Sensit	ivity Adjustment	Scale Set	tting:	557 CPI	VI			
Opera	tor:			Mike She	k (MSKI	М)		
Standa	rd Equipment							
Equip	mant:	D.,,	oprecht & P	Potoshnick '	TEOM®			
Venue			perport (Pu			chooll		
Model			ies 1400AE		nuary S	SHOOIJ		
Serial				40AB21989	20803			
Senai	INO.			200C14365		K _o : 12500		 ·
Last C	alibration Date*:		May 2010	200014300) 3 000	10. <u>12000</u>		
*Remar	ks: Recommend	ed interva	l for hardw	are calibrat	tion is 1	year		
Calibra	tion Result	·						
						C.C. O.F.		
	ivity Adjustment					557 CF		
Sensit	ivity Adjustment	Scale Set	ting (After	Calibration)):	_ <i>557</i> CF	'M	
Hour	Date	T	ime	Amt	pient	Concentration ¹	Total	Count/
	(dd-mm-yy)			Cond	dition	(mg/m ³)	Count ²	Minute ³
	,			Temp	R.H.	Y-axis		X-axis
				(°C)	(%)			
1	05-06-10	10:00	- 11:00	27.3	78	0.05537	1850	30.83
2	05-06-10	11:00	- 12:00	27.4	77	0.05441	1812	30.20
3	05-06-10	12:00	- 13:00		78	0.05245	1753	29.22
4	05-06-10	13:00	- 14:00		78	0.05355	1787	29.78
Note:	2. Total Count 3. Count/minut	was logge te was cal	ed by Laser	Dust Mon	itor	ashnick TEOM [®]		
	ar Regression of	Y or X	0.0040					
	(K-factor):		0.0018					
Correla	ation coefficient:		0.9949					
Validity	y of Calibration F	Record:	4 June 2	2011				
Remark	s:							
		_	_		λ .	_		
QC Re	eviewer: YW F	ung	Sign	ature:	1	Date	e: 7 June	2010

Туре:				<u></u>	·	ust Moni	tor		
	facturer/Brand:			_	SIBATA				
Mode				_	LD-3				
	ment No.:	Caala Ca	44!	<u>:</u>	A.005.07				
Sensi	tivity Adjustment	Scale Se	tting:	_	557 CPI	VI			
Opera	ator:			_	Mike She	ek (MSKN	1)		
Standa	rd Equipment								
Equip	ment [,]	D. r	noroohi	i e Do	tashnick	TEOM®			
Venue					Ying Seco		shool)		
Model			ries 140		ing occu	muary oc	110017		
Serial			ntrol:		DAB2198	99803		****	
0000			nsor:		00C1436		K _o : 12500		
Last C	Calibration Date*:		une 20		70017000	30000	1072000		
	ondiano, bato		4170 20	• •			· +		
*Remar	ks: Recommend	ed interva	al for ha	ardwai	re calibra	tion is 1 y	ear		
Calibra	tion Result								
C'	thate . A although a said	01- 0	431 (FS		0-111		re~ 0r		
	tivity Adjustment						_ <i>557</i> CF		
Sensit	tivity Adjustment	Scale Se	tting (A	πer C	alibration) :	_ <i>557</i> CF	'M' .	
Hour	Date	-	Time		1 Ami	pient	Concentration ¹	Total	Count/
Flour	(dd-mm-yy)		ime			dition	(mg/m ³)	Count ²	Minute ³
	(dd-mm-yy)				Temp	R.H.	Y-axis	Count	X-axis
					(°C)	(%)	1-dx15		A-GAIS
1	05-06-11	09:30	- 1	0:30	31.3	67	0.04118	1540	25.67
2	05-06-11	10:30		1:30	31.3	67	0.04354	1637	27.28
3	05-06-11	11:30		2:30	31.3	67	0.04633	1730	28.83
4	05-06-11	12:30		3:30	31.4	66	0.04271	1603	26.72
Note:	1. Monitoring o							<u> </u>	
	2. Total Count								
	3. Count/minut								
				•		•			
	ar Regression of	Y or X							
	(K-factor):		0.00					•	
Correla	ation coefficient:		0.99	58					
Validit	y of Calibration F	Record:	4 Ju	ne 20	12				
Remark	•								
Telliaik	ა.				· · · · · · · · · · · · · · · · · · ·		<u> </u>		 -
1.	•								
	•								
· · · · · · · · · · · · · · · · · · ·							· · · · · · · · · · · · · · · · · · ·		
					ه ۱				
QC Re	eviewer: YW F	ung		Signat	ure: 🗥	/	Date	e: 8 June	2011

Model N	cturer/Brand: No.: ent No.:			Laser D SIBATA LD-3 A.005.0		nitor		
	vity Adjustment	Scale Setti	ng:	702 CF				
Operato	or:			Mike Sh	ek (MSI	(M)		
Standard	d Equipment							
Equipm Venue: Model N	lo.:	Cybe Serie	recht & Pa rport (Pui s 1400AB	Ying Sec	ondary .			
Serial N	Ю:	Contr Sens		10AB2198 200C1436		K _o : 12	500	
Last Ca	libration Date*		ay 2010					
*Remarks	s: Recommend	led interval t	for hardwa	are calibra	ation is 1	l year		
 Calibration	on Result				•			··········
	ity Adjustment ity Adjustment					702 702	CPM CPM	
Hour	Date (dd-mm-yy)	Tin	ie	Amb Cond Temp (°C)		Concentration (mg/m³) Y-axis	Total Count ²	Count/ Minute ³ X-axis
1	06-06-10	09:00 -	10:00	27.7	77	0.06361	2381	39.68
2	06-06-10	10:00 -	11:00	27.7	77	0.06176	2301	38.35
3 4	06-06-10 06-06-10	11:00 - 12:00 -	12:00 13:00	27.8 27.8	78 77	0.06704	2518	41.97
Vote:	Monitoring of 2. Total Count Count/minut	lata was me was logged te was calcu	asured by by Laser	Ruppred Dust Mor	ht & Pa	0.06728 tashnick TEOM [®]	2522	42.03
3y Linear Slone (k	Regression of (-factor):	Y or X	0.0016					
	ion coefficient:	-	0.9933			-		
Validity	of Calibration F	Record: _	5 June 20	011				-
Remarks:			· · · · · · · · · · · · · · · · · · ·					
					·			
QC Revi	iewer: YW F	-ung	Signa	ture:	5)ate: _ 7 .	June 2010

Туре:				Laser Du	ıst Moni	tor		
	facturer/Brand:		_	SIBATA				
Model	· · ·	•		LD-3	3			
	ment No.:			A.005.09				
Sensi	tivity Adjustment	Scale Setting:		797 CPI	VI			
Opera	itor:			Mike She	k (MSKN	1)		
Standa	rd Equipment					,	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Equip	ment:	Rupprecht	& Pat	tashnick '	TEOM®			
Venue		Cyberport				chool)		
Model		Series 140		mg coo				
Serial		Control:		AB21989	99803			
Ochai	140.	Sensor:		0C14365		K _o : 12500		
Last C	Calibration Date*			0017000	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1.6. 72000		_
*Remar	ks: Recommend	led interval for ha	ardwar	e calibrat	tion is 1 y	/ear		
Calibra	tion Result			· · · · · · · · · · · · · · · · · · ·				
04/10/0			······································					
Sensit	ivity Adjustment	Scale Setting (B	efore (Calibratio	n):	_797 CP		
Sensit	ivity Adjustment	Scale Setting (A	fter Ca	alibration)):	CP	M	
F-:		1		4 -1		<u> </u>	7-1-1	T 0
Hour	Date	Time		Amb		Concentration ¹	Total	Count/
	(dd-mm-yy)	·		Cond		(mg/m³)	Count ²	Minute ³
		,		Temp	R.H.	Y-axis		X-axis
	00.00.40	40.00	4.00	(°C)	(%)	0.06421	2408	40.13
1	06-06-10		4:30	27.8	77	0.06643	2400	41.52
2	06-06-10		5:30	27.8	78			
3	06-06-10		6:30	27.9	78 78	0.06375	2379	39.65 38.42
4	06-06-10		7:30	27.7		0.06159	2305	38.42
Note:	1. Monitoring of	data was measur	ed by	Ruppreci	nt & Pata	SNNCK LEUM*		
		was logged by L						
	3. Count/minu	te was calculated	i by (i	otal Coul	1000)			
By Linea	ar Regression of	Y or X						
	(K-factor):	0.00	16					
	ation coefficient:							
	y of Calibration F		ne 20	11				
Remark	e.							
Kemark	3.							

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QC Re	eviewer: YW F	-ung S	Signat	ure:	- /	Date	e: 7 June	2010
					!/			

Туре:					ust Moni	itor		
	facturer/Brand:		-	SIBATA				
Mode			-	LD-3				
	ment No.:	Cools Coffin	_	A.005.09				
Sensi	tivity Adjustment	Scale Settin	 	797 CP	WI			
Opera	ator:			Mike She	ek (MSKI	M)		
Standa	rd Equipment							
Fauin	ment:	Runni	recht & Pa	technick	TEOM®			
Venue			port (Pui			chool)		
Model			1400AB	ing occ	nidaly of	J. J		
Serial		Contro		DAB2198	99803			
OCHA		Senso		00C1436		K _o : 12500		
Last C	Calibration Date*:		9 2011	JOC 1430.	3000	N ₀ . 72000		
*D	des Debenses d			!!	· :- 4 .			
Remar	ks: Recommend	ed interval id	or narowa	re calibra	uon is T	year 		
Calibra	tion Result							
	tivity Adjustment tivity Adjustment					797 CP		
Hour	Date	Tim	ne	Ami	pient	Concentration ¹	Total	Count/
1 1001	(dd-mm-yy)		.0	\$	dition	(mg/m³)	Count ²	Minute ³
	(44 ///// 33)			Temp	R.H.	Y-axis	Journ	X-axis
				(°C)	(%)	l unio		, A datio
1	· 05-06-11	13:30 -	14:30	31.4	66	0.04416	1758	29.30
2	05-06-11	14:30 -	45.00	31.5	66	0.04752	1889	31.48
3	05-06-11	15:30 -	40.00	31.5	66	0.04371	1748	29.13
4	05-06-11	16:30 -	17:30	31.5	67	0.04543	1808	30.13
Note:	1. Monitoring d	lata was me	asured by	Rupprec	ht & Pata	shnick TEOM®		
	Total Count Count/minut	was logged	by Laser I	Dust Mon	itor			
	ar Regression of	Y or X	•					
	(K-factor):	_	0.0015					
Correl	ation coefficient:		0.9953					
Validit	y of Calibration F	Record:	4 June 20	112			•	
Remark	s:							
				-	f 3 /			
QC Re	eviewer: YW F	·una	Signat	ture:	4/	Date	: 8 June	2011

Type: Manufacture	r/Brand			_	Laser Di SIBATA	ust Moni	itor			
Model No.:	mprand.			_	LD-3			•		
Equipment N	ان.		•	_	A.005.11	'a				
Sensitivity A		Scale Se	tting:		799 CPI					••
Operator:	· .	· -			Mike She	k (MSKN	И)	• .	`	
Standard Equ	uipment					•	· · · · · · · · · · · · · · · · · · ·		·	
Equipment:		D.	nn-nnh		to obminic	TCOL®	,			
Venue:					tashnick ′ing Secc		abaal)			
Model No.:			ries 140		ing Sect	illuary St	J1001)	·		
Serial No:			ntrol:		AB2198	20803			··· ·· · · · · · · · · · · · · · · · ·	
Ochai No.			nsor:		0C1436		K₀: 1	2500		·
Last Calibrat	ion Date*		May 20		1001400	03000	N ₀ , <u></u>	2500		
*Remarks: Re	commend	led interva	al for ha	rdwar	e calibra	tion is 1 y	/ear		-	
Calibration R	esult							·	·	· ·
				·				•		
Sensitivity A							799 799	_ CPI _ CPI		
Hour	Date	·	lime		Amb	vient	Concentrati	on ¹ ·	Total	Count/
I I	mm-yy)	•	i ii ii C		Cond		(mg/m ³)		Count ²	Minute ³
(50					Temp	R.H.	Y-axis		Codin	X-axis
					(°C)	(%)	I -GARS			Y-axis
1 04	-07-10	11:30	- 12	2:30	31.2	81	0.04924		1849	30.82
2 04	-07-10	12:30		3:30	31.3	81	0.05529		2072	34.53
	-07-10	13:30		1:30	31.3	81	0.05861	-	2205	36.75
4 04	-07-10	14:30	- 18	5:30	31.4	81	0.05215		1971	32.85
 		 					shnick TEOM			1
		was logge								
3. Co	ount/minu	te was cal	culated	by (T	otal Cour	nt/60)				
By Linear Reg	receion of	V or Y								
Slope (K-fac		1 01 /	0.00	16	•					
Correlation of			0.99			·				
Concidion	00111010111.		0.00		·					
Validity of Ca	libration F	Record:	3 Jul	lv 201	1					
•							•		•	
Remarks:					-					
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		•	• • • • • • • • • • • • • • • • • • • •				<u> </u>			
	•					0/				
QC Reviewe	r: <u>YW F</u>	ung	_	Signate	ure:	/		Date:	5 July	2010
						11				

Type: Manu Model	facturer/Brand:	•	Laser D SIBATA LD-3B	ust Mon	itor		
Equip	ment No.: tivity Adjustment	Scale Setting:	A.005.12 805 CP				
Opera	•			ek (MSK)	M)		
Standa	rd Equipment		····				
F					-		
Equipa Venue		Rupprecht & F			ahaal)		-
Model	· -	Cyberport (Pu Series 1400Al		ondary S	criooi)	 	
Serial	•		3 40AB2198	00803			
OGNAL	140.		200C1436		K₀: 12500)	
Last C	alibration Date*:		20001430	03000	N ₀ , 12500		
*Remar	ks: Recommend	ed interval for hardw	are calibra	ition is 1	year		
Calibra	tion Result						
		Scale Setting (Befor Scale Setting (After			805 CF		
Hour	Date	Time	Am	bient	Concentration ¹	Total	Count/
	(dd-mm-yy)		1	dition	(mg/m ³)	Count ²	Minute ³
	. "		Temp	R.H.	Y-axis		X-axis
			(°C)	(%)			
1	24-10-10	12:30 - 13:30	26.6	68	0.07973	2984	49.73
2	24-10-10	13:30 - 14:30	26.6	69	0.08356	3144	52.40
3	24-10-10	<i>15:30 - 16:30</i>		69	0.08867	3338	55.63
4	24-10-10	<u> 16:30 - 17:30</u>		68	0.09234	3449	57.48
Note:	Total Count Count/minut	lata was measured b was logged by Laser e was calculated by	r Dust Mon	iitor	ashnick TEOM [®]		
	ar Regression of						
	(K-factor):	0.0016					
Correi	ation coefficient:	0.9962					•
Validity	y of Calibration R	Record: 23 Octo	ber 2011	<u>. </u>			
Remark	s:		WAR				
					•		
				•			
				r*s.			
QC Re	eviewer: YW F	<i>ung</i> Sign	ature:	1	Date	e: <u>25 Oct</u>	2010

Type:			_	Laser D	ust Moni	itor		
	facturer/Brand:			SIBATA				
Model	No.:		_	LD-3B			•	
	ment No.:		_	A.005.13		1		
Sensit	tivity Adjustment	Scale Se	tting:	643 CPI	<u> </u>			•
Opera	itor:		_	Mike She	ek (MSKI	<u>M)</u>		
Standa	rd Equipment							
T-u.i.a.			annacht (Da	tanhniale	TEOM®			
Equip			pprecht & Pa			ohoo!\		
Venue			berport (Pui \	ring secc	nuary S	choolj		
Model			ries 1400AB	OAB2198	00002			<u> </u>
Serial	INO:					V · 12500		
	ven e Bire			00C1436	09803	K _o : <u>12500</u>		
Last	alibration Date*:	4 J	une 2011					,
*Remar	ks: Recommend	led interva	al for hardwa	re calibra	tion is 1	year		
Calibra	tion Result							
				.		0.40		
	ivity Adjustment					643 CP		
Sensit	ivity Adjustment	Scale Se	tting (After C	alibration):	<u>643</u> CP	'Mi	
				1 0 1			T-4-1	
Hour	Date		Time		pient	Concentration ¹	Total	Count
	(dd-mm-yy)				dition	(mg/m³)	Count ²	Minute
				Temp	R.H.	Y-axis		X-axis
	05.00.44	44.00	40.00	(°C)	(%)	0.04542	4022	22.24
1	05-06-11	11:00	- 12:00	31.4	67	0.04513	1933	32.21
2	05-06-11	12:00	- 13:00	31.4	67	0.04392 0.04751	1833 2042	31.38 34.03
3	05-06-11	13:00 14:00	- 14:00 - 15:00	31.5 31.5	66	0.04751	1918	31.97
	05-06-11						1910	31.91
Note:	1. Monitoring C	iata was i	measured by	Rupprec	ni & Paia	ashnick TEOM®		
	2. Total Count							
	3. Count/minut	e was ca	iculated by (i	otal Cou	กขอบ			
Duling	or Dogrannian of	VarV						
	ar Regression of	1 01 1	0.0014			•		
	(K-factor):	-		· · · · · · · · · · · · · · · · · · ·				
Correi	ation coefficient:		0.9978		·			
Välidit	y of Calibration F	Record:	4 June 20)12				
Remark	e·							
toman	.							
·								
<u> </u>					• •	/	· · · · · · · · · · · · · · · · · · ·	-
						•		
QC Re	eviewer: YW F	-una	Signa	ture:	1	Date	e: 8 June	≥ 2011



合試驗有限公司 SOILS & MATERIALS ENGINEERING CO., LTD.

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 3 7 號 利 達 中 心 地 下 , 9 樓 , 1 2 樓 , 1 3 樓 及 2 0 樓 E-mail: smec@cigismec.com Website: www.cigismec.com

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

1



CERTIFICATE OF CALIBRATION

Certificate No.:

11CA0317 06-01

Page

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2

Item tested

Description: Manufacturer: Sound Level Meter (Type 1)

B&K

2238

B&K

Serial/Equipment No.:

2285692/N.009.04

4188 2250420

Adaptors used:

Type/Model No.:

Microphone

Item submitted by

Customer Name:

AECOM ASIA CO., LTD

Address of Customer:

Request No.:

17-Mar-2011

Date of request:

Date of test:

26-Mar-2011

Reference equipment used in the calibration

Description:

Multi function sound calibrator

Signal generator

Model: B&K 4226 DS 360

Serial No. 2288444

Expiry Date: 10-Jan-2012

28-Jun-2011

Traceable to: CIGISMEC CEPREI

Signal generator

DS 360

33873 61227

24-Jun-2011

CEPREI

Ambient conditions

Temperature:

(22 ± 1) °C

Relative humidity: Air pressure:

 $(60 \pm 5) \%$ $(1005 \pm 5) hPa$

Test specifications

The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 1, 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.

Actual Measurement data are documented on worksheets.

Approved Signatory:

Huang Jian Mir /Fena Dun Qi Date:

29-Mar-2011

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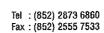
Form No.CARP152-1/Issue 1/Rev.C/01/02/2007



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G/E., 9/E., 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 E-mail: smec@cigismec.com

Website: www.cigismec.com





CERTIFICATE OF CALIBRATION

Certificate No.:

10CA1105 01

Page

of

Item tested

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

Microphone **B&K**

Type/Model No.: Serial/Equipment No .:

2238

4188

Adaptors used:

2255688

2141430

Item submitted by

Customer Name: Address of Customer: AECOM ASIA CO., LTD.

Request No.:

05-Nov-2010

Date of request:

Date of test:

08-Nov-2010

Reference equipment used in the calibration

Description:

Multi function sound calibrator

B&K 4226 DS 360

Serial No. 2288444

Expiry Date: 12-Jan-2011 28-Jun-2011

Traceable to: CIGISMEC **CEPREI**

Signal generator Signal generator

DS 360

Model:

33873 61227

24-Jun-2011

CEPRE

Ambient conditions

Temperature:

(21 ± 1) °C $(60 \pm 5) \%$

Relative humidity: Air pressure:

(1000 ± 5) hPa

Test specifications

The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580; Part 1: 1997 1, 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 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

2,

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.

Actual Measurement data are documented on worksheets.

Huang Jian Mio/Feng Jun Qi

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



6八 例以"月 下八 厶 SOILS & MATERIALS ENGINEERING CO., LTD.

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



CERTIFICATE OF CALIBRATION

Certificate No.:

10CA0708 04-01

Page:

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Item tested

Description:

Acoustical Calibrator (Class 1)

Manufacturer:

Type/Model No.:

B&K

Serial/Equipment No.:

4231

Adaptors used:

1790985 / N004.01

Item submitted by

Curstomer:

AECOM ASIA CO. LTD

Address of Customer:

Request No.:

Date of request:

08-Jul-2010

Date of test:

14-Jul-2010

Reference equipment used in the calibration

Description:	Model:	Serial No.	Explry Date:	Traceable to:
Lab standard microphone	B&K 4180	2412857	02-Jul-2011	SCL
Preamplifier	B&K 2673	2239857	15-Dec-2010	CEPREI
Measuring amplifier	B&K 2610	2346941	11-Dec-2010	CEPREI
Signal generator	DS 360	61227	24-Jun-2011	CEPREI
Digital multi-meter	34401A	US36087050	03-Dec-2010	CIGISMEC
Audio analyzer	8903B	GB41300350	07-Dec-2010	CEPREI
Universal counter	53132A	MY40003662	05-Jul-2011	CEPREI

Ambient conditions

Temperature:

22 ± 1 °C

Relative humidity:

60 ± 5 %

Air pressure: 1000 ± 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 hectoPeacals 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 80942: 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.

ttπ/Feng Jun Qi

Approved Signatory:

Date:

14-Jul-2010

Company Chop:

Comments: The results reported in this pertificate 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.CARP158-1/Issue 1/Rev.D/01/03/2007



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CERTIFICATE OF CALIBRATION

Certificate No.:

10CA0803 01

Page

2

Item tested

Description:

Sound Level Meter (Type 1)

Manufacturer: Type/Model No.:

Serial/Equipment No.: Adaptors used:

NL-31

RION CO., LTD.

00320528 / N.007.03A

Microphone

RION CO., LTD.

UC-53A 88783

Item submitted by

Customer Name:

AECOM ASIA CO., LTD.

Address of Customer:

Request No.:

03-Aug-2010

Date of request:

Date of test:

05-Aug-2010

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.

Explry Date: 12-Jan-2011

28-Jun-2011 24-Jun-2011 Traceable to: CIGISMEC

CEPRE CEPREI

Ambient conditions

Temperature:

Relative humidity: Air pressure:

60 ± 5 % 1000 ± 5 hPa

22 ± 1 °C

Test specifications

1. 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.

Actual Measurement data are documented on worksheets.

Approved Signatory:

eng Jun Qi lin/F

Date:

06-Aug-2010

Company Chop:

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.

Soils & Materials Engineering Co., Ltd.

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



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



CERTIFICATE OF CALIBRATION

Certificate No.:

10CA0728 02-02

Page:

2

Item tested

Description:

Acoustical Calibrator (Class 1)

Manufacturer: Type/Model No.: Rion Co., Ltd.

Serial/Equipment No.:

NC-73 10307223 / N-004-08

Adaptors used:

Item submitted by

Curstomer:

AECOM ASIA CO., LTD.

Address of Customer:

Request No.:

Date of request:

28-Jul-2010

Date of test:

29-Jul-2010

Reference equipment used in the calibration

Description: Model: Serial No. **Explry Date:** Traceable to: Lab standard microphone **B&K 4180** 2412857 02-Jul-2011 SCL Preamplifier **B&K 2673** 15-Dec-2010 2239857 **CEPREI** Measuring amplifier **B&K 2610** 2346941 11-Dec-2010 **CEPREI** Signal generator **DS 360** 61227 24-Jun-2011 CEPREI Digital multi-meter 34401A US36087050 03-Dec-2010 CIGISMEC Audio analyzer 8903B GB41300350 07-Dec-2010 **CEPREI** Universal counter 53132A MY40003662 05-Jul-2011 CEPREI

Ambient conditions

Temperature:

22 ± 1 °C

Relative humidity: Air pressure:

 $60 \pm 5 \%$ 1000 ± 5 hPa

Test specifications

- 1, 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

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.

/Fena Jun Qi

Approved Signatory:

Date:

29-Jul-2010

Company Chop:

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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