CONABEARE ACOUSTICS

ACOUSTIC REPORT

Ref No: CS 6780

Getty Images
101 Bayham Street
London NW1 0AG

17th March 2010

Prepared By:

John E Redknap MBA, MIOA, MCMI

Checked By:

David Whymark - Director

Client:

Callisia Ltd
443 Stroude Road
Virginia Water
Surrey
GU25 4BU

Conabeare Acoustics Limited
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FORWARD

As part of the refurbishment of the property it is proposed to introduce new air conditioning plant on the roof of the building. Conabeare Acoustics Limited has been commissioned to undertake an Environmental Sound Survey of the area prior to the installation and commissioning of the proposed plant.

The results of the survey will establish the Background Sound Level to enable checks to be made on the likely impact that noise from the proposed plant will have on that level.

SUMMARY

The lowest measured Background Sound Levels $L_{A90.15MIN}$ were as follows:

$L_{A90\text{-}15min}$	53.1dB(A) between 07:00 hours to 19:00 hours (Day Time)
$L_{A90\text{-}15min}$	51.1dB(A) between 19:00 hours to 00:00 hours (Evening)
$L_{A90\text{-}15min}$	45.3dB(A) between 00:00 hours to 07:00 hours (Night Time)

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1. Author

John E Redknap MBA, MIOA, MCMI

The author has been practising in noise control engineering since 1985. He has gained a wide range of experience over this period and is employed as a Sales Engineer for **Conabeare Acoustics Ltd.**

2. Client

The survey and report has been undertaken on behalf of:

Callisia Ltd
443 Stroude Road
Virginia Water
Surrey
GU25 4BU

3. Introduction

It is proposed to introduce new air conditioning plant on the roof of the property as part of a refurbishment programme to the building services equipment. Conabeare Acoustics Limited has been commissioned to undertake an Environmental Sound Survey of the area prior to the installation and commissioning of the proposed new plant.

The results of the Environmental Sound Survey have been used as a datum so that acoustic calculations can be undertaken to determine the likely impact of the proposed new plant on the nearest sound sensitive residential location.

4. Noise Principles

The Environmental Sound Survey has been carried out in accordance with the principles of BS7445-1 (2003) to establish the existing Background Sound Levels. The Background Sound Level measured is in terms of A-weighted sound pressure level L_{A90} with a time interval of 15 minutes.

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5. The Site

The site is located at 101 Bayham Street, London, NW1 0AG. This area of Camden contains a combination of residential and commercial properties. The general ambient noise level in the area is dominated by traffic noise from the very busy Bayham Street together with some mechanical noise from existing plant positioned on various roof locations around the site.

6. Measurement Methodology

A SVAN 949 (Precision) Environmental Sound Level Analyser, fitted with an Electret Microphone was set up on the roof with the microphone mounted on a tripod which was secured to the existing roof top handrail – see attached location photograph.

The survey was carried out from 09:48 hours on Wednesday 10th March 2010, until 09:20 hours on Thursday 11th March 2010.

The Analyser was programmed to produce the following indices:

$L_{AEQ\text{-}15min}$, $L_{A90\text{-}15min}$, $L_{A10\text{-}15min}$

Attached for your reference is a Glossary of these terms.

The analyser was checked for calibration before the survey commenced and at the end of survey with a CEL 284/2 Class 1 calibrator with no measurable deviation.

The weather during the survey period was generally dry with cloudy skies.

Having reviewed the results of our survey, it is our opinion that the weather experienced over the survey period has not had any detrimental effect on the recorded readings and therefore on our recommendations.

7. Planning Noise Requirements

It is understood that the current policy of the London Borough of Camden is that noise from new mechanical plant should be at least 5dBA below the Background Sound level (L_{A90}) measured at 1 metre from the nearest effected residential property. Allowance should also be made for any tonal noise emanating from the proposed plant.

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8. Assessment

The objective of any specification limiting sound should be to ensure that sound emissions from the proposed plant should not materially add to the existing ambient noise climate when measured 1m from the nearest effected property window.

The level at which the design target should be set would be specified by the London Borough of Camden. We understand they specify that noise from new mechanical plant should be at least 5dBA below the Background Sound level (L_{A90}) measured at 1 metre from the nearest effected residential property.

The lowest measured Background Sound Levels $L_{A90\text{-}15min}$ were as follows:

$L_{A90\text{-}15min}$ 53.1dB(A) between 07:00 hours to 19:00 hours (Day Time)
$L_{A90\text{-}15min}$ 51.1dB(A) between 19:00 hours to 00:00 hours (Evening)
$L_{A90\text{-}15min}$ 45.3dB(A) between 00:00 hours to 07:00 hours (Night Time)

The combined sound level of all new plant when measured at the nearest sound sensitive window should therefore not exceed:

$L_{A90\text{-}15min}$ 48dB(A) between 07:00 hours to 19:00 hours (Day Time)
$L_{A90\text{-}15min}$ 46dB(A) between 19:00 hours to 00:00 hours (Evening)
$L_{A90\text{-}15min}$ 40dB(A) between 00:00 hours to 07:00 hours (Night Time)

The above limits should be achieved with all plant operating normally, any plant exhibiting characteristics which are tonal or intermittent in nature should be designed to criteria 5dB(A) more stringent than those levels shown above.

From the frequency analysis the plant does not appear to exhibit any distinct tonal characteristics, therefore the additional 5dB(A) penalty is not applicable for this feature.

Allowances should be made for the additional effect of multiple noise sources – see our calculation sheet.

We have been advised that for the purposes of this report we are to consider the air conditioning plant to only operate between 07:00 to 19:00hours. Consequently, the 48dB(A) criteria has been adopted as the design target.

For the purposes of this report we have considered the nearest noise sensitive window to be at the first floor level in the terraced housing opposite the site in Bayham Street – see location photograph – and this position is termed Assessment Location 'A'.

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Assessment Location A

The nearest residential windows are at the first floor level of the terraced housing opposite the main entrance to building. This is referenced Assessment Location A and is marked accordingly on the attached calculation sheets and location plan.

The centre of the nearest window is estimated to be at a distance of 30m away from the façade of the building, with an additional 7m to the centre of the plant on the roof.

Our "acoustic calculation sheet One" illustrates that at 1 metre from the façade of nearest noise sensitive window, the Specific Sound Level would be 42dB(A) for the eight condensers.

Our "acoustic calculation sheet Two" illustrates that at 1 metre from the façade of nearest noise sensitive window, the Specific Sound Level would be 23dB(A) for the Air Handling Unit.

The combined total figure for both of these calculations is 42dB(A) as illustrated on our "Summary A calculation sheet". This figure is below the proposed 07:00 to 19:00hours design target of 48dB(A) and therefore meets the planning requirements of the local authority.

In our opinion all of the above would generally be acceptable to the local authority for this area, but all design targets should as a matter of course should be verified with the local Environmental Health or Planning Departments.

9. Sound Level Measurements

The statistical readings obtained during the survey are attached to this report and are presented in both graphical and tabular form.

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10. Glossary of Terms

L_{A90}	The sound pressure level in dB(A) which is exceeded for 90% of the time and is taken to be the effective lowest background sound level for the period by such methods of sound rating as that recommended in British Standard 4142. It will also be used as a basis for selecting limiting sound levels from new plant by Local Planning Authorities when setting Planning Consent Conditions.
L_{eq}	The "equivalent continuous sound level" for the measuring period, defined as the level in dB(A) which, if held constant over the measuring period, would produce the same amount of sound energy as does the actual varying ambient sound level. It is a measure of the amount of sound energy affecting the site from sources other than new plant or operations.
L_{A10}	The sound level exceeded for 10% of the time over the sample period. Originally used as a measure of subjective reaction to traffic noise in particular, it can also be taken as an indication of the practical maximum sound level that the building envelope will have to protect against.
dB(A)	Describes measured on a sound level meter incorporating a frequency weighting (A weighting) which differentiates between sounds of different frequency (pitch) in a similar way to the human ear. Measurements in dB(A) broadly agree with people's assessment of loudness. A change of 3dB(A) is the minimum perceptible under normal conditions, and a change of 10dB(A) corresponds roughly to halving or doubling the loudness of a sound.

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11. Location Photograph's

Equipment setup on roof - looking away from Bayham St

Houses opposite the site in Bayham St

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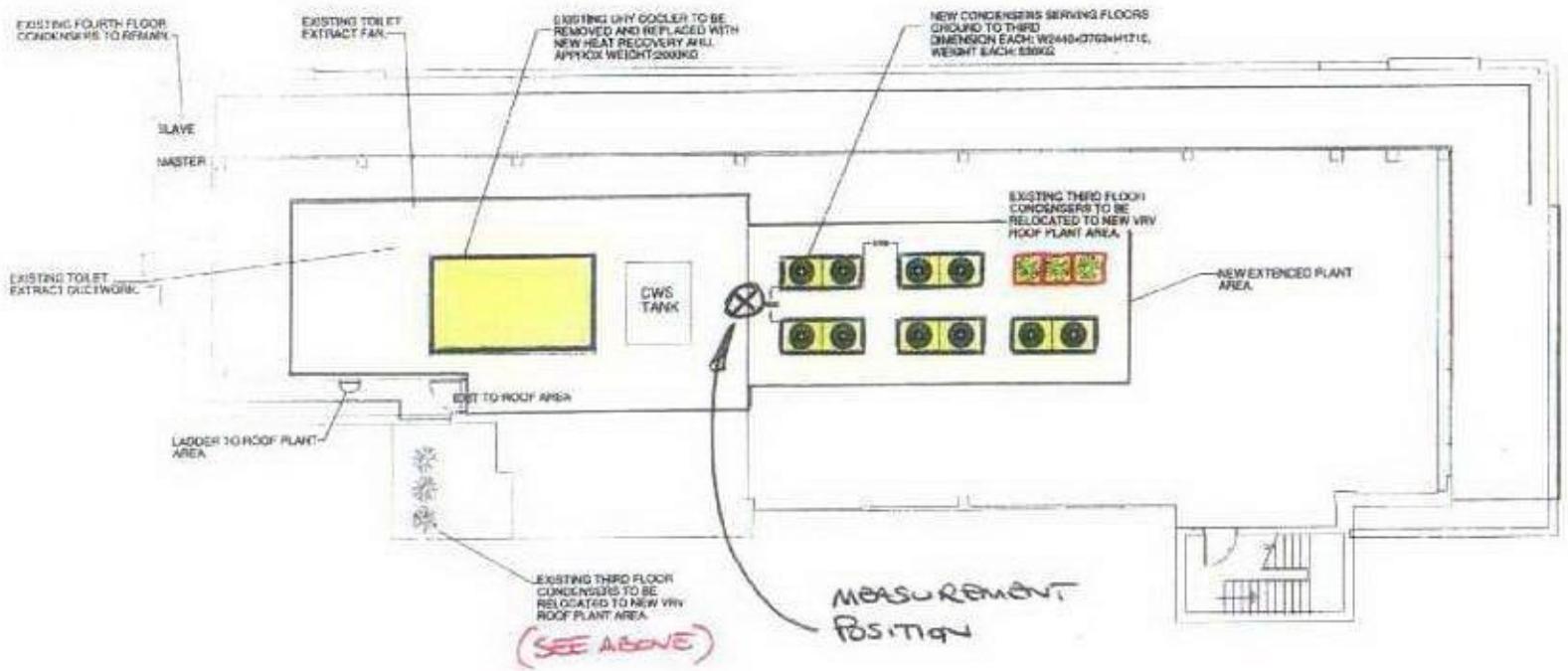
RESIDENTIAL PROPERTIES LOCATION 'A'

BAYHAM STREET



SCHEMATIC ROOF LAYOUT

CONABEARE ACOUSTICS

CONABEARE ACOUSTICS LTD CALCULATION SHEET - Summary A

CLIENT: **Callisia Ltd**	PROJECT: **101 Bayham St London NW1 0AG**	
	DATE: **17th March 2010**	
Roof Top Plant	Conabeare Acoustics ref: **CS6780**	
	Octave Band Centre Frequency (Hz)	Operating
Description	**dB(A)**	Hours
LOCATION 'A' ASSESSMENT		
Combined Total for all Eight Condensers	**42**	07:00 to 19:00
AHU Ecovent NRG Model 9 55Hz	**23**	07:00 to 19:00
Combined Total	**42**	
07:00 to 19:00 Design Target @ nearest residential window = 48		

Notes

Calculations are to the nearest residential windows (top floor) in Bayham Street

Operating hours - office hours (assumed to be 07:00 to 19:00hours)

No allowance has been made for any noise/vibration transfer through the structure

CONABEARE ACOUSTICS LTD CALCULATION SHEET - One

CLIENT: **Callisia Ltd**	PROJECT: **101 Bayham Street London NW1 0AG**								
	DATE: **17th March 2010**								
Roof Top Plant - Condensers	Conabeare Acoustics ref: **CS6780**								
	Octave Band Centre Frequency (Hz)								
Description	**63**	**125**	**250**	**500**	**1K**	**2K**	**4K**	**8K**	**dB(A)**
LOCATION 'A' ASSESSMENT									
Manuf. data - Daikin REYQ16P8 SPL @ 1m	**67**	**63**	**63**	**60**	**59**	**54**	**46**	**44**	**63**
Five Units	7	7	7	7	7	7	7	7	
(A) Total for Five Units	**74**	**70**	**70**	**67**	**66**	**61**	**53**	**51**	
Manuf. data - Daikin REMQ10P8 SPL @ 1m	**61**	**63**	**62**	**57**	**52**	**45**	**38**	**32**	**59**
Three Units	5	5	5	5	5	5	5	5	
(B) Total for Three Units	**66**	**68**	**67**	**62**	**57**	**50**	**43**	**37**	
Combined Total for all Eight Units (A + B)	**75**	**72**	**72**	**68**	**67**	**61**	**53**	**51**	**71**
Additional Surface Reflections None	0	0	0	0	0	0	0	0	
Façade Correction	3	3	3	3	3	3	3	3	
Additional distance 1m to 37m	-26	-26	-26	-26	-26	-26	-26	-26	
Total without acoustic screening	52	49	49	45	44	38	30	28	**48**
Acoustic screening via building	-5	-6	-6	-6	-6	-7	-8	-10	
Total with acoustic screening	**47**	**43**	**43**	**39**	**38**	**31**	**22**	**18**	**42**
	Design Target @ nearest residential window =								**48**

Notes

Calculations are to the nearest residential windows (top floor) in Bayham Street
Operating hours - office hours (assumed to be 07:00 to 19:00hours)
No allowance has been made for any noise/vibration transfer through the structure

CONABEARE ACOUSTICS LTD CALCULATION SHEET - Two

CLIENT: **Callisia Ltd**	PROJECT: **101 Bayham Street London NW1 0AG**								
	DATE: **17th March 2010**								
Roof Top Plant - AHU	Conabeare Acoustics ref: **CS6780**								
	Octave Band Centre Frequency (Hz)								
Description	**63**	**125**	**250**	**500**	**1K**	**2K**	**4K**	**8K**	**dB(A)**
LOCATION 'A' ASSESSMENT									
Manuf.data Ecovent NRG Model 9 55Hz SWL	**79**	**83**	**87**	**87**	**83**	**79**	**74**	**70**	
Silencer NRG/VA/900/1500/P Manuf.data	-8	-15	-26	-43	-50	-50	-45	-32	
(A) Attenuated Level	**71**	**68**	**61**	**44**	**33**	**29**	**29**	**38**	
Manuf.data Ecovent NRG Model 9 55Hz SWL	**79**	**83**	**87**	**87**	**83**	**79**	**74**	**70**	
Casing Attenuation - Manuf.data	-4	-8	-16	-29	-32	-30	-36	-34	
(B) Breakout Noise	**75**	**75**	**71**	**58**	**51**	**49**	**38**	**36**	
Combined Total (A + B) SWL	**76**	**76**	**71**	**58**	**51**	**49**	**39**	**40**	
Additional Surface Reflections One	3	3	3	3	3	3	3	3	
Façade Correction	3	3	3	3	3	3	3	3	
Distance to 37m	-42	-42	-42	-42	-42	-42	-42	-42	
Total without acoustic screening	40	40	35	22	15	13	3	4	**29**
Acoustic screening via building	-6	-6	-6	-7	-7	-9	-10	-12	
Total with acoustic screening	**34**	**34**	**29**	**15**	**8**	**4**	**-7**	**-8**	**23**
	Design Target @ nearest residential window =								**48**

Notes

Calculations are to the nearest residential windows (top floor) in Bayham Street
Operating hours - office hours (assumed to be 07:00 to 19:00hours)
No allowance has been made for any noise/vibration transfer through the structure

Header information for the file[1] @CAL2810

Device type ..... SVAN 949
Serial No. 8572
Internal software version ... 5.13
File system version 5.12

Original file name ..... @CAL2810
Measurement hour ..... 09:48'40
Measurement day 10/03/10
Device function ..... OCTAVE 1/1

Title text:

Input ..... Microphone
Mic. polarization ..... 0 V
Mic. field correction ..... FREE
Mic. outdoor filter ..... ON
Compensation filter ..... OFF
Measurement range ..... 105 dB
Leq integration ..... Linear
Trig. mode ..... OFF
Start delay ..... 1 s
Integration time def. ..... 15 m
Repetition cycle ..... Infinity
Number of spectra 1
Octave 1/1 lines ..... 15+3
Octave 1/1 filter ..... Lin
Octave 1/1 in buffer ..... OFF
Number of histograms ..... 3+18
Calibration type ..... Measuremer
Calibration time ..... 09:42'16
Calibration date 10/03/10
Rotation measurement ..... OFF

Profile: #1

Weighting filter ..... A
Detector type ..... Fast
Buffer contents definition .. None
Calibration factor ..... 3.3 dB

Main_results:

File	Date	Start	Filter	Detect	Time	units	Leq (A)	L1 dB(A)	L10 dB(A)	L90 dB(A)
@CAL2810	10/03/10	09:48'40	A	Fast	00:15'00	dB	60.6	70.6	62.5	55.4
@CAL2811	10/03/10	10:03'40	A	Fast	00:15'00	dB	57.8	62.9	59.9	54.7
@CAL2812	10/03/10	10:18'40	A	Fast	00:15'00	dB	57.3	63.3	58.8	55.0
@CAL2813	10/03/10	10:33'40	A	Fast	00:15'00	dB	58.5	67.0	61.5	55.0
@CAL2814	10/03/10	10:48'40	A	Fast	00:15'00	dB	55.5	59.4	56.9	53.5
@CAL2815	10/03/10	11:03'40	A	Fast	00:15'00	dB	59.1	66.5	59.9	54.2
@CAL2816	10/03/10	11:18'40	A	Fast	00:15'00	dB	57.0	65.4	59.1	53.7
@CAL2817	10/03/10	11:33'40	A	Fast	00:15'00	dB	56.9	63.4	58.9	54.2
@CAL2818	10/03/10	11:48'40	A	Fast	00:15'00	dB	56.9	63.3	58.8	54.2
@CAL2819	10/03/10	12:03'40	A	Fast	00:15'00	dB	56.8	62.5	58.7	54.3
@CAL2820	10/03/10	12:18'40	A	Fast	00:15'00	dB	58.9	69.4	59.7	54.7
@CAL2821	10/03/10	12:33'40	A	Fast	00:15'00	dB	63.2	73.4	65.2	55.5
@CAL2822	10/03/10	12:48'40	A	Fast	00:15'00	dB	58.9	67.4	61.8	54.6
@CAL2823	10/03/10	13:03'40	A	Fast	00:15'00	dB	57.4	63.1	59.4	54.7
@CAL2824	10/03/10	13:18'40	A	Fast	00:15'00	dB	58.2	66.7	60.2	54.5
@CAL2825	10/03/10	13:33'40	A	Fast	00:15'00	dB	58.3	67.1	60.4	54.8
@CAL2826	10/03/10	13:48'40	A	Fast	00:15'00	dB	57.6	65.3	59.8	54.4
@CAL2827	10/03/10	14:03'40	A	Fast	00:15'00	dB	59.6	71.0	60.0	54.7
@CAL2828	10/03/10	14:18'40	A	Fast	00:15'00	dB	57.5	63.8	59.6	54.4
@CAL2829	10/03/10	14:33'40	A	Fast	00:15'00	dB	60.1	70.5	62.9	54.4
@CAL2830	10/03/10	14:48'40	A	Fast	00:15'00	dB	57.2	63.3	59.4	54.4
@CAL2831	10/03/10	15:03'40	A	Fast	00:15'00	dB	57.1	64.3	59.3	54.2
@CAL2832	10/03/10	15:18'40	A	Fast	00:15'00	dB	59.0	69.5	60.6	54.3
@CAL2833	10/03/10	15:33'40	A	Fast	00:15'00	dB	56.8	63.6	58.5	54.3
@CAL2834	10/03/10	15:48'40	A	Fast	00:15'00	dB	59.8	69.2	61.7	54.8
@CAL2835	10/03/10	16:03'40	A	Fast	00:15'00	dB	57.1	63.7	58.6	54.5
@CAL2836	10/03/10	16:18'40	A	Fast	00:15'00	dB	57.9	66.9	59.4	54.7
@CAL2837	10/03/10	16:33'40	A	Fast	00:15'00	dB	60.8	70.9	62.7	54.9

Main results:

File	Date	Start	Filter	Detect	Time	units	Leq (A)	L1 dB(A)	L10 dB(A)	L90 dB(A)
@CAL2838	10/03/10	16:48'40	A	Fast	00:15'00	dB	57.2	63.2	59.4	54.6
@CAL2839	10/03/10	17:03'40	A	Fast	00:15'00	dB	59.6	70.4	61.4	54.3
@CAL2840	10/03/10	17:18'40	A	Fast	00:15'00	dB	57.2	63.3	58.9	54.7
@CAL2841	10/03/10	17:33'40	A	Fast	00:15'00	dB	56.2	63.4	57.7	53.8
@CAL2842	10/03/10	17:48'40	A	Fast	00:15'00	dB	58.1	68.1	59.3	54.3
@CAL2843	10/03/10	18:03'40	A	Fast	00:15'00	dB	56.3	61.7	58.1	54.0
@CAL2844	10/03/10	18:18'40	A	Fast	00:15'00	dB	55.8	60.3	57.7	53.6
@CAL2845	10/03/10	18:33'40	A	Fast	00:15'00	dB	55.8	61.0	57.4	53.6
@CAL2846	10/03/10	18:48'40	A	Fast	00:15'00	dB	55.2	60.1	56.8	53.1
@CAL2847	10/03/10	19:03'40	A	Fast	00:15'00	dB	56.8	62.9	59.0	54.0
@CAL2848	10/03/10	19:18'40	A	Fast	00:15'00	dB	59.5	68.2	62.4	54.5
@CAL2849	10/03/10	19:33'40	A	Fast	00:15'00	dB	56.7	63.2	58.4	53.5
@CAL2850	10/03/10	19:48'40	A	Fast	00:15'00	dB	58.3	69.1	59.8	52.9
@CAL2851	10/03/10	20:03'40	A	Fast	00:15'00	dB	56.2	63.5	57.9	53.1
@CAL2852	10/03/10	20:18'40	A	Fast	00:15'00	dB	57.2	64.8	60.0	52.9
@CAL2853	10/03/10	20:33'40	A	Fast	00:15'00	dB	58.5	68.3	60.7	53.5
@CAL2854	10/03/10	20:48'40	A	Fast	00:15'00	dB	57.6	65.4	60.6	53.2
@CAL2855	10/03/10	21:03'40	A	Fast	00:15'00	dB	56.9	65.7	58.7	53.0
@CAL2856	10/03/10	21:18'40	A	Fast	00:15'00	dB	56.9	64.3	59.8	53.0
@CAL2857	10/03/10	21:33'40	A	Fast	00:15'00	dB	55.5	62.4	57.4	52.4
@CAL2858	10/03/10	21:48'40	A	Fast	00:15'00	dB	55.8	63.5	57.1	52.4
@CAL2859	10/03/10	22:03'40	A	Fast	00:15'00	dB	56.4	64.9	58.7	52.3
@CAL2860	10/03/10	22:18'40	A	Fast	00:15'00	dB	56.4	65.2	58.8	52.3
@CAL2861	10/03/10	22:33'40	A	Fast	00:15'00	dB	56.4	64.5	58.6	52.5
@CAL2862	10/03/10	22:48'40	A	Fast	00:15'00	dB	56.1	64.5	58.3	52.1
@CAL2863	10/03/10	23:03'40	A	Fast	00:15'00	dB	55.3	62.9	57.7	51.5
@CAL2864	10/03/10	23:18'40	A	Fast	00:15'00	dB	54.6	62.0	56.5	51.4
@CAL2865	10/03/10	23:33'40	A	Fast	00:15'00	dB	54.8	62.6	57.1	51.1
@CAL2866	10/03/10	23:48'40	A	Fast	00:15'00	dB	54.1	60.7	56.3	51.1
@CAL2867	11/03/10	00:03'40	A	Fast	00:15'00	dB	55.3	63.9	57.8	51.2
@CAL2868	11/03/10	00:18'40	A	Fast	00:15'00	dB	54.6	62.3	57.3	51.0
@CAL2869	11/03/10	00:33'40	A	Fast	00:15'00	dB	53.7	61.5	56.0	50.1
@CAL2870	11/03/10	00:48'40	A	Fast	00:15'00	dB	55.0	64.3	57.1	50.4
@CAL2871	11/03/10	01:03'38	A	Fast	00:15'00	dB	56.3	66.0	59.2	50.2
@CAL2872	11/03/10	01:18'38	A	Fast	00:15'00	dB	52.8	59.7	54.9	49.7
@CAL2873	11/03/10	01:33'38	A	Fast	00:15'00	dB	54.4	64.3	56.4	49.4
@CAL2874	11/03/10	01:48'40	A	Fast	00:15'00	dB	54.0	63.7	55.9	49.2
@CAL2875	11/03/10	02:03'40	A	Fast	00:15'00	dB	53.0	60.9	55.8	49.0
@CAL2876	11/03/10	02:18'38	A	Fast	00:15'00	dB	52.1	60.4	53.9	48.6
@CAL2877	11/03/10	02:33'38	A	Fast	00:15'00	dB	53.1	62.5	55.6	46.7
@CAL2878	11/03/10	02:48'38	A	Fast	00:15'00	dB	50.1	57.7	51.7	45.9
@CAL2879	11/03/10	03:03'38	A	Fast	00:15'00	dB	50.6	57.8	52.9	46.3
@CAL2880	11/03/10	03:18'38	A	Fast	00:15'00	dB	51.0	61.2	52.6	45.5
@CAL2881	11/03/10	03:33'38	A	Fast	00:15'00	dB	50.4	58.7	52.1	45.4
@CAL2882	11/03/10	03:48'38	A	Fast	00:15'00	dB	50.5	58.1	53.0	46.0
@CAL2883	11/03/10	04:03'38	A	Fast	00:15'00	dB	50.7	58.2	52.9	46.5
@CAL2884	11/03/10	04:18'38	A	Fast	00:15'00	dB	54.2	66.9	54.0	45.6
@CAL2885	11/03/10	04:33'38	A	Fast	00:15'00	dB	49.7	55.4	52.2	46.2
@CAL2886	11/03/10	04:48'38	A	Fast	00:15'00	dB	49.4	54.5	51.8	45.3
@CAL2887	11/03/10	05:03'38	A	Fast	00:15'00	dB	52.1	61.6	53.9	47.3
@CAL2888	11/03/10	05:18'38	A	Fast	00:15'00	dB	52.5	57.6	54.1	50.2
@CAL2889	11/03/10	05:33'38	A	Fast	00:15'00	dB	53.5	57.0	55.3	51.5
@CAL2890	11/03/10	05:48'38	A	Fast	00:15'00	dB	59.5	64.2	62.1	52.8
@CAL2891	11/03/10	06:03'38	A	Fast	00:15'00	dB	60.0	63.7	61.8	57.8
@CAL2892	11/03/10	06:18'38	A	Fast	00:15'00	dB	59.7	63.3	61.6	57.2
@CAL2893	11/03/10	06:33'38	A	Fast	00:15'00	dB	59.2	63.6	61.3	55.0
@CAL2894	11/03/10	06:48'38	A	Fast	00:15'00	dB	58.2	63.9	60.7	54.9
@CAL2895	11/03/10	07:03'38	A	Fast	00:15'00	dB	58.0	62.8	60.5	54.9
@CAL2896	11/03/10	07:18'38	A	Fast	00:15'00	dB	57.1	61.0	58.7	55.0
@CAL2897	11/03/10	07:33'38	A	Fast	00:15'00	dB	56.9	60.7	58.5	55.0
@CAL2898	11/03/10	07:48'38	A	Fast	00:15'00	dB	57.7	65.9	59.2	54.7
@CAL2899	11/03/10	08:03'38	A	Fast	00:15'00	dB	56.5	60.3	57.8	54.3
@CAL2900	11/03/10	08:18'38	A	Fast	00:15'00	dB	57.4	66.1	58.3	54.8
@CAL2901	11/03/10	08:33'38	A	Fast	00:15'00	dB	58.1	65.2	59.7	55.1
@CAL2902	11/03/10	08:48'38	A	Fast	00:15'00	dB	56.8	62.3	58.2	54.8
@CAL2903	11/03/10	09:03'38	A	Fast	00:15'00	dB	56.5	61.9	58.2	54.3
@CAL2904	11/03/10	09:18'38	A	Fast	00:15'00	dB	55.8	58.9	57.1	54.2
@CAL2905	11/03/10	09:33'38	A	Fast	00:15'00	dB	56.7	61.9	57.9	54.3
@CAL2906	11/03/10	09:48'38	A	Fast	00:00'05	dB	55.4	58.5	56.2	54.2

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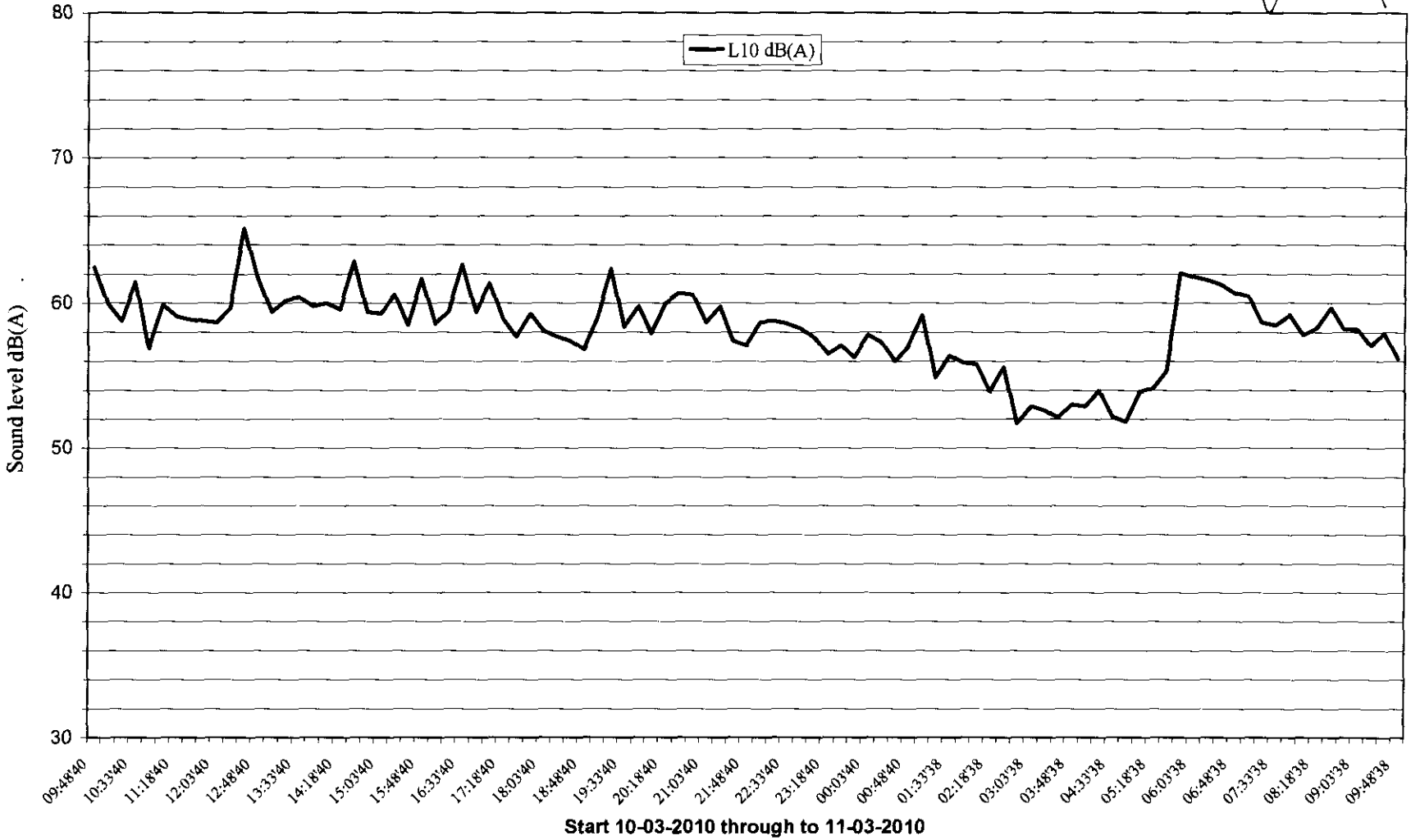

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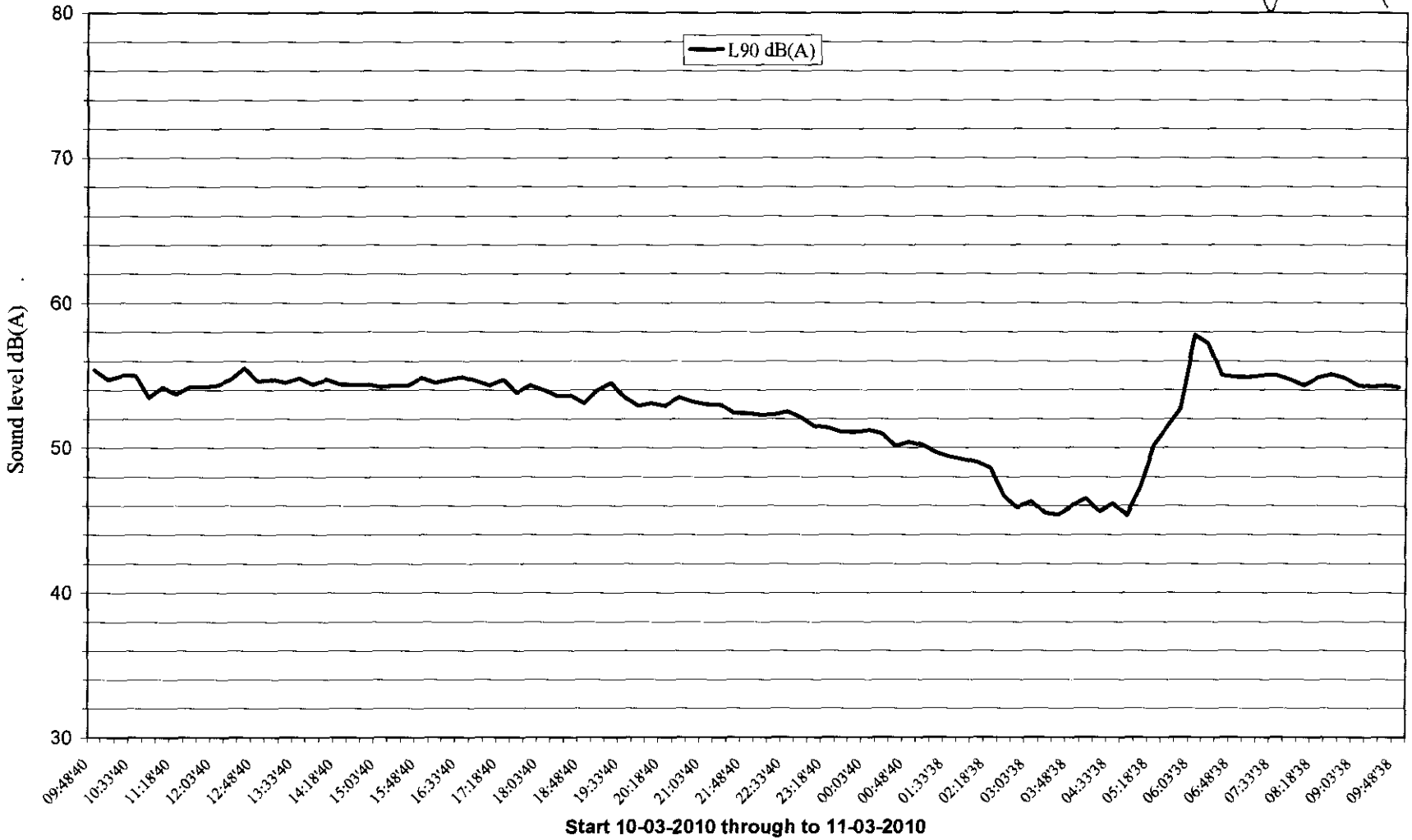

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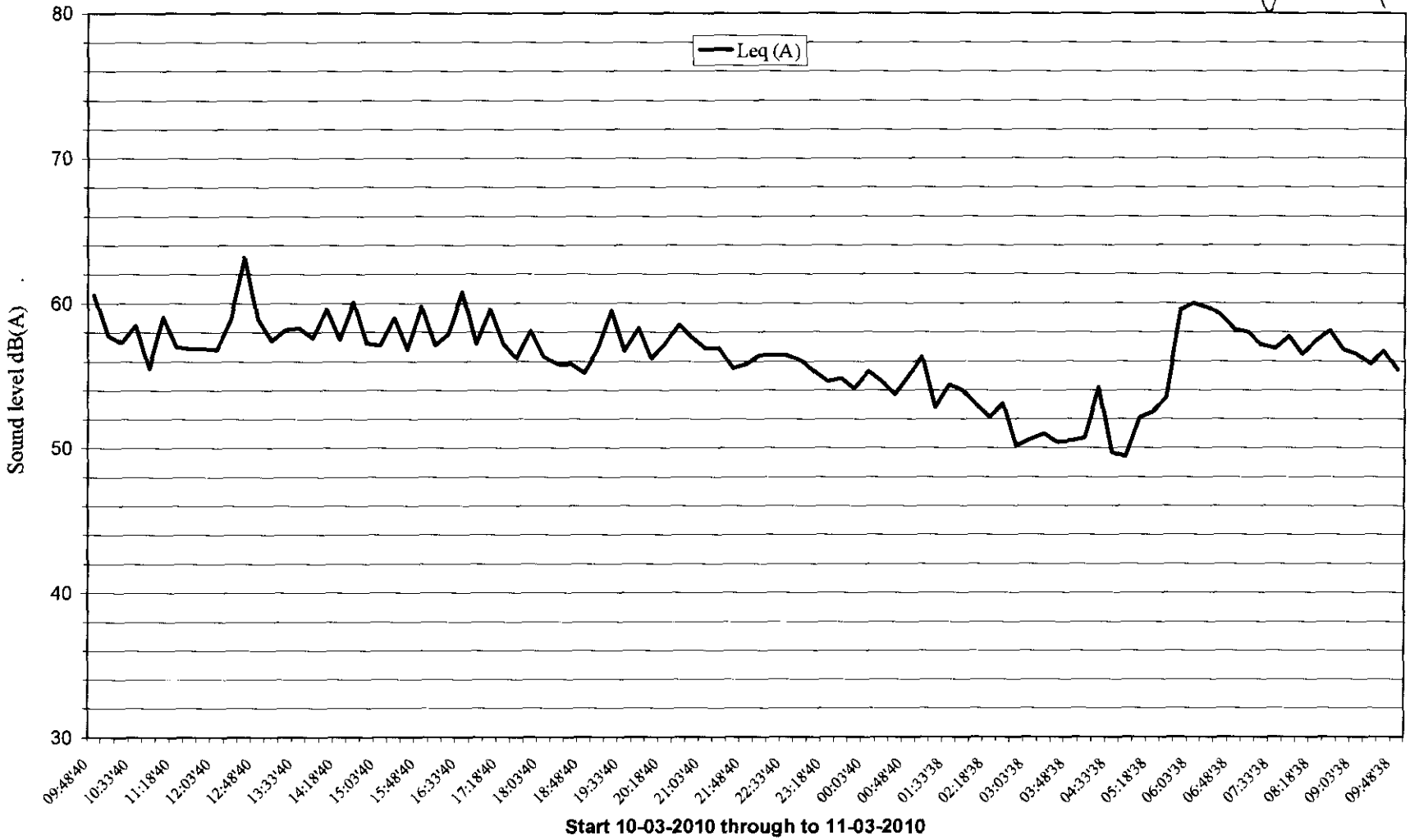

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