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



CERTIFICATE OF CALIBRATION

Certificate No.:

17CA0209 01

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of

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Item tested

Description:

Sound Level Meter (Class 1)

Microphone

Manufacturer: Type/Model No.: Larson Davis Model 831

Serial/Equipment No.:

0003227

377B02 SNLW135892

Adaptors used:

Item submitted by

Customer Name:

Lam Geotechnics Limited

Address of Customer:

Request No.:

Date of receipt:

09-Feb-2017

Date of test:

14-Feb-2017

Reference equipment used in the calibration

Description:

Multi function sound calibrator

Model: B&K 4226 Serial No. 2288444

Expiry Date: 18-Jun-2017

Traceable to:

Signal generator Signal generator

DS 360 DS 360

33873 61227

18-Apr-2017 18-Apr-2017 CIGISMEC CEPREI CEPREI

Ambient conditions

Temperature:

Air pressure:

Relative humidity:

21 ± 1 °C 40 ± 10 %

1020 ± 5 hPa

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.

Huang Jian/Min/Feng Jun Qi

Actual Measurement data are documented on worksheets.

Approved Signatory:

Date:

15-Feb-2017

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.

C Soils & Materials Engineering Co., Ltd



香港 黄 竹 坑 道 3 7 號 利 達 中 心 1 2 樓 12/F., Leader Centre, 37 Wong Chuk Hang Road, Aberdeen, Hong Kong. E-mail: smec@cigismec.com Website: www.cigismec.com Tel: (852) 2873 6860 Fax: (852) 2555 7533



CERTIFICATE OF CALIBRATION

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1, 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
	С	Pass	1.0 2.1
	Lin	Pass	1.6 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	0.4
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 1/10 ³ 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.

Test:	Subtest	Status	Expanded Uncertanity (dB) / Coverage 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:

Date:

Fung Chi Yip 14-Feb-2017 ilu -

Checked by:

Date:

/

Lam Tze Wai 15-Feb-2017

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.

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CERTIFICATE OF CALIBRATION

Certificate No.:

16CA1117 01-01

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Item tested

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

B&K

2236 2100736

Microphone **B&K**

4188 2288941

Adaptors used:

Item submitted by

Serial/Equipment No.:

Customer Name:

Lam Geotechnics Limited

Address of Customer:

Request No .:

Date of receipt:

17-Nov-2016

Date of test:

18-Nov-2016

Reference equipment used in the calibration

Description:

Multi function sound calibrator

Model: B&K 4226 Serial No.

Expiry Date:

Traceable to:

Signal generator Signal generator

DS 360 DS 360

2288444 33873

61227

18-Jun-2017 18-Apr-2017 18-Apr-2017 CIGISMEC CEPREI CEPREI

Ambient conditions

Temperature:

23 ± 1 °C

Relative humidity:

50 ± 10 % 1005 ± 5 hPa

Air pressure:

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.

Huang Jian Min/Feng Jun Qi

Actual Measurement data are documented on worksheets

Approved Signatory:

Date:

21-Nov-2016

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.

O Soils & Materials Engineering Co., Ltd



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CERTIFICATE OF CALIBRATION

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1. 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.

			Expanded	Coverage
Test:	Subtest:	Status:	Uncertanity (dB)	Factor
Self-generated noise	Α	Pass	0.3	
3	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	A	Pass	0.3	
	C	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 1/10 ³ 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	
	C-10 #3			

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.

Test:	Subtest	Status	Expanded Uncertanity (dB)	Coverage Factor
Acoustic response	Weighting A at 125 Hz	Pass	0.3	
* 99	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:

NX

Checked by:

Lam Tze Wai

Date:

Fung Chi Yip 18-Nov-2016

Date:

21-Nov-2016

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.

O Soils & Materials Engineering Co . Ltd



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CERTIFICATE OF CALIBRATION

Certificate No.:

17CA0320 02

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Item tested

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

Microphone **B&K**

Preamp B & K

Type/Model No.: Serial/Equipment No.: 2250-1 2722310

4950 2698702

18-Apr-2017

ZC0032 13318

Adaptors used:

Item submitted by Customer Name:

Lam Geotechnics Ltd.

Address of Customer:

Request No.:

20-Mar-2017

Date of receipt:

Date of test:

23-Mar-2017

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

61227

Expiry Date: 18-Jun-2017 33873 18-Apr-2017

Traceable to:

CIGISMEC CEPREI CEPREI

Ambient conditions

Temperature:

Relative humidity:

21 ± 1 °C 60 ± 10 %

Air pressure:

1010 ± 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%.
- 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.

hin/Feng Jun Qi

Actual Measurement data are documented on worksheets.

Huang Jian

Approved Signatory:

Date:

24-Mar-2017

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.

C Soils & Materials Engineering Co., Ltd



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CERTIFICATE OF CALIBRATION

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1, 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.

			Expanded	Coverage
Test:	Subtest:	Status:	Uncertanity (dB)	Factor
Self-generated noise	A	Pass	0.3	
con generated noise	C	Pass	0.8	
	Lin	Pass	1.6	
Linearity range for Leg	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	A	Pass	0.3	
. requeriey meightings	C	Pass	0.3	
	Lin	Pass	0.3	
Time weightings	Single Burst Fast	Pass	0.3	
·····g······go	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	
·····g······g··	Repeated at frequency of 100 Hz	Pass	0.3	
Time averaging	1 ms burst duty factor 1/10 ³ at 4kHz	Pass	0.3	
Time averaging	1 ms burst duty factor 1/10 ⁴ at 4kHz		100-00-00	
Dulas range	2. A linear on a linear statement of the property of the p	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.

Test:	Subtest	Status	Expanded Uncertanity (dB)	Coverage 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:

End

Checked by:

Hung Chi Yip

Date:

Lai Sheng Jie 23-Mar-2017

Date:

24-Mar-2017

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.

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CERTIFICATE OF CALIBRATION

Certificate No.:

16CA0519 02

Page

Tel: (852) 2873 6860

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2

Item tested

Description:

Sound Level Meter (Type 1) **B&K**

Microphone **B&K**

Preamp **B&K**

Manufacturer: Type/Model No .:

2250-L

4950

ZC0032

Serial/Equipment No.: Adaptors used:

2722311

2698703

13321

Item submitted by

Customer Name:

Lam Geotechnics Limited

Address of Customer: Request No.:

Date of receipt:

19-May-2016

Date of test:

21-May-2016

Reference equipment used in the calibration

Description:

Multi function sound calibrator

Model: B&K 4226 Serial No.

Expiry Date:

Traceable to:

Signal generator

DS 360

2288444

19-Jun-2016 18-Apr-2017

CIGISMEC

Signal generator

DS 360

33873 61227

18-Apr-2017

CEPREI CEPREI

Ambient conditions

Temperature:

21 ± 1 °C

Relative humidity: Air pressure:

55 ± 10 % 1005 ± 5 hPa

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.

Aiŋ/Feng Jun Qi

Actual Measurement data are documented on worksheets.

Huang Jian

Approved Signatory:

Date:

23-May-2016

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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CERTIFICATE OF CALIBRATION

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Certificate No.:

16CA0519 02

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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	A	Pass	0.3	
	C	Pass	0.8	
	Lin	Pass	1.6	
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	A	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	

Acoustic tests 2,

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.

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

Response to associated sound calibrator 3,

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

End

Checked by:

Date:

21-May-2016

Date:

Lam Tze Wai 23-May-2016

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.

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CERTIFICATE OF CALIBRATION

Certificate No.:

17CA0221 02

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Item tested

Description: Manufacturer:

Sound Level Meter (Type 1) **B&K**

2250-L

2701778

Microphone **B&K** 4950

Preamp **B&K** ZC0032

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

2755097

19223

Item submitted by

Customer Name: Address of Customer: Lam Geotechnics Limited

Request No.:

Date of receipt:

22-Feb-2017

Date of test:

02-Mar-2017

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

33873 61227

Expiry Date:

18-Jun-2017 18-Apr-2017 18-Apr-2017

Traceable to:

CIGISMEC CEPREI CEPREI

Ambient conditions

Temperature:

Relative humidity:

20 ± 1 °C 60 ± 10 %

Air pressure:

1010 ± 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 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.

Actual Measurement data are documented on worksheets.

Approved Signatory:

Huang Jia Min/⊭eng Jun Qi Date:

06-Mar-2017

Company Chop:

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

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CERTIFICATE OF CALIBRATION

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1, 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.

		Expanded	Coverage
Subtest:	Status:	Uncertanity (dB)	Factor
۸	Dane	0.0	
9		0.3	
	Pass	0.3	
2 dB above lower limit of each range	Pass	0.3	
At reference range, Step 5 dB at 4 kHz	Pass	0.3	
A	Pass	0.3	
C	Pass	0.3	
Lin	Pass	0.3	
Single Burst Fast	Pass	0.3	
Single Burst Slow	Pass	0.3	
Single 100µs rectangular pulse	Pass	0.3	
Crest factor of 3	Pass	0.3	
Single burst 5 ms at 2000 Hz	Pass		
	Pass		
1 ms burst duty factor 1/103 at 4kHz			
1 ms burst duty factor 1/10 ⁴ at 4kHz			
Single burst 10 ms at 4 kHz			
5			
		0.000	
4	1 433	0.4	
	A C Lin At reference range, Step 5 dB at 4 kHz Reference SPL on all other ranges 2 dB below upper limit of each range 2 dB above lower limit of each range At reference range, Step 5 dB at 4 kHz A C Lin Single Burst Fast Single Burst Slow Single 100µs rectangular pulse Crest factor of 3 Single burst 5 ms at 2000 Hz Repeated at frequency of 100 Hz 1 ms burst duty factor 1/10³ at 4kHz	A Pass C Pass Lin Pass At reference range , Step 5 dB at 4 kHz Pass Reference SPL on all other ranges Pass 2 dB below upper limit of each range 2 dB above lower limit of each range At reference range , Step 5 dB at 4 kHz Pass A Pass C Pass Lin Pass Single Burst Fast Pass Single Burst Slow Pass Single 100µs rectangular pulse Pass Crest factor of 3 Pass Crest factor of 3 Pass Single burst 5 ms at 2000 Hz Pass 1 ms burst duty factor 1/10³ at 4kHz Pass 1 ms burst duty factor 1/10⁴ at 4kHz Pass Single burst 10 ms at 4 kHz Pass SPL	A Pass 0.3 C Pass 0.8 Lin Pass 1.6 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 At reference range, Step 5 dB at 4 kHz Pass 0.3 A Pass 0.3 0.3 C Pass 0.3 Lin Pass 0.3 Single Burst Fast Pass 0.3 Single Burst Slow Pass 0.3 Single 100μs rectangular pulse Pass 0.3 Crest factor of 3 Pass 0.3 Single burst 5 ms at 2000 Hz Pass 0.3 Repeated at frequency of 100 Hz Pass 0.3 1 ms burst duty factor 1/10 ³ at 4kHz Pass 0.3 1 ms burst duty factor 1/10 ⁴ at 4kHz Pass 0.3 Single burst 10 ms at 4 kHz 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.

THE RESIDENCE OF THE PROPERTY			Expanded	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:

 γ

Checked by:

Lam Tze Wai

Date:

Fung Chi Yip 02-Mar-2017

Date:

06-Mar-2017

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.

Fnd

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港黄竹坑道37號利達中心12樓 12/F., Leader Centre, 37 Wong Chuk Hang Road, Aberdeen, Hong Kong, E-mail: smec@cigismec.com Website: www.cigismec.com

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CERTIFICATE OF CALIBRATION

Certificate No.:

17CA0119 01

2250-L

3002695

Page

of

2

Item tested

Description: Manufacturer: Type/Model No.:

Sound Level Meter (Type 1) **B&K**

Microphone **B&K** 4950 2940839

Preamp **B&K** ZC0032 18582

Serial/Equipment No.: Adaptors used:

Lam Geotechnics Limited

Customer Name: Address of Customer:

Item submitted by

Request No.:

Date of receipt:

19-Jan-2017

Date of test:

20-Jan-2017

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 33873 61227

Expiry Date: 18-Jun-2017 18-Apr-2017

18-Apr-2017

Traceable to: CIGISMEC CEPREI CEPREI

Ambient conditions

Temperature:

21 ± 1 °C 40 ± 10 %

Relative humidity: Air pressure:

1010 ± 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.

Min/Feng Jun Qi

Actual Measurement data are documented on worksheets.

Huana Jia

Approved Signatory:

Date:

23-Jan-2017

Company Chop:

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

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CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.:

17CA0119 01

Page

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1, 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
1031.	Subtest.	Status.	Officertainty (ub)	1 actor
Self-generated noise	Α	Pass	0.3	
	С	Pass	0.8	
	Lin	Pass	1.6	
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.

Test:	Subtest	Status	Expanded Uncertanity (dB)	Coverage 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:

V

End

Checked by:

Lam Tze Wai

Date:

Fung Chi Yip 20-Jan-2017

Date:

23-Jan-2017

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.

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CERTIFICATE OF CALIBRATION

Certificate No.:

16CA0805 02

Page

οf

Item tested

Description: Manufacturer: Type/Model No.: Sound Level Meter (Type 1) B&K 2250-L 3006790

Microphone B&K 4950 2827240

B & K ZC0032 21213

Adaptors used:

Item submitted by

Serial/Equipment No.:

Customer Name:

Lam Geotechnics Ltd.

Address of Customer:

Request No.:

Date of receipt:

05-Aug-2016

Date of test:

08-Aug-2016

Reference equipment used in the calibration

Description:

Multi function sound calibrator

Signal generator Signal generator Model:

DS 360

Serial No. B&K 4226 2288444 DS 360

33873 61227

Expiry Date:

18-Jun-2017 18-Apr-2017 18-Apr-2017

Traceable to:

CIGISMEC CEPRE CEPRE

Ambient conditions

Temperature:

Relative humidity: Air pressure:

21 ± 1 °C 60 + 10 %

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 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.

Actual Measurement data are documented on worksheets.

Huang Jian

Approved Signatory:

eng Jun Qi

09-Aug-2016 Date:

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.



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2

CERTIFICATE OF CALIBRATION

(Continuation Page)

16CA0805 02

Page

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1, 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
1651.	Subject.	owns.	menter and a maketic foliable Assessment as benefit Assessment for all court for a first first for the court of the court	
Self-generated noise	Α	Pass	0.3	
	С	Pass	0.8	
	Lin	Pass	1.6	
Linearity range for Leg	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 1/10 ³ at 4kHz	Pass	0.3	
3 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.

Test:	Subtest	Status	Expanded Uncertanity (dB)	Coverage 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:

Date:

End

Checked by:

| Fung Chi Yip | Cam Tze Wai | | O8-Aug-2016 | Date: 09-Aug-2016

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.

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CERTIFICATE OF CALIBRATION

Certificate No.:

16CA1117 01-02

Page:

2

Item tested

Description:

Acoustical Calibrator (Class 1)

Manufacturer:

Rion Co., Ltd.

Type/Model No.: Serial/Equipment No.: NC-73 10707358

Adaptors used:

. . .

Item submitted by

Curstomer:

Lam Geotechnics Ltd.

Address of Customer:

-

Request No.:

Date of receipt:

17-Nov-2016

Date of test:

18-Nov-2016

Reference equipment used in the calibration

Description: Lab standard microphone Preamplifier Measuring amplifier Signal generator Digital multi-meter	Model: B&K 4180 B&K 2673 B&K 2610 DS 360 34401A	Serial No. 2412857 2239857 2346941 61227 US36087050	Expiry Date: 14-Apr-2017 28-Apr-2017 26-Apr-2017 18-Apr-2017	Traceable to: SCL CEPREI CEPREI CEPREI CEPREI
Audio analyzer Universal counter	8903B 53132A	GB41300350 MY40003662	19-Apr-2017 19-Apr-2017 19-Apr-2017	CEPREI CEPREI

Ambient conditions

Temperature:

23 ± 1 °C

Relative humidity: Air pressure:

50 ± 10 % 1005 ± 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.

Huang Jian Min/Feng Jun Qi

Approved Signatory:

Date

Date: 21-Nov-2016

Company Chop:

205 x 1011

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



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CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.:

16CA1117 01-02

Page:

Measured Sound Pressure Level 1,

> 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

(Output level in dB re 20 µPa) Output Sound Pressure Measured Output Frequency Estimated Expanded Shown Level Setting Sound Pressure Level Uncertainty Hz dB dB dB 1000 94.00 94 12 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 = 991.6 Hz

Estimated expanded uncertainty

0.1 Hz

Coverage factor k = 2.2

Total Noise and Distortion 4,

> 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 = 0.6 %

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.

End

Calibrated by:

Fung Chi Yip

Checked by

Lam Tze Wai

Date:

18-Nov-2016

Date:

21-Nov-2016

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



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



CERTIFICATE OF CALIBRATION

Certificate No.:

17CA0320 03

Page:

of

2

Item tested

Description:

Acoustical Calibrator (Class 1)

Manufacturer: Type/Model No.: Larson Davis CAL 200

Serial/Equipment No.:

13098

Adaptors used:

Item submitted by

Curstomer:

Lam Environmental Service Ltd.

Address of Customer:

Request No.:

Date of receipt:

20-Mar-2017

Date of test:

23-Mar-2017

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Lab standard microphone	B&K 4180	2412857	14-Apr-2017	SCL
Preamplifier	B&K 2673	2239857	28-Apr-2017	CEPREI
Measuring amplifier	B&K 2610	2346941	26-Apr-2017	CEPREI
Signal generator	DS 360	61227	18-Apr-2017	CEPREI
Digital multi-meter	34401A	US36087050	18-Apr-2017	CEPREI
Audio analyzer	8903B	GB41300350	19-Apr-2017	CEPREI
Universal counter	53132A	MY40003662	19-Apr-2017	CEPREI

Ambient conditions

Temperature:

21 ± 1 °C

Relative humidity:

60 ± 10 %

Air pressure:

1010 ± 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.
- 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

Approved Signatory:

Date:

24-Mar-2017

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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CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.:

17CA0320 03

Page:

2

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.

			(Output level in dB re 20 μPa)	
Frequency Shown Hz	Output Sound Pressure Level Setting dB	Measured Output Sound Pressure Level dB	Estimated Expanded Uncertainty dB	
1000	94.00	93.98	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 = 1000.2 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 = 0.5 %

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.

End

Calibrated by:

Date:

Lai Sheng Jie 23-Mar-2017 Checked by:

Fung Chi Yip 24-Mar-2017

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.

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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 - Ma Operator		Rootsmeter Orifice I.I		438320 3166	Ta (K) - Pa (mm) -	293 - 748.03
PLATE OR Run # 1 2 3 4 5	VOLUME START (m3) NA NA NA NA NA	VOLUME STOP (m3) NA NA NA NA NA	DIFF VOLUME (m3) 1.00 1.00 1.00 1.00	DIFF TIME (min) 1.4270 1.0220 0.9100 0.8730 0.7180	METER DIFF Hg (mm) 3.2 6.4 7.9 8.8 12.7	ORFICE DIFF H2O (in.) 2.00 4.00 5.00 5.50 8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
0.9967 0.9925 0.9904 0.9892 0.9840	0.6985 0.9711 1.0883 1.1332 1.3705	1.4150 2.0010 2.2372 2.3464 2.8299		0.9957 0.9915 0.9893 0.9882 0.9830	0.6977 0.9701 1.0872 1.1320 1.3691	0.8851 1.2517 1.3995 1.4678 1.7702
Qstd slop intercept coefficie y axis =	(b) = ent (r) =	2.10714 -0.05158 0.99978	 [a)]	Qa slope intercept coefficie v axis =	= (b)	1.31946 -0.03226 0.99978

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



Location	:	CMA1b	Calibration Date	:	16-Feb-17
Equipment no.	: _	HVS001	Calibration Due Date	: -	16-Apr-17

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition									
Temperature, T _a	292	Kelvin Pressure, P _a 1022							
Orifice Transfer Standard Information									
Equipment No.	Ori002	Slope, m _c	2.10714	Intercept, bc	-0.05158				
Last Calibration Date	20-May-16		(HxP _a /	1013.3 x 298 / T _a) 1/2				
Next Calibration Date	20-May-17		$= m_c \times Q_{std} + b_c$						
Calibration of TSP									

Calibration of TSP									
Calibration	Mai	nometer Re	eading	Q _{std}	Continuous Flow	IC			
Point	H (inches of water)		(m ³ / min.)	Recorder, W	(W(P _a /1013.3x298/T _a) ^{1/2} /35.31)				
	(up)	(down)	(difference)	X-axis	(CFM)	Y-axis			
1	1.5	1.5	3.0	0.8584	22	22.3201			
2	2.4 2.4 4.8		1.0794	32	32.4656				
3	3.8	3.8	7.6	1.3518	41	41.5965			
4	5.2	5.2	10.4	1.5772	48	48.6984			
5	6.5 6.5 13.0		1.7605	52	52.7566				
By Linear Regression of Y on X									

Slope, m = 33.6324 Intercept, b = -5.0111

Correlation Coefficient* = 0.9938

Calibration Accepted = Yes/Ne**

As per client's provided information, the equipment reference no. of the calibrated High Volume Sampler has been

 $\underline{\text{re-assigned from EL452 to HVS001 with respect to the update in quality management system.}}$

Calibrated by : Jackey MA Checked by : Pauline Wong

^{*} if Correlation Coefficient < 0.990, check and recalibration again.

^{**} Delete as appropriate.



Location	:		CMA1b				Calibrati	on Date	:	13-Apr-17
Equipment	no. :		HVS001				Calibration Due Date			13-Jun-17
				=						12, 40
CALIBRATION	ON OF CONT	INUOUS FL	OW RECO	RDER						
					Ambient C	ondition				
Temperatur	re, T _a		293	3	Kelvin	Pressure, P	a	10	017	mmHg
				Orifice	Transfer Sta	ndard Inform	ation			
Equip	ment No.		Ori002		Slope, m _c	2.107	14	Intercept, bc		-0.05158
Last Calif	bration Date		20-May-1	16	200 100	(H	I x P _a / 10	13.3 x 298 / 7	$(\Gamma_a)^{1/2}$	
Next Calil	bration Date		20-May-1	7		=		$(Q_{std} + b_c)$	u,	
					Calibration	n of TSP				
Calib	bration	Ma	nometer R	eading	Q	std	Contin	uous Flow	IC	
P	oint	н	(inches of	water)	(m ³ /	min.)	Recorder, W		(W(P _a /1013.3x298/T _a) ^{1/2} /35.3	
		(up)	(down)	(difference)	X-a	ıxis	((CFM)		Y-axis
	1	1.6	1.6	3.2	0.8	822		30		30.3101
	2	2.9	2.9	5.8	1.1	792		38	38.3928	
	3	3.8	3.8	7.6	1.3	463		46	46.4755	
	4	4.8	4.8	9.6	1.5	101		52	52.5375	
	5	6.4	6.4	12.8	1.7	399		58	300/	58.5995
By Linear Re	gression of Y	on X								
		Slope, m	=	34.2	668	Int	ercept, b =	-0.3	651	
	Correlation (Coefficient*	=	0.9	948					
	Calibration	Accepted	=	Yes/	No**					
					4.0					
* if Correlation	n Coefficient <	0.990, che	ck and reca	alibration agai	n.					
				•						
** Delete as a										
Remarks :	As per client's	s provided i	nformation,	the equipmer	nt reference n	o. of the calib	orated High V	olume Sampler ha	is been	
	re-assigned fr	om EL452	to HVS001	with respect t	o the update	in quality man	agement sys	em.		
Calibrated by	y :	Ja	ickey MA				Checked	ру	:F	Pauline Wong
Date	:	1:	3-Apr-17				Date		:	13-Apr-17



Location	:	CMA2a	Calibration Date	:	16-Feb-17
Equipment no.	:	HVS002	Calibration Due Date		16-Apr-17

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition									
Temperature, T _a	292	Kelvin Pressure, P _a		1022	mmHg				
Orifice Transfer Standard Information									
Equipment No.	Ori002	Slope, m _c	2.10714	Intercept, bc	-0.05158				
Last Calibration Date	20-May-16		(HxP _a /	1013.3 x 298 / T _a)	1/2				
Next Calibration Date 20-May-17 = $m_c \times Q_{std} + b_c$									
Calibration of TSP									

Calibration of TSP								
Calibration	Mar	nometer Re	eading	Q _{std}	Continuous Flow	IC		
Point	Н (H (inches of water)		(m ³ / min.)	Recorder, W	(W(P _a /1013.3x298/T _a) ^{1/2} /35.31)		
	(up)	(down)	(difference)	X-axis	(CFM)	Y-axis		
1	1.7	1.7	3.4	0.9123	30	30.4365		
2	2.6	2.6	5.2	1.1224	36	36.5238		
3	4.2	4.2	8.4	1.4199	44	44.6402		
4	5.5	5.5	11.0	1.6214	50	50.7275		
5	6.9	6.9	13.8	1.8131	56	56.8148		
By Linear Regression of Y	on X							
	Slope, m	=	29.0	0457 In	ntercept, b = 3.	8086		
Correlation C	oefficient*	=	0.9	996				
Calibration	Accepted	=	Yes	'No**				

^{*} if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks :	As per client's provided information, the equipment reference no. of the calibrated High Volume Sampler has been
	re-assigned from EL449 to HVS002 with respect to the update in quality management system.

Calibrated by : Jackey MA Checked by : Pualine Wong

Date Date Date : 16-Feb-17



Location :		CMA2a				Calibrati	on Date	: 13-Apr-17	
Equipment no.		HVS002				Calibrati	on Due Date	: 13-Jun-17	
		300 A						3 4	
CALIBRATION OF CONTIN	UOUS FL	OW RECO	RDER						
				Ambient C	ondition				
Temperature, T _a		293		Kelvin	Pressure, P		10	017 mmHg	
			Orifice 1	Transfer Sta	ndard Inform	ation		The Assessment of the State of	
Equipment No.		Ori002		Slope, m _c	2.107	14	Intercept, bc	-0.05158	
Last Calibration Date		20-May-1	6		(H	x P _a / 10)13.3 x 298 / 7	Γ_a) $^{1/2}$	
Next Calibration Date 20-May-17 = $m_c \times Q_{std} + b_c$									
				Calibration	n of TSP				
Calibration	Ma	nometer R	eading	Q std Continuous Flow		IC			
Point	н	(inches of	water)	(m ³ /	min.)	Recorder, W		(W(P _a /1013.3x298/T _a) ^{1/2} /35.3	31)
	(up)	(down)	(difference)	X-a	axis	(CFM)		Y-axis	
1	1.5	1.5	3.0	0.8	550		32	32.3307	
2	2.3	2.3	4.6	1.0	529	40		40.4134	
3	3.8	3.8	7.6	1.3	463	46		46.4755	
4	5.1	5.1	10.2	1.5	558	52		52.5375	
5	6.5	6.5	13.0	1.7	533	56		56.5788	
By Linear Regression of Y o	n X								
	Slope, m	=	26.2	984	Int	ercept, b =	11.1	1467	
Correlation C	oefficient*	=	0.9	934					
Calibration	Accepted	=	Yes/	Ne**					
* if Correlation Coefficient <	0.990, che	eck and rec	alibration agai	n.					
** Delete as appropriate.									
	provided i	nformation	the equipmer	nt reference r	o of the calil	orated High V	olume Sampler h	as heen	
Remarks :			***************************************			1530	W		
re-assigned fro			with respect t	o the update	in quality mar				
Calibrated by		ackey MA				Checked	by	: Pualine Wong	_
Date :	1	3-Apr-17				Date		: 13-Apr-17	



TESTING	Calibr	ation D	ata for H	ligh Vol	ume San	npler (T	SP Sampl	er)	
Location :		CMA3a				Calibra	ation Date	:	23-Feb-17
Equipment no.		HVS012				Calibra	ation Due Date	. —	23-Apr-17
CALIBRATION OF CON	TINUOUS	FLOW REC	CORDER						
				Ambient C	ondition				
Temperature, T _a		29		Kelvin	Pressure, P	a		1017	mmHg
			Orifice T	ransfer Star	ndard Inform	ation			
Equipment No.		Ori002		Slope, m _c	2.107	14	Intercept, bo	:	-0.05158
Last Calibration Date	20-May-16				(Hx	(P _a / 10	13.3 x 298 /	'T _a)	1/2
Next Calibration Date		20-May-1	7		=	m _c >	$Q_{std} + b_c$	100	
				Calibration	of TSP				
Calibration	Ma	nometer R	eading	Q	std	Contin	uous Flow		IC
Point	н	(inches of	water)	(m³ / min.) Reco		order, W	(W(P _a /	/1013.3x298/T _a) ^{1/2} /35.31)	
	(up)	(down)	(difference)	X-a	axis	(CFM)		Y-axis
1	1.3	1.3	2.6	0.8	003	30			30.4141
2	2.2	2.2	4.4	1.0	337	36		36.4969	
3	3.5	3.5	7.0	1.2	974	43		43.5935	
4	4.5	4.5	9.0	1.4	679	48		48.6625	
5	5.6	5.6	11.2	1.6	346		52		52.7177
By Linear Regression of Y	on X								
	Slope, m	=	26.9	932	Int	ercept, b =	=8	.7224	
Correlation Co	oefficient*	=	0.99	997					
Calibration	Accepted	=	Yes/ł	Vo **					
* if Correlation Coefficient	< 0.990, ch	neck and re	calibration ag	ain.					
** Delete as appropriate.									
Remarks : As per client	s provided	I information	n, the equipm	ent reference	e no. of the c	alibrated Hi	gh Volume San	npler ha	s been
re-assigned f	from EL33	3 to HVS01	2 with respec	t to the upda	te in quality n	nanagemen	t system.		
Calibrated by	Ja	ickey MA				Checked	l by	:	Pauline Wong
Date :	23	3-Feb-17				Date		:	23-Feb-17



Location	:	CMA3a	Calibration Date	:	20-Apr-17
Equipment no.	:	HVS012	Calibration Due Date	:	20-Jun-17

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition									
Temperature, T _a	299	Kelvin	Pressure, P _a	1010 mmHg					
Orifice Transfer Standard Information									
Equipment No.	Ori002	Slope, m _c	Slope, m _c 2.10714 Intercept, bc -0.05158						
Last Calibration Date	20-May-16		$(HxP_a/1013.3x298/T_a)^{1/2}$						
Next Calibration Date	20-May-17		$= m_c \times Q_{std} + b_c$						

Calibration of TSP								
Calibration	Mai	nometer Re	eading	Q _{std}	Continuous Flow	IC		
Point	H (inches of water)		(m ³ / min.)	Recorder, W	(W(P _a /1013.3x298/T _a) ^{1/2} /35.31)			
	(up)	(down)	(difference)	X-axis	(CFM)	Y-axis		
1	1.3	1.3	2.6	0.7872	31	30.8977		
2	2.2	2.2	4.4	1.0167	36	35.8812		
3	3.5	3.5	7.0	1.2759	43	42.8581		
4	4.5	4.5	9.0	1.4435	48	47.8416		
5	5.3	5.3	10.6	1.5645	54	53.8218		
By Linear Regression of Y	on X							
	Slope, m	=	28.6	680 In	tercept, b =	7.3550		

Correlation Coefficient*

Calibration Accepted

Remarks : As per client's provided information, the equipment reference no. of the calibrated High Volume Sampler has been

 $\underline{\text{re-assigned from EL333 to HVS012 with respect to the update in quality management system.}}$

0.9911

Yes/No**

Calibrated by : Jackey MA Checked by : Pauline Wong

Date Date Checked by : 20-Apr-17

^{*} if Correlation Coefficient < 0.990, check and recalibration again.

^{**} Delete as appropriate.



TESTING				5				,	
Location	:	CMA4a				Calibratio	on Date	:	23-Feb-17
Equipment no.	:	HVS004				Calibratio	on Due Date	: 23-Apr-17	
CALIBRATION OF CO	NTINUOUS F	LOW REC	ORDER						
				Ambient (Condition				
Temperature, T _a		291		Kelvin	Pressure, P	a	10)17	mmHg
			Orifice	Transfer Sta	andard Infor	mation		N. S.	
Equipment No.		Ori002		Slope, m _c	2.107	14	Intercept, bc		-0.05158
Last Calibration Date	е	20-May-1	6		(H	XP _a / 10	13.3 x 298 / 7	a) 1/2	
Next Calibration Date	е	20-May-1					$(Q_{std} + b_c)$		
				Calibratio	on of TSP				
Calibration	Ma	nometer R	eading	Q	std	Contin	uous Flow		IC
Point	н	inches of	water)	(m ³ /	(m³ / min.) Recorder, W		(W(P _a /10	013.3x298/T _a) ^{1/2} /35.31)	
	(up)	(down)	(difference)	X-a	ixis	(CFM)		Y-axis
1	1.3	1.3	2.6	0.8	003		20		20.2760
2	2.2	2.2	4.4	1.03	337	32			32.4417
3	3.4	3.4	6.8	1.2	791	40			40.5521
4	4.4	4.4	8.8	1.4	517	48			48.6625
5	5.6	5.6	11.2	1.6	346		53		53.7315
By Linear Regression of	f Y on X								
:	Slope, m	=	39.9	9678	Int	tercept, b =	-10.4	4229	
Correlation	Coefficient*	=	0.9	953					
Calibrati	on Accepted	=	Yes	'Ne**					
* if Correlation Coefficie	nt < 0.990 ck	neck and re	calibration an	ain					
ii corrolation cocinicio	111 - 0.000, 01	iook and ro	ound and a ag	a					
** Delete as appropriate	-								
Remarks : As per clie	ent's provided	l information	n, the equipme	ent reference	no. of the ca	llibrated High	Volume Sampler h	nas been	
re-assigne	ed from EL39	0 to HVS00	4 with respec	to the update	e in quality m	anagement sy	stem.		
Calibrated by	: Ja	ackey MA				Checked	by	:	Pauline Wong
Date	: 2	3-Feb-17				Date		:	23-Feb-17



Location	:	CMA4a	Calibration Date	:	20-Apr-17
Equipment no.	:	HVS004	Calibration Due Date	:	20-Jun-17
				•	_

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition							
Temperature, T _a	299	Kelvin	Pressure, P _a	1010	mmHg		

Orifice Transfer Standard Information							
Equipment No.	Ori002	Slope, m _c	2.10714	Intercept, bc	-0.05158		
Last Calibration Date	20-May-16	$(HxP_a/1013.3x298/T_a)^{1/2}$					
Next Calibration Date	20-May-17	$= m_c \times Q_{std} + b_c$					

	Calibration of TSP								
Calibration	Ма	nometer Ro	eading	Q _{std}	Continuous Flow	IC			
Point	H (inches of water)		(m ³ / min.)	Recorder, W	(W(P _a /1013.3x298/T _a) ^{1/2} /35.31)				
	(up)	(down)	(difference)	X-axis	(CFM)	Y-axis			
1	1.2	1.2	2.4	0.7573	35	34.8845			
2	1.8	1.8	3.6	0.9220	41	40.8647			
3	2.9	2.9	5.8	1.1636	48	47.8416			
4	3.8	3.8	7.6	1.3285	53	52.8251			
5	5.0	5.0	10.0	1.5203	57	56.8119			
By Linear Pagression of N		3.0	10.0	1.0203	31	30.8119			

Slope, m = 28.8782 Intercept, b = 13.7729

Correlation Coefficient* = 0.9965

Calibration Accepted = Yes/No**

Remarks : As per client's provided information, the equipment reference no. of the calibrated High Volume Sampler has been

re-assigned from EL390 to HVS004 with respect to the update in quality management system.

Calibrated by : Jackey MA Checked by : Pauline Wong

 Date
 :
 20-Apr-17
 Date
 :
 20-Apr-17

^{*} if Correlation Coefficient < 0.990, check and recalibration again.

^{**} Delete as appropriate.



Location	
Equipment	no

:	CMA5b	
:	HVS010	-200

Calibration Date Calibration Due Date 23-Feb-17

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition						
Temperature, T _a	291	Kelvin Pressure, Pa	1017	mmHg		

Orifice Transfer Standard Information							
Equipment No.	Ori002	Slope, m _c	2.10714	Intercept, bc	-0.05158		
Last Calibration Date	20-May-16		(HxP_a)	/1013.3 x 298 / T _a)	1/2		
Next Calibration Date	20-May-17		= n	$n_c \times Q_{std} + b_c$			

				Calibration of TSP		
Calibration	Ма	nometer R	eading	Q _{std}	Continuous Flow	IC
Point	н	inches of	water)	(m ³ / min.)	Recorder, W	(W(P _a /1013.3x298/T _a) ^{1/2} /35.31
	(up)	(down)	(difference)	X-axis	(CFM)	Y-axis
1	1.4	1.4	2.8	0.8296	36	36.4969
2	2.2	2.2	4.4	1.0337	42	42.5797
3	3.6	3.6	7.2	1.3155	52	52.7177
4	4.6	4.6	9.2	1.4838	57	57.7867
5	5.8	5.8	11.6	1.6631	63	63.8695
Linear Regression of Yo	n X					
	Slope, m	=	33.0	908	Intercept, b =	8.8257
Correlation C	oefficient*	=	0.99	996		20
Calibration	Accepted	=	Yes/l	No**		

* if Correlation Coefficient	< 0.990,	check and	recalibration	again.
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**	Delete	as	appro	priate.
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As per client's provided information, the equipment reference no. of the calibrated High Volume Sampler has been

re-assigned from EL222 to HVS010 with respect to the update in quality management system.

Calibrated by

Date

Jackey MA 23-Feb-17

Checked by

Date

Pauline Wong 23-Feb-17



Location	:	CMA5b	Calibration Date	:	21-Apr-17
Equipment no.	:	HVS010	Calibration Due Date	: -	21-Jun-17

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition						
Temperature, T _a	299	Kelvin	Pressure, P _a	1008	mmHg	

Orifice Transfer Standard Information							
Equipment No.	Ori002	Slope, m _c	2.10714	Intercept, bc	-0.05158		
Last Calibration Date	20-May-16	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$					
Next Calibration Date	20-May-17		= <i>m</i>	$a_c \times Q_{std} + b_c$			

	Calibration of TSP								
Calibration	Mar	nometer Re	eading	Q _{std}	Continuous Flow	IC			
Point	н (inches of v	water)	(m ³ / min.)	Recorder, W	(W(P _a /1013.3x298/T _a) ^{1/2} /35.31)			
	(up)	(down)	(difference)	X-axis	(CFM)	Y-axis			
1	1.4	1.4	2.8	0.8152	38	37.8371			
2	2.1	2.1	4.2	0.9929	44	43.8113			
3	3.3	3.3	6.6	1.2385	52	51.7770			
4	4.3	4.3	8.6	1.4102	57	56.7556			
5	5.5	5.5	11.0	1.5917	62	61.7341			
y Linear Regression of \	on X		•		•	•			
	Slope, m	=	30.8	3725 Ir	ntercept, b = 1	3.0364			

Slope, m = 30.8725 Intercept, b = 13.0364

Correlation Coefficient* = 0.9991

Calibration Accepted = Yes/No**

**	Delete	as	ар	pro	priate.
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Remarks: As per client's provided information, the equipment reference no. of the calibrated High Volume Sampler has been

re-assigned from EL222 to HVS010 with respect to the update in quality management system.

 Calibrated by
 :
 Jackey MA
 Checked by
 :
 Pauline Wong

 Date
 :
 21-Apr-17
 Date
 :
 21-Apr-17

 $[\]ensuremath{^*}$ if Correlation Coefficient < 0.990, check and recalibration again.



Location	:	MA1e	Calibration Date	:	23-Feb-17
Equipment no.	:	HVS007	Calibration Due Date	:	23-Apr-17

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition						
Temperature, T _a	291	Kelvin Pressure, Pa	1017	mmHg		

Orifice Transfer Standard Information							
Equipment No.	Ori002	Slope, m _c	2.10714	Intercept, bc	-0.05158		
Last Calibration Date	20-May-16		$(HxP_a/$	1013.3 x 298 / T _a)	1/2		
Next Calibration Date	20-May-17		= <i>m</i>	$_{c}$ \times Q_{std} + b_{c}			

Calibration of TSP								
Calibration	Mai	nometer R	eading	Q _{std}	Continuous Flow	IC		
Point	н	inches of	water)	(m ³ / min.)	Recorder, W	(W(P _a /1013.3x298/T _a) ^{1/2} /35.31)		
	(up)	(down)	(difference)	X-axis	(CFM)	Y-axis		
1	1.5	1.5	3.0	0.8578	28	28.3865		
2	2.5	2.5	5.0	1.1003	38	38.5245		
3	4.0	4.0	8.0	1.3853	44	44.6073		
4	5.2	5.2	10.4	1.5761	52	52.7177		
5	6.6	6.6	13.2	1.7725	60	60.8281		
By Linear Regression of Y	on X							
	Slope, m	=	34.05	568 In	tercept, b = -	0.5688		
Correlation C	oefficient*	=	0.99	37				
Calibration	Accepted	=	Yes/A	l o **				

*	if	Correlation	Coefficient	< 0 990	check and	recalibration	anain
	•	Correlation	COGINCIENT	~ U.33U.	CHECK and	recampiation	auaiii.

Remarks : As per client's provided information, the equipment reference no. of the calibrated High Volume Sampler has been re-assigned from EL455 to HVS007 with respect to the update in quality management system.

 Calibrated by Date
 : Jackey MA
 Checked by Date
 : Pauline Wong

 Date
 : 23-Feb-17
 23-Feb-17



Location	:	MA1e	Calibration Date	:	21-Apr-17
Equipment no.	:	HVS007	Calibration Due Date	: -	21-Jun-17

CALIBRATION OF CONTINUOUS FLOW RECORDER

		Ambient Co	ondition		
Temperature, T _a	299	Kelvin	Pressure, P _a	1008	mmHg

Orifice Transfer Standard Information							
Equipment No.	Ori002	Slope, m _c	2.10714	Intercept, bc	-0.05158		
Last Calibration Date	20-May-16		(HxP _a /	1013.3 x 298 / T _a) 1/2		
Next Calibration Date	20-May-17		= <i>m</i>	$_{c}$ \times Q_{std} + b_{c}			

	Calibration of TSP								
Calibration	Mai	nometer Re	eading	Q _{std}	Continuous Flow	IC			
Point	Н (inches of v	water)	(m ³ / min.)	Recorder, W	(W(P _a /1013.3x298/T _a) ^{1/2} /35.31)			
	(up)	(down)	(difference)	X-axis	(CFM)	Y-axis			
1	1.5	1.5	3.0	0.8429	29	28.8757			
2	2.3	2.3	4.6	1.0380	38	37.8371			
3	3.6	3.6	7.2	1.2924	48	47.7942			
4	4.5	4.5	9.0	1.4421	56	55.7599			
5	5.1	5.1	10.2	1.5337	64	63.7256			
By Linear Regression of Y	on X								
	Slope, m	=	48.08	836 In	tercept, b = -1	2.3359			
Correlation Coefficient* =			0.99	25	-				
Calibration	Accepted	=	Yes/	\o **					

 if Correlation Coefficient < 0.990, check and recalibration a 	gain.
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As per client's provided information, the equipment reference no. of the calibrated High Volume Sampler has been Remarks:

re-assigned from EL455 to HVS007 with respect to the update in quality management system.

Pauline Wong Calibrated by Checked by Jackey MA 21-Apr-17 21-Apr-17 Date Date



Location	:	MA1w	Calibration Date	:	23-Feb-17
Equipment no.	:	HVS008	Calibration Due Date	: _	23-Apr-17

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition						
Temperature, T _a	291	Kelvin Pressure, Pa	1017	mmHg		

Orifice Transfer Standard Information					
Equipment No.	Ori002	Slope, m _c	2.10714	Intercept, bc	-0.05158
Last Calibration Date	20-May-16		$(HxP_a/$	1013.3 x 298 / T _a)	1/2
Next Calibration Date	20-May-17		= <i>m</i>	$_{c}$ \times Q $_{std}$ + b $_{c}$	

			(Calibration of TSP		
Calibration	Mai	nometer R	eading	Q _{std}	Continuous Flow	IC
Point	н	inches of	water)	(m ³ / min.)	Recorder, W	(W(P _a /1013.3x298/T _a) ^{1/2} /35.31)
	(up)	(down)	(difference)	X-axis	(CFM)	Y-axis
1	1.5	1.5	3.0	0.8578	20	20.2760
2	2.5	2.5	5.0	1.1003	28	28.3865
3	3.9	3.9	7.8	1.3682	37	37.5107
4	5.1	5.1	10.2	1.5611	43	43.5935
5	6.3	6.3	12.6	1.7323	50	50.6901
By Linear Regression of Y	on X					
	Slope, m	=	34.32	297 In	tercept, b =	9.3592
Correlation C	oefficient*	=	0.99	93	-	
Calibration	Accepted	=	Yes/A	lo **		

* if Correlation C	oefficient < 0.99), check and	recalibration again.
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Remarks: As per client's provided information, the equipment reference no. of the calibrated High Volume Sampler has been

re-assigned from EL080 to HVS008 with respect to the update in quality management system.

Checked by Pauline Wong Calibrated by Jackey MA Date 23-Feb-17 Date 23-Feb-17



Location	:	MA1w	Calibration Date	:	21-Apr-17
Equipment no.	:	HVS008	Calibration Due Date	:	21-Jun-17

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition					
Temperature, T _a	299	Kelvin	Pressure, P _a	1008	mmHg

Orifice Transfer Standard Information					
Equipment No.	Ori002	Slope, m _c	2.10714	Intercept, bc	-0.05158
Last Calibration Date	20-May-16		(HxP _a /1	013.3 x 298 / T	a) 1/2
Next Calibration Date	20-May-17		= <i>m</i> _c	$x Q_{std} + b_c$	

			(Calibration of TSP		
Calibration	Mai	nometer Ro	eading	Q _{std}	Continuous Flow	IC
Point	Н (inches of	water)	(m ³ / min.)	Recorder, W	(W(P _a /1013.3x298/T _a) ^{1/2} /35.31)
	(up)	(down)	(difference)	X-axis	(CFM)	Y-axis
1	1.5	1.5	3.0	0.8429	20	19.9142
2	2.4	2.4	4.8	1.0598	28	27.8799
3	3.8	3.8	7.6	1.3272	38	37.8371
4	5.0	5.0	10.0	1.5188	44	43.8113
5	6.4	6.4	12.8	1.7151	50	49.7856
By Linear Regression of Y	on X					
	Slope, m	=	34.43	344 In	tercept, b =	8.6696
Correlation C	oefficient*	=	0.99	89		
Calibration	Accepted	=	Yes/P	10 **		

* if Correlation Coefficient < 0.990, check a	and recalibration again.
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As per client's provided information, the equipment reference no. of the calibrated High Volume Sampler has been re-assigned from EL080 to HVS008 with respect to the update in quality management system. Remarks:

Pauline Wong Calibrated by Jackey MA Checked by 21-Apr-17 Date 21-Apr-17 Date