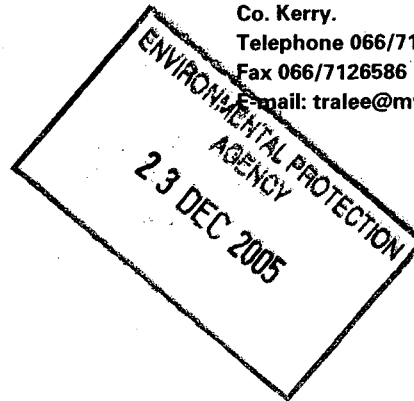




Malachy Walsh and Partners
CONSULTING ENGINEERS
Cork, Tralee and London

Park House,
21 Denny Street,
Tralee,
Co. Kerry.
Telephone 066/7123404
Fax 066/7126586
Email: tralee@mwp.ie



Hg.

Our Ref: 10599

21st December 2005

Ann Bosely
Environmental Protection Agency

Re: **Waste Licence Applications for Listowel Civic Amenity Centre:
Register Number 224-1**

**Waste Licence Application for Dingle Civic Amenity Centre:
Register Number 225-1**

Ann,

Please find enclosed Noise Surveys completed for Listowel and Dingle Civic Amenities.

Waste Licence Applications for both these proposed Civic Amenity Centres were sent to the Agency on 22nd November 2005. A cover letter was enclosed stating that Noise Monitoring surveys would be forwarded at a later date.

The Agency notified receipt of documentation relating to the Waste Licence Applications on 28th November 2005 and assigned the above mentioned register numbers.

Dust and Surface Water Monitoring Surveys will be forwarded upon completion in due course.

If you have any questions please do not hesitate to contact me

Thank you and regards

Helen Griffin

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Directors:

Seamus Kelly BE CEng MIEI R.ConsEI Jack O'Leary ME CEng FIEI R.ConsEI Noel P. Holland Peter O'Donnell BE, CEng, MICE, FIEI
Paul Collins BE CEng MStructE Declan Cremen BE CEng MIEI MStructE

Associate Directors:

Peter Fay BScEng CEng MStructE MIEI Michael J. O'Sullivan B.E. C.Eng., MIEI, MCIWEM

Reg. Offices: Park House, Mahon Technology Park, Bessboro Road, Blackrock, Cork, Ireland. Reg. No. 133445 - Registered in Ireland. Registered Company: Malachy Walsh & Co. Ltd.

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Dixon Brosnan
environmental consultants

project title

Noise survey: Listowel, Co. Kerry

client

Southern Scientific Services Ltd.

client ref.

Caitriona Fox

project ref.

05092

report ref.

05092.1

revision

0

revision date

15.12.05

approved by

Damian Brosnan

issue date

15.12.05

certified only where signed

Dixon Brosnan Environmental Consultants
Dun Eoin, Ballinrea Road, Carrigaline, Co. Cork, Ireland.
Tel: +353 (0)21 4377947 Fax: +353 (0)21 4377947
Carl Dixon: 086 8511437 carl@dixonbrosnan.com
Damian Brosnan: 086 8131195 damian@dixonbrosnan.com
www.dixonbrosnan.com

MALACHY WALSH & PARTNERS

Date Recd

21/12/05

Action

HG

Job No.

CONTENTS

1. INTRODUCTION	3
2. NOISE	3
3. LOCATION	4
4. NOISE SURVEY	7
5. DISCUSSION	8
6. CONCLUSIONS	8
7. NOISE PROFILES	9

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1. INTRODUCTION

1.1 Dixon.Brosnan Environmental Consultants were commissioned by Southern Scientific Services Ltd. to undertake a noise survey at Listowel, Co. Kerry. The aim of the survey was to record existing noise levels in the vicinity of a greenfield site. It is proposed to construct a waste management facility at the site.

2. NOISE

2.1 Noise levels are usually recorded on a logarithmic decibel scale. Table 1 provides an indication of this scale.

Table 1. The decibel scale.

DECIBELS (dB)	NOISE
20	Very quiet room
35	Rural environment at night
65	Conversation
80	Busy pub
100	Nightclub
120	Jet take-off
140	Threshold of pain

2.2 An adjustment or weighting – the 'A' weighting – is normally applied to recorded levels in order to approximate the manner in which the human ear hears noise, the ear being more sensitive to sounds of higher frequency. Measurements which have been subjected to the weighting are denoted by the inclusion of 'A' with the measurement parameter.

2.3 The $L_{Aeq\ t}$ is the parameter usually used to describe noise levels at a location. The parameter represents the average noise level at that location from all sources when measured over time interval t. The duration of t may be several seconds or will more usually be 5-60 minutes depending on the standard or noise limit under consideration.

2.4 Noise parameters to which reference is made in this report are defined Table 2. Throughout this report noise levels are presented as decibels (dB) relative to 2×10^{-5} Pa.

Table 2. Noise glossary.

TERM	DEFINITION
$L_{Aeq\ t}$	The equivalent continuous sound level during the measurement interval t , effectively representing the average noise level.
L_{An}	The sound level which is exceeded for $n\%$ of the measurement interval.
L_{A10}	The sound level which is exceeded for 10% of the measurement interval, usually used to quantify traffic noise.
L_{A90}	The sound level which is exceeded for 90% of the measurement interval, usually used to quantify background noise.
A weighting	The weighting or adjustment applied to sound level recordings to approximate the non-linear frequency response of the human ear. The A-weighting is denoted by the suffix A in the parameters listed above.
Tone	A character of the noise caused by the dominance of one or more frequencies which may result in increased noise nuisance.
Impulse	A noise which is of short duration (typically less than one second), the sound pressure level of which is significantly higher than the background.

3. LOCATION

3.1 The study site is located at Tanavalla Industrial Estate, 2 km southwest of Listowel town. The industrial estate occupies a level plot on the northwest side of the N69 national route. The site lies several metres below the elevation of the N69, and the southeast portion of the site inclines to meet the public road. Several commercial units have been constructed near the road boundary.

3.2 The study site itself consists of a level 0.4 ha rectangular plot with the long axis parallel to the N69. Two commercial units are located adjacent to the southeast boundary of the site, and therefore some screening is provided between the site and the road. It is likely that a third unit will be constructed here in the future. The northwest boundary of the site is contiguous with open scrub which extends northwards towards a plot occupied by Listowel Mart. The mart consists of a large building on a hardstanding area. The industrial estate extends to the west of the site, and most of this zone is currently undeveloped.

3.3 The west boundary of the industrial estate is formed by a third class road along which are located several houses. The northern and eastern boundaries adjoin agricultural land. The study site is separated from the eastern boundary of the industrial estate by an undeveloped commercial plot.

3.4 There are several noise sensitive receptors in the vicinity of the study site. The nearest consist of two commercial units located adjacent to the southern boundary. Beyond these units, on the southern side of the N69, a private dwelling is situated on an elevated plot overlooking the site. To the east and northeast of the industrial estate, a third class road provides access to several houses located in the townland of Islandmacloughry. Similarly, a third class road to the west of the industrial estate provides access to several dwellings. To the northwest of the estate, the nearest receptor consists of an isolated dwelling 150 m from the estate boundary.

3.5 During the noise survey described herein, a number of monitoring stations were selected to represent the sensitive receptors described above. The stations used, designated N1-N5, are described in table 3 and indicated in figure 1.

Table 3. Noise monitoring stations.

REF	LOCATION
N1	Rear boundary of commercial unit (Broderick Furniture) at E corner of site. 20 m from rear façade.
N2	NW boundary of Listowel Mart. Line of sight maintained to site & N69. 150 m from house to NW.
N3	SW boundary of industrial estate. 200 m from study site. 100 m to houses on third class road.
N4	House 200 m SE of study site. 15 m in front of façade.
N5	Near house 300 m NE of study site, adjacent to third class road.

3.6 The local noise environment is dominated entirely by traffic on the N69 which links Tralee to Limerick via Listowel. Other noise sources in this area include vehicles accessing the industrial estate and emissions from a distant quarry or construction site to the northeast. During lulls in traffic, typical rural noise sources include barking dogs, birdsong and rustling vegetation. The noise environment is considered typical of an area located on the outskirts of a town and adjacent to a busy national route.

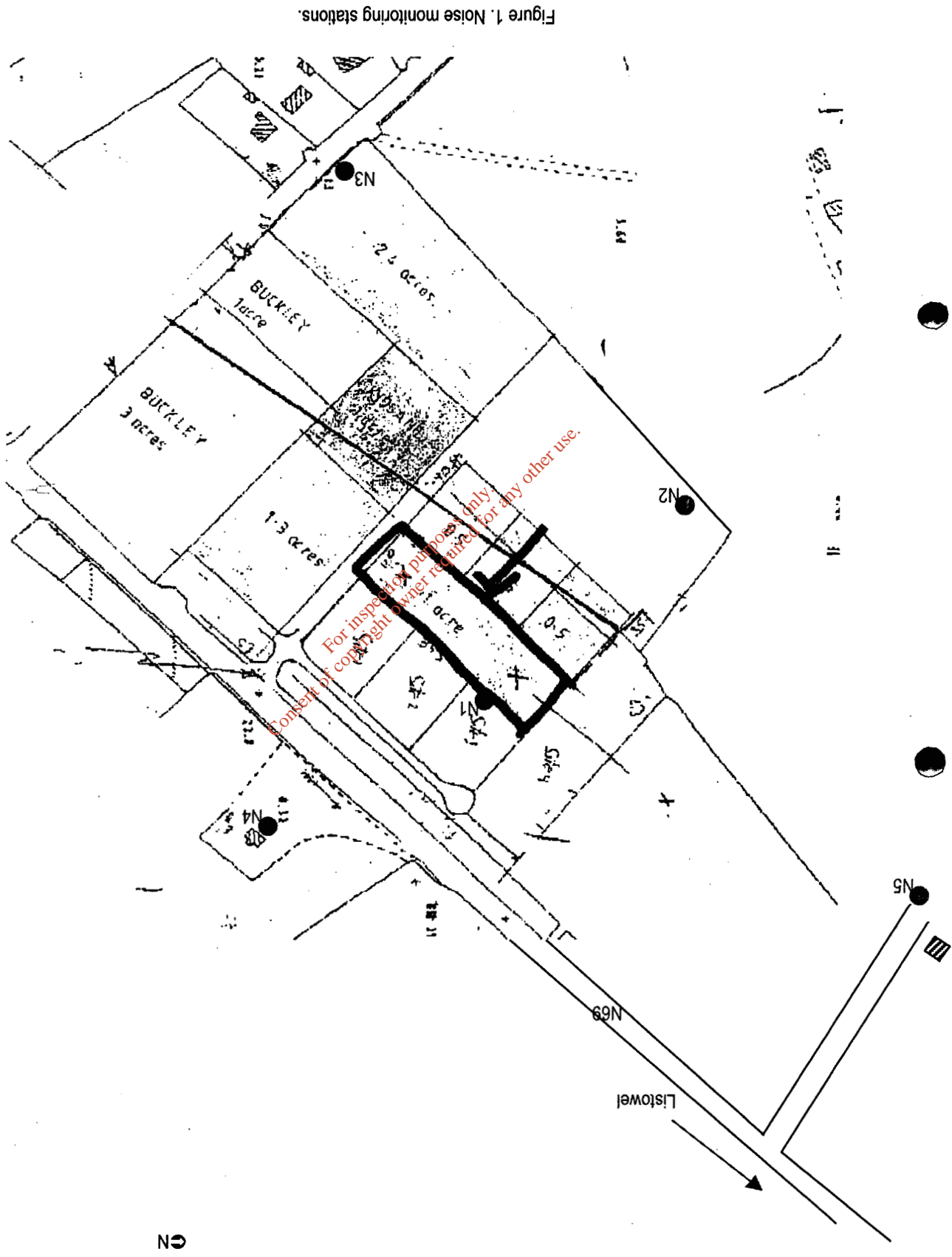


Figure 1. Noise monitoring stations.

4. NOISE SURVEY

4.1 A noise survey was undertaken in this area on Wednesday 14.12.05. Weather conditions during the survey were dry and overcast, with a light northerly air measuring 0-1 m/s.

4.2 Measurements were recorded at the five monitoring stations indicated in table 3. No noise emissions of significance arose from the industrial estate throughout the survey. Emissions at all stations were dominated by N69 traffic.

4.3 Measurements were recorded using a Bruel & Kjaer Type 2260 integrating sound level meter which was calibrated before and after the survey using a Type 4231 calibrator. Measurements were recorded using the fast network at frontal incidence. The survey was conducted by Damian Brosnan on behalf of Dixon.Brosnan. Following survey completion recorded data were uploaded to PC for subsequent analysis using task-specific software. Measurements were recorded in accordance with International Standard ISO 1996: 1982 *Acoustics – Description and measurement of environmental noise, Part 1: Basic quantities and procedures*. Monitoring intervals of 30 minutes were used at each station.

4.4 Noise levels recorded at all stations are presented in table 4. Profiles are presented in section 7.

Table 4. Recorded noise levels.

STATION	TIME	L _{Aeq} (dB)	L _{A10} (dB)	L _{A90} (dB)	NOISE
N1	0939-1009	51	54	45	N69 dominant. Birdsong. Quarry/construction noise to NE audible at low level. No noise from ind. est. excluding sporadic traffic to mart.
N2	0901-0931	48	49	43	No noise from ind. est. apart from insignificant sporadic activity at mart 0914-0920 eg. opening roller shutter doors. N69 dominant. Birdsong. Quarry/construction noise audible at low level to NE.
N3	1015-1045	46	48	40	N69 & distant quarry/construction noise codominant. Birdsong. Sporadic traffic to mart. Local traffic on 3 rd class road.
N4	1053-1123	60	64	50	N69 entirely dominant. Birdsong audible during traffic lulls.
N5	1128-1158	54	47	40	N69 at 200 m dominant. Quarry/construction noise to NE. Local traffic x4. Birdsong.

4.5 No specific tones or impulses were noted during the survey, apart from passing tonal components due to traffic and birdsong.

5. DISCUSSION

5.1 Noise levels varied considerably across the study zone, depending on proximity to the N69. The highest levels were recorded at station N4, located closest to the road and on an elevated site. The ambient noise levels recorded here (L_{Aeq} 60 dB, L_{A90} 50 dB) are considered excessive and indicate the intrusive nature of road traffic noise here.

5.2 Further away from the N69, a lower L_{A90} level of 40 dB was recorded at both N3 and N5, reflecting the reduced impact of traffic emissions here. However, local traffic and distant N69 traffic conspired to maintain elevated L_{Aeq} levels, particularly at N5 where several traffic movements occurred.

5.3 The L_{A90} recorded at N1 was 5 dB higher than that recorded at N3. The difference may be due to the greater significance of N69 traffic noise at N1, despite their being equidistant from the road. Intervening conditions were such that traffic noise was more intrusive at N1 than at N3.

5.4 Noise levels at station N2 were relatively low due to the significant screening of N69 traffic noise provided by a local commercial unit.

6. CONCLUSIONS

6.1 Based on the type of noise environment which pertains, it is considered that noise levels recorded during the survey are reasonably representative of daytime conditions. It is likely that levels in the vicinity of the mart vary with local activity. Outside of here, long term noise levels are unlikely to change significantly over time.

6.2 The local noise environment is dominated by noise emissions from N69 traffic. This particularly applies at a private house to the south overlooking the site.

6.3 Away from the N69, ambient L_{A90} levels fall to 40 dB, and it is recommended that this level is applied as the typical daytime background level with respect to properties to the northeast, north, northwest and west of the site.

6.4 Apart from traffic noise, and emissions from a distant quarry or construction site, no significant sources of noise emissions were noted.

7. NOISE PROFILES

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Application: BZ7202 version 2.0

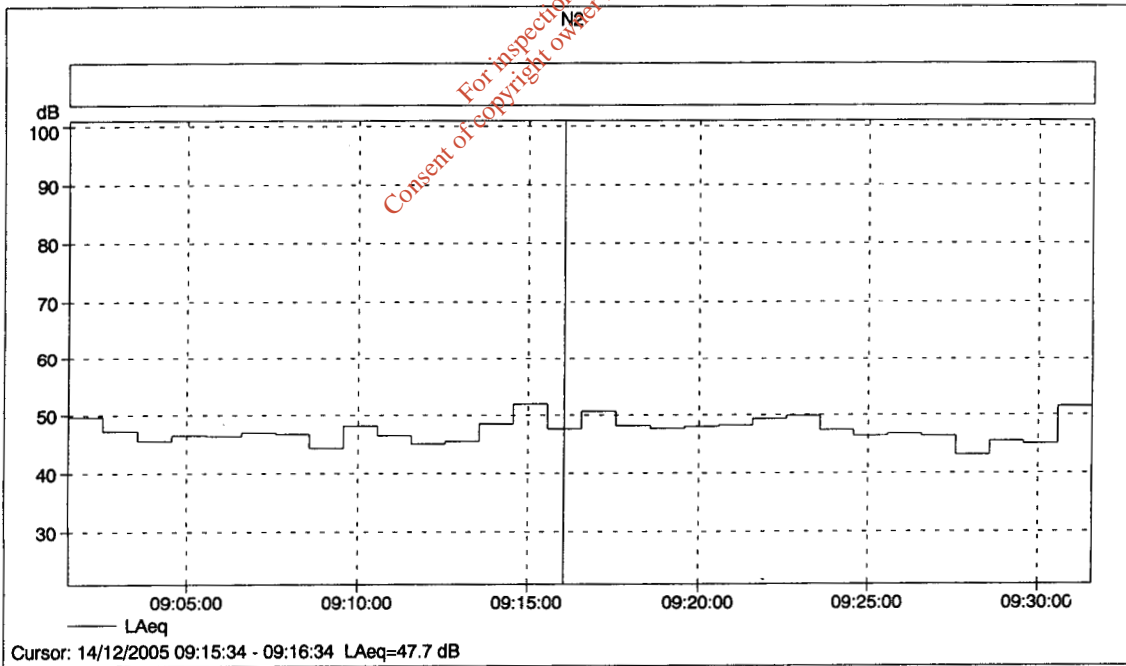
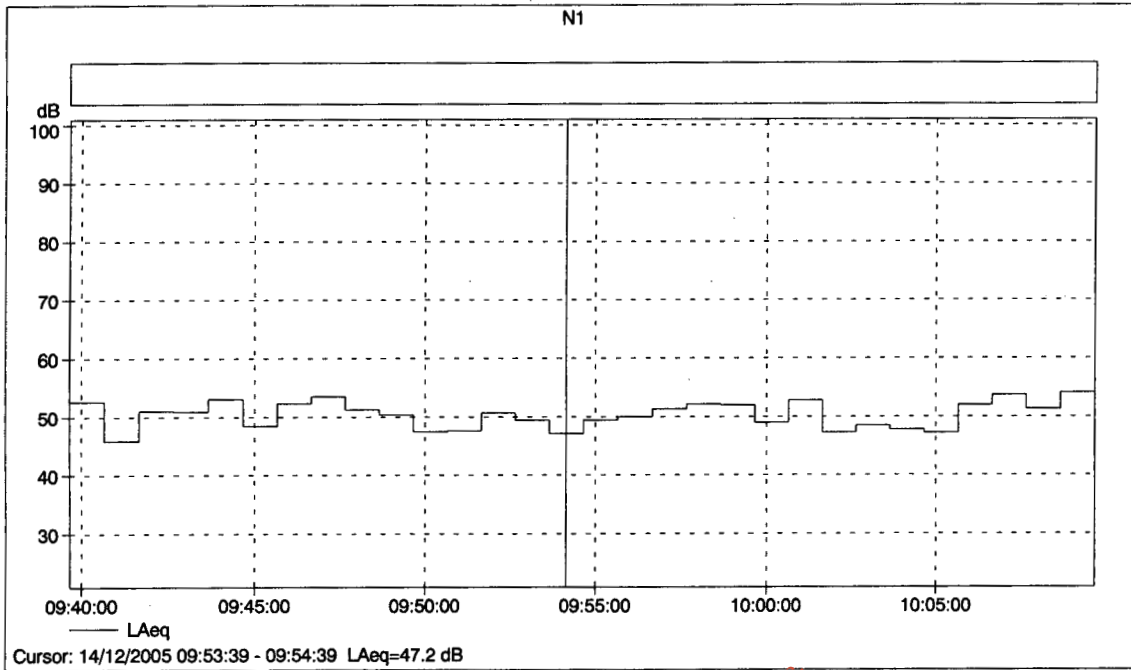
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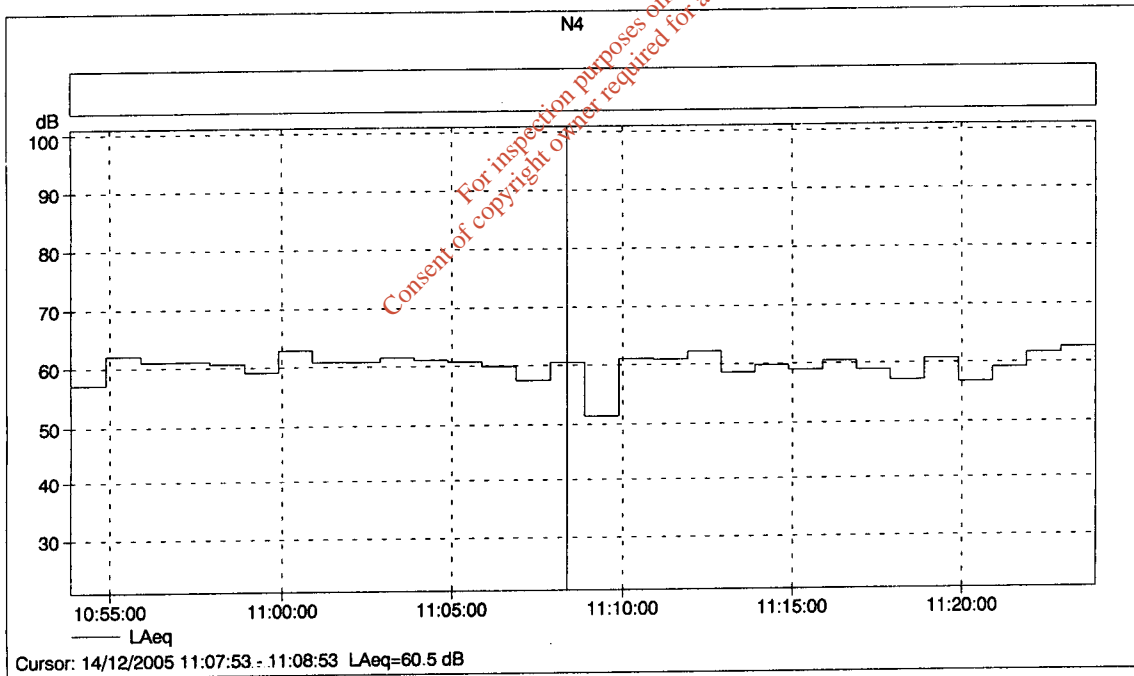
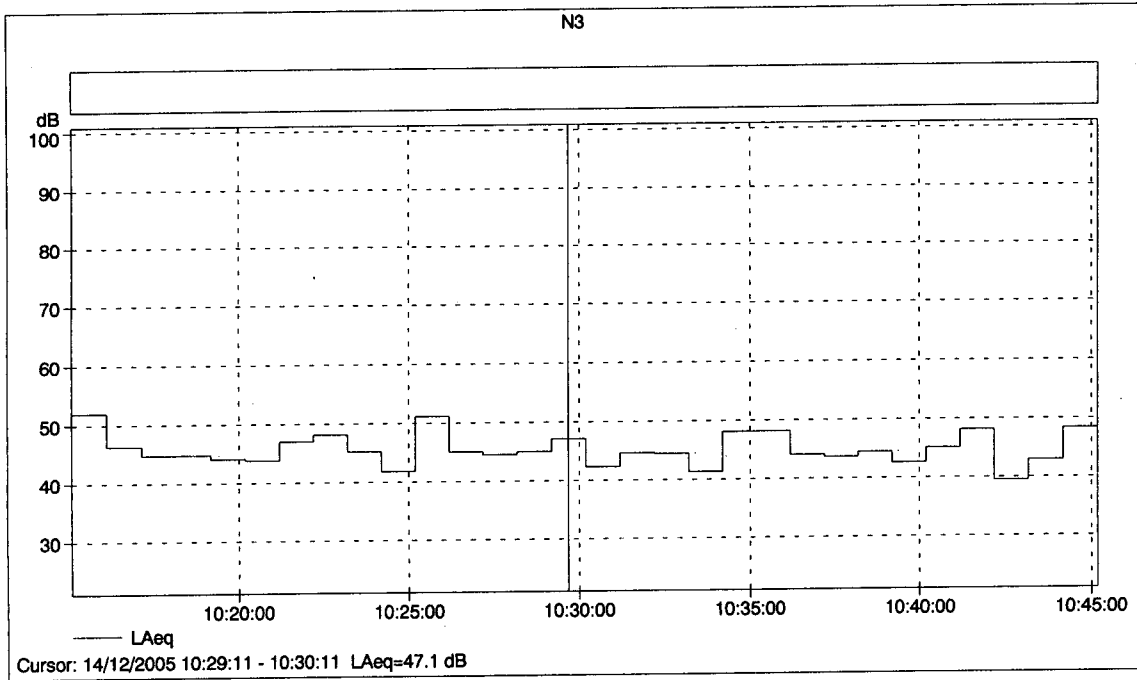
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Broad-band statistics:	F	A
Octave measurements:	F	L

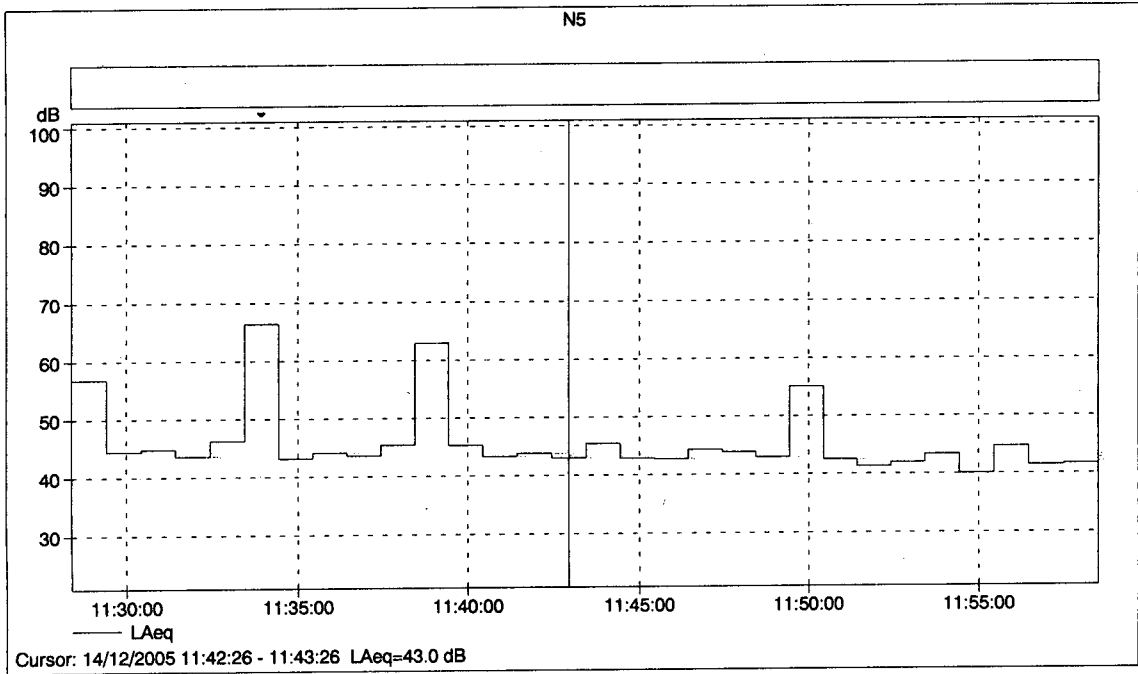
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S. I. Correction: Frontal

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Calibration Level: 94.0 dB
Sensitivity: -27.1 dB
ZF0023: Not used

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