

TISCH ENVIRONMENTAL, INC. 145 SOUTH MIAMI AVE VILLAGE OF CLEVES, OH 45002 513.467.9000 877.263.7610 TOLL FREE 513.467.9009 FAX

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - May 29, 2019 Operator Tisch	5 Rootsmeter Orifice I.	S/N D =======	0438320 0988 ========	Ta (K) - Pa (mm) -	297 755.65
PLATE VOLUME OR START Run # (m3) 1 NA 2 NA 3 NA 4 NA 5 NA	VOLUME STOP (m3) NA NA NA NA NA	DIFF VOLUME (m3) 1.00 1.00 1.00 1.00	DIFF TIME (min) 1.3980 0.9910 0.8790 0.8380 0.6890	METER DIFF Hg (mm) 3.2 6.3 7.8 8.6 12.6	ORFICE DIFF H2O (in.)

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
0.9934 0.9893 0.9872 0.9862 0.9809	0.7106 0.9983 1.1231 1.1769 1.4237	1.4125 1.9976 2.2334 2.3424 2.8251		0.9957 0.9917 0.9896 0.9886 0.9833	0.7123 1.0007 1.1258 1.1797 1.4271	0.8866 1.2539 1.4019 1.4703 1.7732
Qstd slop intercept coefficie y axis =	(b) = ent (r) =	1.97831 0.01264 0.99985 a/760)(298/T	 a)]	Qa slope intercept coefficie	(m) = (b) =	1.23878 0.00793 0.99985

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

Total Suspended Particulates (TSP) Sampler Field Calibration Report

Station	Fanling Governr	nent Secondary	School (AM2)		Operator:	Shum Kan	n Yuen
Date:	Date:24-Mar-16 Next			Next Due Date:	Due Date: 24-May-16		
Model No:	TE-5170				Verified Against:	O.T.S	988
Equipment No.:	A-001-74T				Expiration Date:	29-May-	2016
		7-7-7-	Ambient C	ondition			
Tempera	iture, Ta	291.0	Kelvin		ıre, Pa	763.9	mmHg
г.	. 3.7		rifice Transfer Star				
Equipme		988	Slope, mc	1.97	831	Intercept, bc	0.01264
Last Calibra		29-May-15	n	nc x Qstd + bc =	= [H x (Pa/760)	$x (298/Ta)]^{1/2}$	
Next Calibr	ation Date:	29-May-16				3,37	
			Calibration of	TSP Sampler			
Calibration Point	H in. of water	[H x (Pa/760) x (298/Ta)] ^{1/2}		Qstd (m³/min) X - axis	W in. of oil	[ΔW x (Pa/760) x Y-ax	
1	7.0		2.68	1.35	4.6	2.18	
2	5.8		2.44	1.23	3.9	2.00	
3	4.4		2.13	1.07	3.2	1.81	
4	3.5		1.90	0.95	2.6	1.64	
5	2.6		1.64	0.82	2.0	1.43	
By Linear Regr		X					_
Slope, mw =		_		Intercept, bw =		0.310	2
Correlation C	oefficient" =	0	.9986				
					4140 M		
			Set Point Ca				
			$td = 1.21 \text{ m}^3/\text{min } (4)$	3 CFM)			
From the Regres	sion Equation, t	he "Y" value a	ccording to				
		m x	Qstd + b = [W x (P	°a/760) x (298/T	[a)] ^{1/2}		
Therefore,	Set Point W = (m x Qstd + b)	² x (760 / Pa) x (T	(a / 298) =	3	.83	
*If Correlation C	Coefficient < 0.9	90, check and	recalibrate again.		*411***		
Remarks:							
QC Reviewer:	Shum Ky		Signature:			Date: 28/3	116

Total Suspended Particulates (TSP) Sampler Field Calibration Report

Station	Fanling Governm	nent Secondary	School (AM2)	-0	Operator:	Shum Kan	n Yuen
Date:	19-May-16		Next Due Date			19-Jul	-16
Model No:	TE-5170					O.T.S	
Equipment No.:	A-001-74T				Expiration Date:	29-May-	2016
			Ambient (Condition			
Tempera	tura. To	301.0			D.	756.0	
Теттрега	ture, Ta	301.0	Kelvin	Pressu	ire, Pa	756.2	mmHg
		Or	ifice Transfer Sta	ndard Informat	tion		
Equipme	ent No.:	988	Slope, mc	1.97		Intercept, bc	0.01264
Last Calibra		29-May-15					0101201
Next Calibra		29-May-16		mc x Qstd + bc =	$= [H \times (Pa/760)]$	$(298/Ta)^{1/2}$	
1,011,011	ation Dute.	25 11145 10					
1000			Calibration of	TSP Sampler			
Calibration Point	H in. of water	[H x (Pa/760) x (298/Ta)] ^{1/2}		Qstd (m³/min) X - axis	W in. of oil	[ΔW x (Pa/760) x Y-ax	
1	6.9		2.61	1.31	4.7	2.15	5
2	5.8		2.39	1.20	3.8	1.93	}
3	4.5		2.11	1.06	3.1	1.75	5
4	3.6		1.88	0.95	2.6	1.60)
5	2.4		1.54	0.77	1.8	1.33	
By Linear Regr	ession of Y on ?	X					
Slope , mw =	1.4781			Intercept, bw =		0.188	1
Correlation C	oefficient* =	0.	.9977				
						ALL STATES	
			Set Point C				
		17 17 17 17 17 17 17 17 17 17 17 17 17 1	$td = 1.21 \text{ m}^3/\text{min}$ (4)	43 CFM)			
From the Regress	sion Equation, the	he "Y" value a	ecording to				
		m x 0	Qstd + b = [W x (I	Pa/760) x (298/T	(a)] ^{1/2}		
Therefore, S	Set Point W = ($m \times Qstd + b)^2$	x (760 / Pa) x (7	Ta / 298) =	3.	.97	
*If Correlation C	Coefficient < 0.9	90, check and i	recalibrate again.				
		(5)	3				
Remarks:							
						10 10 10 1000	
QC Reviewer:	4		Signature:	J >		Date: 19/5/	/6

Type:				Laser Di	ust Moni	tor		
	facturer/Brand:		-	SIBATA	act mom			
Model	l No.:		-	LD-3				
	ment No.:			A.005.07				
Sensi	tivity Adjustment	Scale Set	ting:	557 CP	И			
Opera	ator:		_	Mike She	ek (MSKN	<i>M</i>)		
Standa	rd Equipment							
							750 - 330	
Equip			precht & Pa			, ,		
Venue			erport (Pui \	ring Seco	ondary So	chool)		
Model Serial			es 1400AB	1401100	00000			
Serial	NO.	Con		DAB2198		V . 10500		
Last C	Calibration Date*:	Sen 7 Ma	ay 2015	00C1436	59803	K _o : <u>12500</u>		
		-						
*Remar	ks: Recommend	ed interval	I for hardwa	re calibra	tion is 1 y	year		
Calibra	tion Result							
Consid	tivity Adjustment	Saala Satt	lina (Poforo	Calibratia	· n) ·	<i>557</i> OF	28.4	
	tivity Adjustment tivity Adjustment					557 CF 557 CF		
Ochsii	livity Adjustille III	ocale oeti	ing (Aiter C	alibration).	CF	IVI	
Hour	Date	Т	ime	Aml	pient	Concentration ¹	Total	Count/
	(dd-mm-yy)			Con	dition	(mg/m³)	Count ²	Minute ³
				Temp	R.H.	Y-axis		X-axis
				(°C)	(%)			
1	08-05-15	09:15	- 10.15	26.9	76	0.04417	1763	29.38
2	08-05-15	10:15	- 11:15	26.9	76	0.04625	1851	30.85
3	08-05-15	11:15	- 12:15	26.9	77	0.04513	1805	30.08
4	08-05-15	12:15	- 13:15	27.1	77	0.04828	1926	32.10
Note:						shnick TEOM®		
	 Total Count Count/minut 							
	o. Countrillina	e was care	diated by ()	otal Cou	11000)			
By Line	ar Regression of	Y or X						
	(K-factor):		0.0015					
	ation coefficient:		0.9983	8				
Validit	y of Calibration F	Secord:	8 May 20	16				
	,		_ 0 may 20	, -				
Remark	KS:							
				()		10		
L								
					1			
QC Re	eviewer: YW F	ung	Signa	ture:	1	Date	e: _11 Ma	y 2015

Type:				(Laser Du	ıst Moni	tor		
	acturer/Brand:			_	SIBATA		2		
Model	ment No.:				LD-3 A.005.07	·-			
	ivity Adjustment	Scale Se	ttina:		557 CPI				
Serisit	ivity Adjustinent	Scale Se	ung.	_	337 CFI	VI			
Opera	tor:			-	Mike She	k (MSKN	1)		
Standa	rd Equipment					-0.0-0.010			
								2	
Equipr					tashnick			400	
Venue					ing Seco	ndary So	chool)		
Model				400AB					
Serial	No:		ntrol:		AB2198		14 40.70		
1+ 0	alibuation Datate		nsor:	****	00C1436	9803	K₀: <u>1250</u>	00	
Last C	alibration Date*:	_ / //	1ay 20)76					
*Remar	ks: Recommend	ed interva	al for I	nardwar	e calibra	tion is 1 y	/ear		
Calibra	tion Result								
	ivity Adjustment		_ ,			,		PM PM	
Hour	Date	-	Γime		[4] 10.00 (10	pient	Concentration ¹	Total	Count/
	(dd-mm-yy)					dition	(mg/m³)	Count ²	Minute ³
					Temp	R.H.	Y-axis		X-axis
	07.05.40	10.15		10.15	(°C)	(%)	0.04500	1010	
1	07-05-16	12:15		13:15	28.1	77	0.04530	1812	30.20
3	07-05-16 07-05-16	13:15 14:15		14:15 15:15	28.2	76	0.04659	1863	31.05
4	07-05-16	15:15		16:15	28.4 28.5	78 77	0.04560 0.04434	1824 1774	30.40 29.57
Note:								1774	29.57
Note.	2. Total Count 3. Count/minut	was logg	ed by	Laser [Dust Mon	itor	shnick TEOM®		
By Line	or Pograssian of	VorV							
	ar Regression of (K-factor):	1 01 1	0.1	0015					
	ation coefficient:			9969					
	y of Calibration F	Record:	-	May 20	17	3			
	,			,					
Remark	s:								
	3000								
QC Re	eviewer: YW F	ung		Signat	ture:	1/1/	Da	te: 09 Ma	y 2016

Mode Equip Sensi	ment No.: tivity Adjustment	Scale Settii	ng: _	SIBATA LD-3 A.005.09 797 CPI	И			
Opera	ator:			Mike She	k (MSKN	1)		
Standa	rd Equipment							
	e: l No.:	Cybe Serie Contr Sens 7 Ma	or: 120 / 2015	7ing Seco 0AB21989 00C14369	99803 59803	K _o : <u>12500</u>)	
Calibra	tion Result	-						
Sensi	tivity Adjustment tivity Adjustment Date		ng (After Ca	alibration		797 CF 797 CF		Count/
	(dd-mm-yy)			Temp (°C)	dition R.H. (%)	(mg/m³) Y-axis	Count ²	Minute ³ X-axis
1	08-05-15	13:15 -		27.1	77	0.04986	1994	33.23
3	08-05-15 08-05-15	14:15 - 15:15 -	15:15 16:15	27.1 27.1	77 77	0.05083	2037	33.95
4	08-05-15	16:15 -	17:15	27.1	76	0.05012 0.05241	2003 2095	33.38 34.92
Slope Correl Validit	2. Total Count 3. Count/minut ar Regression of (K-factor): lation coefficient: by of Calibration F	was logged e was calcu Y or X	by Laser [Oust Mon otal Cou	itor	shnick TEOM [®]		
QC R	eviewer: YW F	- -una	Signat	ture:	η/	Date	ə: 11 Ma	v 2015

Type:	footurer/Prend		_	Laser Di	ust Moni	tor		
Model	facturer/Brand:		_	SIBATA LD-3				
	ment No.:		_	A.005.09	00			
	ivity Adjustment	Scale Sett	_	797 CPI			Ñ.	
Seriali	ivity Adjustinent	Scale Sell	g	191 CFI	WI .		(.40)	
Opera	tor:		_	Mike She	ek (MSKN	<i>(</i>)		
Standa	rd Equipment				00000			
Equip			precht & Pa					
Venue			erport (Pui \	ring Seco	ondary So	chool)		
Model			es 1400AB					
Serial	No:	Con	_	DAB2198				
701 77 1920		Sens		00C1436	59803	K₀: _12500		
Last C	Calibration Date*:	_7 Ma	ay 2016	40000		1000		
*Remar	ks: Recommend	ed interval	for hardwar	re calibra	tion is 1 y	year		
Calibra	tion Result							
			W MACHINE	The second con-				
	ivity Adjustment					_797 CP	M	
Sensit	ivity Adjustment	Scale Sett	ing (After Ca	alibration):	797 CP	M	
	_							
Hour	Date	Ti	me	1	pient	Concentration ¹	Total	Count/
	(dd-mm-yy)				dition	(mg/m ³)	Count ²	Minute ³
				Temp	R.H.	Y-axis		X-axis
1	07-05-16	11:45	- 12:45	(°C) 28.2	(%) 77	0.04623	1847	30.78
2	07-05-16	12:45	- 12:45	28.2	78	0.04708	1885	31.42
3	07-05-16	13:45	- 13:45 - 14:45	28.3	76	0.04591	1836	30.60
4	07-05-16	14:45	- 15:45	28.4	77	0.04333	1726	28.77
Note:						shnick TEOM®	1120	20.77
NOIG.	2. Total Count					ISTITION TEOIVI		
	3. Count/minut							
				0.0.				
By Linea	ar Regression of	Y or X						
Slope	(K-factor):		0.0015					
Correl	ation coefficient:		0.9964					
20 20 0000 00000	Statement and the statement of the state	TO. (4)						
Validit	y of Calibration F	Record:	7 May 20	17				
Remark	e.							
Temark	.5.					*		
10								
						/		
00.0	aviewer: VM/F	- -una	Signat		4/	D-4-	. 00 May	. 2010



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



CERTIFICATE OF CALIBRATION

Certificate No.:

15CA0703 02-02

Page

of

2

Item tested

Description:

Sound Level Meter (Type 1)

Microphone

Manufacturer: Type/Model No.: B & K 2238 B & K

Serial/Equipment No.:

2238 2800927 4188 2791214

Adaptors used:

=

Item submitted by

N.009 06

Customer Name:

AECOM ASIA CO., LTD.

Address of Customer: Request No.:

_

Date of receipt:

03-Jul-2015

Date of test:

04-Jul-2015

Reference equipment used in the calibration

Description:

Multi function sound calibrator

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

DS 360

Serial No. 2288444

2288444 33873 61227 Expiry Date:

19-Jun-2016 16-Apr-2016 16-Apr-2016 Traceable to:

CIGISMEC CEPREI CEPREI

Ambient conditions

Temperature:

21 ± 1 °C 60 ± 10 % 1000 ± 5 hPa

Relative humidity: Air pressure:

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%.
- 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.

Feng Jun Qi

Actual Measurement data are documented on worksheets.

Approved Signatory:

Date:

06-Jul-2015

Company Chop:

S ENGINEER S S MOS ** OTT S

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/Issue 1/Rev.C/01/02/2007



G/F., 9/F., 12/F., 13/F. & 20/F., Leader Centre, 37 Wong Chuk Hang Road, Aberdeen, Hong Kong. 香港 黄竹坑 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



CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.:

15CA0703 02-02

Page

Electrical Tests

The electrical tests were performed using an equivalent capacitance substituted for the microphone. The results are given in below with test status and the estimated uncertainties. The "Pass" means the result of the test is inside the tolerances stated in the test specifications. The "-" means the result of test is outside these tolerances.

Test:	Subtest:	Status:	Expanded Uncertanity (dB)	Coverage Factor
Self-generated noise	Α	Pass	0.3	
on generale more	C	Pass	1.0	2.1
	Lin	Pass	2.0	2.2
Linearity range for Leq	At reference range, Step 5 dB at 4 kHz	Pass	0.3	
, , , , , , , , , , , , , , , , , , , ,	Reference SPL on all other ranges	Pass	0.3	
	2 dB below upper limit of each range	Pass	0.3	
	2 dB above lower limit of each range	Pass	0.3	
Linearity range for SPL	At reference range, Step 5 dB at 4 kHz	Pass	0.3	
Frequency weightings	Α	Pass	0.3	
	С	Pass	0.3	
	Lin	Pass	0.3	
Time weightings	Single Burst Fast	Pass	0.3	
	Single Burst Slow	Pass	0.3	
Peak response	Single 100µs rectangular pulse	Pass	0.3	
R.M.S. accuracy	Crest factor of 3	Pass	0.3	
Time weighting I	Single burst 5 ms at 2000 Hz	Pass	0.3	
	Repeated at frequency of 100 Hz	Pass	0.3	
Time averaging	1 ms burst duty factor 1/103 at 4kHz	Pass	0.3	
	1 ms burst duty factor 1/104 at 4kHz	Pass	0.3	
Pulse range	Single burst 10 ms at 4 kHz	Pass	0.4	
Sound exposure level	Single burst 10 ms at 4 kHz	Pass	0.4	
Overload indication	SPL	Pass	0.3	
	Leq	Pass	0.4	

2, Acoustic tests

The complete sound level meter was calibrated on the reference range using a B&K 4226 acoustic calibrator with 1000Hz and SPL 94 dB. The sensitivity of the sound level meter was adjusted. The test result at 125 Hz and 8000 Hz are given in below with test status and the estimated uncertainties.

		Ex		Coverage
Test:	Subtest	Status	Uncertanity (dB)	Factor
Acoustic response	Weighting A at 125 Hz	Pass	0.3	
	Weighting A at 8000 Hz	Pass	0.5	

3, Response to associated sound calibrator

N/A

The expanded uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.

Calibrated by:

Fung Chi Yip 04-Jul-2015

Checked by:

Date:

Lam Tze Wai 06-Jul-2015

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.

End

© 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.:

15CA1203 03

Page:

of

Item tested

Description:

Acoustical Calibrator (Class 1)

Manufacturer:

Rion Co., Ltd. NC-73

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

10307223

Adaptors used:

Item submitted by

Curstomer:

AECOM ASIA CO., LTD.

Address of Customer:

Request No .:

Date of receipt:

03-Dec-2015

Date of test:

03-Dec-2015

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Lab standard microphone	B&K 4180	2341427	15-Apr-2016	SCL
Preamplifier	B&K 2673	2239857	22-Apr-2016	CEPREI
Measuring amplifier	B&K 2610	2346941	22-Apr-2016	CEPREI
Signal generator	DS 360	61227	16-Apr-2016	CEPREI
Digital multi-meter	34401A	US36087050	17-Apr-2016	CEPREI
Audio analyzer	8903B	GB41300350	17-Apr-2016	CEPREI
Universal counter	53132A	MY40003662	16-Apr-2016	CEPREI

Ambient conditions

Temperature:

22 + 1 °C

Relative humidity:

50 ± 10 %

Air pressure:

1010 ± 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.
- The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference 3 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.

Min/Feng Jun Qi

Approved Signatory:

Date:

04-Dec-2015

Company Chop:

Comments: The results reported in his 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.CARP156-1/Issue 1/Rev.D/01/03/2007



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 E-mail: smec@cigismec.com Website: www.cigismec.com

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



CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.:

15CA1203 03

Page:

(

2

1, Measured Sound Pressure Level

The output Sound Pressure Level in the calibrator head was measured at the setting and frequency shown using a calibrated laboratory standard microphone and insert voltage technique. The results are given in below with the estimated uncertainties.

Frequency	Output Sound Pressure	Measured Output	Estimated Expanded
Shown	Level Setting	Sound Pressure Level	Uncertainty
Hz	dB	dB	dB
1000	94.00	94.04	0.10

2, Sound Pressure Level Stability - Short Term Fluctuations

The Short Term Fluctuations was determined by measuring the maximum and minimum of the fast weighted DC output of the B&K 2610 measuring amplifier over a 20 second time interval as required in the standard. The Short Term Fluctuation was found to be:

At 1000 Hz

STF = 0.002 dB

Estimated expanded uncertainty

0.005 dB

3, Actual Output Frequency

The determination of actual output frequency was made using a B&K 4180 microphone together with a B&K 2673 preamplifier connected to a B&K 2610 measuring amplifier. The AC output of the B&K 2610 was taken to an universal counter which was used to determine the frequency averaged over 20 second of operation as required by the standard. The actual output frequency at 1 KHz was:

At 1000 Hz

Actual Frequency = 987.5 Hz

Estimated expanded uncertainty

0.1 Hz

Coverage factor k = 2.2

4, Total Noise and Distortion

For the Total Noise and Distortion measurement, the unfiltered AC output of the B&K 2610 measuring amplifier was connected to an Agilent Type 8903 B distortion analyser. The TND result at 1 KHz was:

At 1000 Hz

TND = 0.4 %

Estimated expanded uncertainty

0.7 %

The expanded uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.

Calibrated by:

- End

Fung Chi Yip

Checked by:

Lam Tze Wai

Date: 03-Dec-2015

Date:

04-Dec-2015

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.

© Soils & Materials Engineering Co., Ltd.

Form No.CARP156-2/Issue 1/Rev.C/01/05/2005