



Report

277 Gray's Inn Road
Assessment of Proposed
Residential Development

Prepared by

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Contents

- 1.0 Executive Summary
- 2.0 Introduction
- 3.0 Assessment Criteria
- 4.0 Noise Surveys
- 5.0 Noise Modelling Results
- 6.0 Sound Insulation Requirements of the Building Envelope
- 7.0 Noise generated by the development
- 8.0 Conclusions

Appendices

- A. Site location and noise measurement plan
- B. Noise survey results
- C. Acoustic terminology
- D. SoundPLAN computer modelling results

1.0 Executive summary

Sharps Redmore (SR) have been instructed to undertake a noise assessment of a proposed residential-led mixed redevelopment site at 277 Gray's Inn Road.

The objective of the assessment is to consider the development in relation to the existing noise environment, in particular noise generated by road traffic in the vicinity, principally from Gray's Inn Road to the east of the site.

The assessment has been undertaken by reference to noise surveys undertaken at the site in June 2014, the results of which were used both to assess the site and to inform SoundPLAN computer modelling of the noise levels likely to be experienced at the proposed development.

The assessment has been based on advice in BS 8233:2014, in conjunction with the World Health Organisation Guidelines.

Recommendations are made on mitigation measures necessary to ensure an acceptable noise environment for future residents against present international and national guidelines.

The conclusions of the assessment are that the noise environment is such that the residential use can proceed in a way which provides an acceptable noise climate for future residents.

Noise emissions from any commercial elements and from plant and machinery serving the development can be controlled through the use of an appropriate planning condition.

2.0 Introduction

- 2.1 Sharps Redmore have been commissioned by Regal GI Ltd. to provide an acoustic assessment relating to a proposed residential-led mixed development at 277 Gray's Inn Road. The proposed development consists of the demolition of existing buildings and comprehensive redevelopment of the site to provide 59 new residential units, offices (Class B1a), café/gallery (Class A1 and / or Class A3), gym (Class D2 and / or Class B1) together with cycle parking, access, landscaping, boundary treatment and associated works.
- 2.2 The site is currently occupied by a disused Warehouse building and is surrounded on all sides by existing buildings, and sits behind a continuous frontage of 4 to 5-storey buildings on Gray's Inn Road itself.
- 2.3 This report will assess the sound insulation requirements of the building external envelope necessary to achieve appropriate internal noise level criteria and confirm the measures likely to be necessary to ensure that the proposal will not result in any noise impacts on existing nearby residents.
- 2.4 It is proposed to provide a number of apartments on the site, in several blocks arranged around a central courtyard. The blocks would include accommodation up to 7th floor level.
- 2.5 This report details the environmental noise survey undertaken in June 2014 to assess the current noise climate at the site.
- 2.6 This data forms the basis of assessing the acoustic requirements of the building, in order to achieve acceptable internal noise criteria for residential use, and for background noise levels to establish noise emission criteria.
- 2.7 The complexity of the proposed development and the surrounding built form is such that computer modelling has been necessary to assess future noise levels impinging on the facades of the proposed apartments. The SoundPLAN software used is a powerful, 3-dimensional computer-modelling tool which takes account of topography, screening, reflections and other environmental factors to produce, in this instance, a "façade noise map" in order to assess all facades and all floor levels.

3.0 Assessment Criteria

- 3.1 The key local policy applicable to this development would be Camden Borough Council Development Management Plan Policy DP28 would apply to this development. The policy refers to the Noise and Vibration Thresholds for Camden, as set out below:

Table A: Noise levels on residential sites adjoining railways and roads at which planning permission will not be granted

Noise description and location of measurement	Period	Time	Sites adjoining railways	Sites adjoining roads
Noise at 1 metre external to a sensitive façade	Day	0700-1900	74 dB L_{Aeq} 12h	72 dB L_{Aeq} 12h
Noise at 1 metre external to a sensitive façade	Evening	1900-2300	74 dB L_{Aeq} 4h	72 dB L_{Aeq} 4h
Noise at 1 metre external to a sensitive façade	Night	2300-0700	66 dB L_{Aeq} 8h	66 dB L_{Aeq} 8h

Table B: Noise levels on residential streets adjoining railways and roads at and above which attenuation measures will be required

Noise description and location of measurement	Period	Time	Sites adjoining railways	Sites adjoining roads
Noise at 1 metre external to a sensitive façade	Day	0700-1900	65 dB L_{Aeq} 12h	62 dB L_{Aeq} 12h
Noise at 1 metre external to a sensitive façade	Evening	1900-2300	60 dB L_{Aeq} 4h	57 dB L_{Aeq} 4h
Noise at 1 metre external to a sensitive façade	Night	2300-0700	55 dB L_{Aeq} 1h	52 dB L_{Aeq} 1h
Individual noise events several times an hour	Night	2300-0700	>82dB L_{Amax} (S time weighting)	>82dB L_{Amax} (S time weighting)

- 3.2 The Camden thresholds relate to external noise levels. In relation to internal design standards for new dwellings, BS 8233:2014 is the relevant standard. This recently replaced (28th February 2014) BS 8233:1999. Table 4 of the standard contains the following design targets for residential dwellings, which are adopted in the assessment that follows:

Table 4 Indoor ambient noise levels for dwellings

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living room	35 dB $L_{Aeq,16hour}$	—
Dining	Dining room/area	40 dB $L_{Aeq,16hour}$	—
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16hour}$	30 dB $L_{Aeq,8hour}$

- 3.3 There is no longer a L_{MAX} standard for bedrooms In BS 8233. However, footnote 4 to Table 4 states that *“Regular individual noise events (for example, scheduled aircraft or passing trains) can cause sleep disturbance. A guideline value may be set in terms of SEL or $L_{\text{Amax,F}}$ depending on the character and number of events per night. Sporadic noise events could require separate values.”* In this case, it is proposed that the previous BS 8233 internal standard (also referenced in World Health Organisation Guidelines for Community Noise) is applied. This is 45 dB L_{MAX} , inside bedrooms.
- 3.4 For outdoor areas (i.e. gardens/balconies), BS 8233:2014 recommends that “it is desirable that the external noise level does not exceed 50 dB $L_{\text{Aeq,T}}$, with an upper guideline value of 55 dB $L_{\text{Aeq,T}}$.” However, the document recognises that that these guideline values are not achievable in all circumstances and in higher noise areas, a compromise might be warranted. In such circumstances, development should be designed to achieve the lowest practicable levels in these external amenity spaces.

4.0 Noise Surveys and Computer Modelling Methodology

- 4.1 An environmental noise survey was carried out from 5th to 8th June 2014 to determine the existing noise levels at the site. This survey included long-term measurements at the site to establish background noise levels, along with short-term measurement in close proximity (and clear view) of the surrounding roads to provide input data for the noise models.
- 4.2 Noise surveys were undertaken at 3 locations. Long-term measurements were undertaken continuously from 5th to 8th June at a location within the development site, to the east of the existing warehouse building, close to the Gray's Inn Road/St. Chad's Street junction (Location 1). Measurements were also taken at 2 short-term locations during the day to establish road traffic noise levels on St. Chad's Road and Gray's Inn Road to inform the computer models (locations 2 and 3).
- 4.3 All measurements were free-field measurements. The measurement locations are shown in Appendix A, and the full survey results and summaries are shown in Appendix B.
- 4.4 All measurements were made in 5 minute periods.
- 4.5 Measurements were made using calibrated type 1 sound level meters and data logging systems.
- 4.6 The meters were field checked for calibration before and after the measurements. No drift was noted.
- 4.7 The weather was dry and calm with no significant wind.
- 4.8 The meter systems allow simultaneous measurements of noise over predetermined time periods, using various measurement parameters. Of interest to this assessment, the L_{eq} , L_{90} and L_{max} noise levels were recorded.
- 4.9 For information purposes it can be noted:
 - dBA is the sound level in decibels (dB) measured by the sound level meter with the A-weighting. The A-weighting is a filter applied to the sound level meter to simulate the frequency response of the human ear, which is more sensitive to high frequency sound than low.
 - L_{eq} is the equivalent continuous noise level which is a method of averaging the varying noise level over the time period into a single figure value. The L_{eq} has the same sound energy as the fluctuating level over that period.
 - L_{MAX} is the highest level within the measurement period.
 - L_{90} is the noise level exceeded for 90% of the time and is referred to as the background noise level.
- 4.10 The full results of the noise surveys, along with a summary of data subsequently used for noise model inputs, is contained in Appendix B.

5.0 Noise Modelling Results

- 5.1 It is considered that the aspects dictating façade sound insulation requirements would be the overall, $L_{Aeq,16Hr}$ noise levels external to the buildings during the day (this includes external space, i.e. balconies) and the peak, L_{AMAX} , levels external to bedroom windows at night. The computer models have, therefore, concentrated on these two aspects. The SoundPLAN modelling results are shown in Appendix D.

Daytime – $L_{Aeq(16H)}$ Façade Noise Maps

- 5.2 It can be seen from these models that the highest levels of exposure occur at the higher floor levels, where screening from Gray's Inn Road is reduced. However, it can be seen that façade levels would not exceed 50 dB L_{Aeq} at any façade. These are well within the external thresholds at and above which attenuation measures would be required (Camden) and the BS8233:2014 standards for external amenity space.

Night time - L_{AMAX} Façade Noise Maps

- 5.3 Peak noise levels, at their highest (again, at the higher floor levels with reduced screening from the road) would not exceed 74 dB L_{AMAX} . Again, these are within Camden's threshold at and above which attenuation measures would be required. There would, however, be a need to provide façade sound insulation to achieve acceptable standards in line with BS8233:2014 requirements, from 4th floor and above. It is expected that normal thermal-double glazing would be installed in any case (to meet thermal standard and regulations) and this would, in all cases, provide adequate acoustic protection also (see Section 6.0 below).

Other Noise Sources

- 5.4 It should be noted that the computer modelling undertaken addresses road traffic noise only. There are other noise sources in the area, including occasional aircraft noise and nearby mechanical service plant on adjacent buildings. The night time noise climate, established by measurements at Location 1, ranged from 51 to 58 dB $L_{Aeq,8Hr}$, with a typical (90th percentile level for design purposes) L_{AMAX} level over the 3 nights of 71 dB L_{AMAX} . The overall, L_{Aeq} , levels are above the Camden threshold at and above which mitigation will be required, but well within the level where permission will not be granted. L_{AMAX} levels are well within the Camden thresholds at and above which also within the Camden thresholds. These levels are also accounted for in the advice on noise mitigation, below.

6.0 Sound Insulation Requirements of the Building Envelope

- 6.1 The acoustic performance of the building elements will be expressed in terms of Sound Reduction Index (R) in octave bands.
- 6.2 Example glass configurations are given in the format glass-cavity-glass, in millimetres. It is assumed that the minimum cavity depth would be 20mm, for thermal reasons.
- 6.3 The façade insulation requirements are principally dictated by the need to reduce peak, $L_{A\text{MAX}}$ levels from passing traffic at night. The same requirement applies to both living room and bedroom windows (i.e. all windows on all façades).
- 6.4 For all facades normal thermal double-glazing will provide adequate protection, provided the following performance is achieved:

Window System Performance – R(dB)

	Octave band centre frequency Hz						
	63	125	250	500	1k	2k	4k
All Windows	21	23	22	26	46	45	45

- 6.5 The specification above is based on the performance of 4-20-6 sealed unit double-glazed system. For information purposes, the overall weighted sound reduction index of the example system is 34 dB R_w , and 30 dB R_{TRA} . Other glazing systems are likely to be available to achieve the required performance, but it is important (especially when addressing a traffic noise source) that the spectrum performance set out above is achieved, not just the overall sound weighted sound reduction index.
- 6.6 The internal noise environment for future residents would be acceptable, and within BS 8233:2014 standards, by the provision of double-glazing systems meeting the above specifications. The final specification and design of any glazing systems will be determined at reserved matters stage, and this can be required through the imposition of an appropriate planning condition.

Ventilation

- 6.7 Background ventilation, in accordance with Building Regulations, would need to be provided to residential units. It is likely that standard trickle ventilators in the window frames would provide adequate acoustic performance, although it is recommended that acoustic versions are selected. Alternatively, ventilation can be achieved by way of a number of widely available acoustic vent systems, either in the window frames or through the walls. The acoustic performance of the vents should be equivalent to that of the glazing, set out above, so as not to degrade the sound insulation performance of the façade as a whole.
- 6.8 Alternatively, a whole-building ducted passive or active ventilation system can be installed, with acoustically treated intakes and outlets where necessary.

7.0 Noise generated by the development

- 7.1 Residential developments are not inherently noisy. Noise from the commercial elements will be contained within the buildings and sound transfer from commercial elements to residential units above will be controlled through the design and construction of the development. Sound insulation requirements and detailing can be required through the imposition of an appropriate planning condition.
- 7.2 Plant and machinery noise emissions (for example from lift machinery, water heating systems and mechanical ventilation systems) will need to be controlled, but this is not unusual, and simple measures can be incorporated into the construction design. The majority of plant serving the development will be located in basement plant rooms.
- 7.3 It would be normal to impose a planning condition limiting plant noise emissions to a level relative to the background noise level at the nearest sensitive receptors, by reference to BS 4142:1997. It is understood that the Local Authority have a standard requirement that plant noise be controlled to 5dB below the background level at the nearest premises:

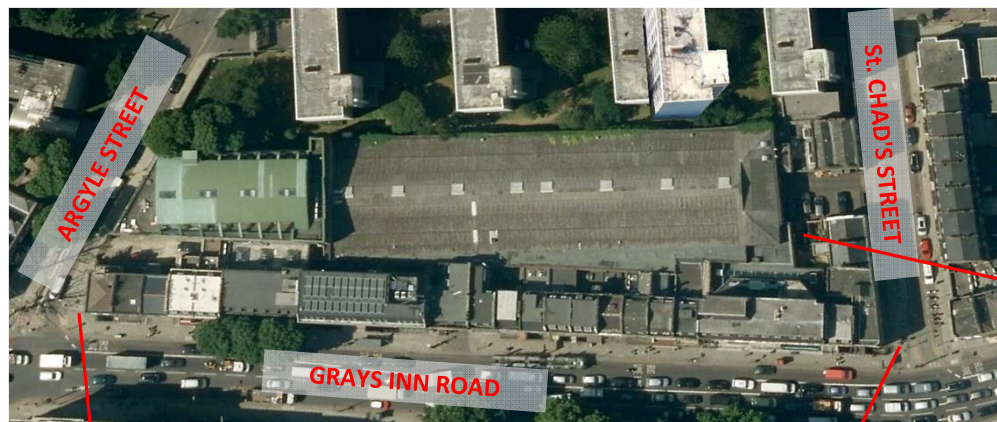
“The rating level of noise from all fixed plant and machinery installed at the site shall be 5dB below the pre-existing background noise level at any time when measured or calculated at 1 metre from the facade of the nearest existing noise sensitive properties. The measurements and assessment shall be undertaken in accordance with BS 4142:1997.

8.0 Conclusions

- 8.1 Noise survey data obtained in June 2014 and 3-dimensional computer models have been used to assess the noise climate impinging on the proposed future development at 277 Gray's Inn Road. The site is the subject of a proposal for residential-led mixed development.
- 8.2 External and internal noise level criteria have been proposed in line with the standards set out in the Camden Development Management Plan (DP28), BS 8233:2014 and the World Health Organisation guidelines.
- 8.3 3-dimensional SoundPLAN modelling has been undertaken to reflect the complex nature of the proposed development and its relationship to the noise sources and surrounding existing buildings.
- 8.4 The computer models and noise surveys have shown that the Camden thresholds can be met without the need for further mitigation beyond standard construction methods and thermal double-glazing. Calculations of façade glazing systems required to achieve the internal noise criteria set out have been undertaken. No special acoustic systems are required, but a general specification is provided for the acoustic performance of the expected thermally double-glazed window systems.
- 8.5 Ventilation to residential apartments, particularly bedrooms at 4th floor level and above (i.e. where it would be expected that windows remain closed to control noise), will need to be provided via acoustically treated vents in the window frame or walls, or via an alternative whole-building system.
- 8.6 Noise from the commercial elements, along with plant and machinery noise emissions, can be controlled by way of planning condition where appropriate.
- 8.7 The development can, therefore, be designed to achieve acceptable standards for future and existing residents, in accordance with national standards and Local Policy DP28.

APPENDIX A

Site location and noise measurement plan



277 GRAYS INN ROAD - NOISE SURVEY LOCATION PLAN

LOCATION 1 - ON 7.5m MAST IN YARD WELL (5th - 8th JUNE 2014)

LOCATION 2 - ON TRIPOD AT 1.2m AND 3.5m FROM KERB ON JUNCTION OF GRAYS INN ROAD AND St. CHAD'S STREET (5th JUNE 2014)

LOCATION 3 - ON TRIPOD AT 1.2m AND 3.5m FROM KERB ON JUNCTION OF GRAYS INN ROAD AND ARGYLE STREET (5th JUNE 2014)

APPENDIX B

Noise survey results

Location 1 - 118H - On site
Night time Fri 5th to Mon 8th June 2014

8 Hr LAeq -->>	51	53	58
	Fri - Sat	Sat - Sun	Sun - Mon
Start Time	LAeq	LAeq	LAeq
23 : 00	52.1	51.2	55.3
23 : 05	51.0	52.4	54.8
23 : 10	53.5	51.4	54.3
23 : 15	50.1	51.3	54.2
23 : 20	49.8	51.7	55.4
23 : 25	50.7	51.3	55.8
23 : 30	50.0	50.9	54.2
23 : 35	52.1	52.2	54.4
23 : 40	56.7	51.6	50.9
23 : 45	50.0	52.4	50.1
23 : 50	49.2	51.4	50.8
23 : 55	50.5	51.3	50.8
00 : 00	50.6	52.8	55.4
00 : 05	52.5	51.2	50.0
00 : 10	50.0	52.6	51.2
00 : 15	50.3	53.6	50.7
00 : 20	49.7	53.1	52.8
00 : 25	50.0	52.5	50.9
00 : 30	50.3	53.0	50.1
00 : 35	50.8	58.0	49.7
00 : 40	49.9	56.6	50.9
00 : 45	50.5	53.7	49.2
00 : 50	50.1	54.5	49.8
00 : 55	49.9	51.5	71.2
01 : 00	49.6	52.0	75.3
01 : 05	58.8	51.2	49.4
01 : 10	50.3	53.2	51.1
01 : 15	50.9	51.4	50.6
01 : 20	49.3	52.8	56.6
01 : 25	50.3	56.4	57.8
01 : 30	49.9	50.9	57.7
01 : 35	50.3	52.4	49.0
01 : 40	47.7	51.4	50.9
01 : 45	49.1	51.5	49.8
01 : 50	48.6	52.0	50.6
01 : 55	48.2	50.6	51.3
02 : 00	48.8	56.3	49.6
02 : 05	49.5	50.9	49.8
02 : 10	49.3	54.4	50.1
02 : 15	48.8	51.5	49.5
02 : 20	48.3	49.8	49.3
02 : 25	47.9	50.4	48.9
02 : 30	50.0	50.3	49.6
02 : 35	51.9	49.6	49.9
02 : 40	49.1	50.4	50.3
02 : 45	48.5	50.7	51.5
02 : 50	48.8	49.7	51.9
02 : 55	47.9	50.3	53.8
03 : 00	48.5	50.0	51.8
03 : 05	47.6	51.2	49.5
03 : 10	48.7	55.3	54.0
03 : 15	48.4	51.8	49.9
03 : 20	49.0	50.0	49.8
03 : 25	48.2	56.1	48.9
03 : 30	48.7	50.4	50.4
03 : 35	49.4	57.3	50.2
03 : 40	49.8	50.6	50.1
03 : 45	48.5	59.8	48.7
03 : 50	49.7	58.2	48.4
03 : 55	49.2	59.2	48.5
04 : 00	48.9	58.4	49.7
04 : 05	56.2	53.8	49.4
04 : 10	49.0	51.8	48.2
04 : 15	48.6	50.9	49.3
04 : 20	57.5	50.6	47.7
04 : 25	51.3	51.3	50.6
04 : 30	50.7	49.4	52.9
04 : 35	49.5	50.3	48.3
04 : 40	49.7	49.8	48.8
04 : 45	50.8	53.5	49.7
04 : 50	50.2	50.2	53.6
04 : 55	51.2	51.8	49.1
05 : 00	52.3	52.1	48.8
05 : 05	49.8	51.0	52.8
05 : 10	53.2	50.4	49.1
05 : 15	54.2	50.9	56.4
05 : 20	54.5	51.1	51.3
05 : 25	55.6	51.6	49.0
05 : 30	50.1	53.5	56.0
05 : 35	50.6	51.8	48.5
05 : 40	50.1	51.0	50.9
05 : 45	50.9	50.8	50.8
05 : 50	50.9	50.3	52.0
05 : 55	51.3	51.1	53.2
06 : 00	51.5	50.9	55.5
06 : 05	51.8	50.5	51.4
06 : 10	50.6	50.3	50.4
06 : 15	51.3	51.2	51.9
06 : 20	52.2	52.2	51.2
06 : 25	51.8	55.2	49.5
06 : 30	51.9	52.2	49.9
06 : 35	51.3	50.7	49.6
06 : 40	51.9	51.0	51.3
06 : 45	52.6	52.0	50.6
06 : 50	53.5	52.9	49.5
06 : 55	52.5	51.7	50.9

Location 2 - 140A - Shortened CRTN
Corner of St Chad's St & Grays Inn Rd

LAeq,16Hr -->>	69
File	Start Time
0001	13 : 30
0002	13 : 40
0003	13 : 50
0007	14 : 30
0008	14 : 40
0009	14 : 50
0010	15 : 00
0011	15 : 10
0012	15 : 20
Arithmetic Average	72
LA10,18hr -->>	71
LAeq,16Hr -->>	69

Location 3 - 118C - Shortened CRTN
Corner of Argyle St & Grays Inn Rd

LAeq,16Hr -->>	68
File	Start Time
0001	13 : 29
0002	13 : 40
0003	13 : 52
0007	14 : 28
0008	14 : 38
0009	14 : 49
0010	14 : 59
0011	15 : 09
0012	15 : 19
Arithmetic Average	71
LA10,18hr -->>	70
LAeq,16Hr -->>	68

Date	Start Time	LAeq	LAFmax	LAFmin	LAF10	LAF90
2014 - Jun - 05	12 : 00	76.9	101.2	50.6	77.4	52.2
2014 - Jun - 05	12 : 05	65.7	91.3	49.2	58.0	50.9
2014 - Jun - 05	12 : 10	68.3	89.5	48.5	68.2	50.6
2014 - Jun - 05	12 : 15	69.5	89.7	49.0	73.1	51.5
2014 - Jun - 05	12 : 20	68.3	91.6	49.6	69.3	51.5
2014 - Jun - 05	12 : 25	67.6	90.3	49.0	68.3	52.1
2014 - Jun - 05	12 : 30	59.8	79.3	49.5	61.7	51.3
2014 - Jun - 05	12 : 35	62.3	82.8	49.8	64.5	51.3
2014 - Jun - 05	12 : 40	62.0	85.5	48.9	60.2	50.9
2014 - Jun - 05	12 : 45	63.4	83.6	49.9	65.5	51.8
2014 - Jun - 05	12 : 50	61.8	85.8	51.0	63.0	52.3
2014 - Jun - 05	12 : 55	58.8	86.5	49.2	57.2	51.0
2014 - Jun - 05	13 : 00	56.5	75.7	49.0	58.0	50.8
2014 - Jun - 05	13 : 05	52.4	60.4	48.3	54.3	49.9
2014 - Jun - 05	13 : 10	52.8	62.2	49.1	54.6	50.5
2014 - Jun - 05	13 : 15	53.0	67.3	48.9	55.0	50.3
2014 - Jun - 05	13 : 20	60.0	75.5	48.1	60.4	49.2
2014 - Jun - 05	13 : 25	51.7	60.2	47.9	53.2	49.7
2014 - Jun - 05	13 : 30	54.1	64.3	49.4	56.7	50.6
2014 - Jun - 05	13 : 35	55.1	67.5	49.9	57.1	51.8
2014 - Jun - 05	13 : 40	52.1	61.9	49.1	53.5	50.3
2014 - Jun - 05	13 : 45	55.2	68.4	48.8	59.3	50.6
2014 - Jun - 05	13 : 50	57.0	79.1	48.7	58.8	50.5
2014 - Jun - 05	13 : 55	57.8	79.5	48.6	57.9	50.2
2014 - Jun - 05	14 : 00	62.2	84.2	50.9	63.6	54.2
2014 - Jun - 05	14 : 05	60.8	75.0	56.0	62.8	58.1
2014 - Jun - 05	14 : 10	58.1	75.4	49.5	60.0	52.3
2014 - Jun - 05	14 : 15	60.3	85.7	48.9	61.0	51.1
2014 - Jun - 05	14 : 20	59.0	77.2	51.3	61.8	52.9
2014 - Jun - 05	14 : 25	61.6	83.7	51.1	64.2	54.3
2014 - Jun - 05	14 : 30	60.2	76.0	50.3	63.5	51.7
2014 - Jun - 05	14 : 35	60.5	83.0	50.3	62.0	52.0
2014 - Jun - 05	14 : 40	63.8	82.6	52.5	66.2	54.1
2014 - Jun - 05	14 : 45	59.2	77.7	47.8	63.4	49.9
2014 - Jun - 05	14 : 50	59.1	72.7	49.7	63.1	52.0
2014 - Jun - 05	14 : 55	55.5	74.1	48.7	57.1	50.2
2014 - Jun - 05	15 : 00	73.0	82.8	49.4	79.1	51.9
2014 - Jun - 05	15 : 05	57.3	70.3	47.9	61.3	49.8
2014 - Jun - 05	15 : 10	57.9	83.9	48.0	57.7	49.4
2014 - Jun - 05	15 : 15	53.8	72.2	48.1	56.6	49.3
2014 - Jun - 05	15 : 20	54.7	76.6	48.2	56.3	49.8
2014 - Jun - 05	15 : 25	61.0	84.1	48.6	62.9	50.5
2014 - Jun - 05	15 : 30	60.6	85.7	48.3	61.0	50.1
2014 - Jun - 05	15 : 35	64.3	86.1	48.0	66.3	49.8
2014 - Jun - 05	15 : 40	64.4	84.0	47.9	66.3	49.8
2014 - Jun - 05	15 : 45	60.8	84.1	47.5	60.8	49.2
2014 - Jun - 05	15 : 50	60.0	79.6	48.5	64.3	50.2
2014 - Jun - 05	15 : 55	63.3	79.4	47.8	67.0	50.0
2014 - Jun - 05	16 : 00	59.9	81.1	48.1	63.5	49.9
2014 - Jun - 05	16 : 05	58.8	72.4	48.6	64.3	50.2
2014 - Jun - 05	16 : 10	53.4	72.6	48.5	54.4	49.7
2014 - Jun - 05	16 : 15	52.8	66.6	47.3	55.4	48.8
2014 - Jun - 05	16 : 20	56.6	71.1	47.6	61.0	49.9
2014 - Jun - 05	16 : 25	52.9	71.2	47.1	55.0	49.1
2014 - Jun - 05	16 : 30	52.2	71.6	46.9	53.5	49.1
2014 - Jun - 05	16 : 35	57.8	80.3	46.9	59.3	49.0
2014 - Jun - 05	16 : 40	57.3	77.7	47.4	59.1	49.6
2014 - Jun - 05	16 : 45	54.6	77.7	47.6	55.4	49.2
2014 - Jun - 05	16 : 50	58.9	81.4	48.4	59.7	50.0
2014 - Jun - 05	16 : 55	53.5	73.9	47.0	55.0	48.8
2014 - Jun - 05	17 : 00	55.9	78.1	47.6	56.9	49.5
2014 - Jun - 05	17 : 05	56.8	72.7	47.5	60.4	50.2
2014 - Jun - 05	17 : 10	57.0	77.4	46.9	55.9	48.8
2014 - Jun - 05	17 : 15	52.2	63.7	47.6	54.0	49.2
2014 - Jun - 05	17 : 20	51.1	64.2	47.3	52.5	48.9
2014 - Jun - 05	17 : 25	53.2	67.0	48.2	55.2	50.0
2014 - Jun - 05	17 : 30	53.8	69.7	48.3	56.1	50.1
2014 - Jun - 05	17 : 35	53.9	69.2	48.1	55.9	50.2

Date	Start Time	LAeq	LAFmax	LAFmin	LAF10	LAF90
2014 - Jun - 05	17 : 40	55.4	71.2	47.8	58.1	49.8
2014 - Jun - 05	17 : 45	57.3	75.5	47.1	58.3	50.1
2014 - Jun - 05	17 : 50	55.5	69.1	47.4	58.5	49.3
2014 - Jun - 05	17 : 55	52.4	70.6	47.3	54.4	49.1
2014 - Jun - 05	18 : 00	53.1	64.7	47.5	55.6	49.8
2014 - Jun - 05	18 : 05	53.4	71.2	48.1	55.3	49.7
2014 - Jun - 05	18 : 10	58.0	76.6	48.0	59.8	51.2
2014 - Jun - 05	18 : 15	58.2	76.3	47.8	60.3	50.8
2014 - Jun - 05	18 : 20	56.6	67.9	47.6	59.9	50.3
2014 - Jun - 05	18 : 25	53.6	65.4	48.2	56.3	49.9
2014 - Jun - 05	18 : 30	51.5	58.3	47.8	53.5	49.1
2014 - Jun - 05	18 : 35	53.0	62.1	48.7	55.2	50.5
2014 - Jun - 05	18 : 40	54.0	62.2	48.4	57.3	49.8
2014 - Jun - 05	18 : 45	57.9	77.3	47.6	61.4	50.0
2014 - Jun - 05	18 : 50	56.7	76.8	47.1	58.4	49.3
2014 - Jun - 05	18 : 55	54.4	68.2	46.8	57.2	49.1
2014 - Jun - 05	19 : 00	51.6	61.2	47.3	53.8	48.7
2014 - Jun - 05	19 : 05	52.9	66.4	47.8	55.0	49.3
2014 - Jun - 05	19 : 10	54.9	71.8	46.8	57.2	49.2
2014 - Jun - 05	19 : 15	53.5	67.6	46.5	56.0	49.1
2014 - Jun - 05	19 : 20	51.6	60.2	46.3	53.7	48.6
2014 - Jun - 05	19 : 25	51.3	59.7	47.1	53.6	48.7
2014 - Jun - 05	19 : 30	50.6	60.9	46.8	52.7	48.1
2014 - Jun - 05	19 : 35	51.0	67.4	46.6	52.8	47.9
2014 - Jun - 05	19 : 40	62.1	79.0	47.9	64.4	49.7
2014 - Jun - 05	19 : 45	52.3	62.0	47.3	54.3	49.0
2014 - Jun - 05	19 : 50	52.1	64.6	47.5	54.2	49.2
2014 - Jun - 05	19 : 55	51.6	67.0	45.7	53.5	48.6
2014 - Jun - 05	20 : 00	52.0	66.4	45.5	53.9	48.3
2014 - Jun - 05	20 : 05	50.8	62.5	45.4	52.7	47.9
2014 - Jun - 05	20 : 10	51.9	65.7	46.1	53.8	48.3
2014 - Jun - 05	20 : 15	53.4	65.5	46.2	55.5	48.3
2014 - Jun - 05	20 : 20	50.7	59.5	45.0	52.4	47.6
2014 - Jun - 05	20 : 25	50.7	60.1	46.6	52.3	48.4
2014 - Jun - 05	20 : 30	55.3	73.0	46.7	57.1	48.1
2014 - Jun - 05	20 : 35	51.3	58.8	45.3	53.3	48.0
2014 - Jun - 05	20 : 40	51.8	65.2	45.9	53.8	47.8
2014 - Jun - 05	20 : 45	50.6	61.7	44.7	52.5	46.6
2014 - Jun - 05	20 : 50	57.2	73.1	45.8	57.9	47.8
2014 - Jun - 05	20 : 55	50.1	57.0	45.7	52.1	47.5
2014 - Jun - 05	21 : 00	51.5	67.3	46.3	53.2	48.3
2014 - Jun - 05	21 : 05	51.3	59.3	45.0	53.6	47.1
2014 - Jun - 05	21 : 10	50.6	59.1	45.2	52.4	47.6
2014 - Jun - 05	21 : 15	51.7	61.8	46.1	54.1	48.4
2014 - Jun - 05	21 : 20	52.3	68.4	44.8	52.8	47.1
2014 - Jun - 05	21 : 25	54.3	71.1	45.4	54.7	47.5
2014 - Jun - 05	21 : 30	57.5	73.8	46.8	60.7	48.1
2014 - Jun - 05	21 : 35	55.1	68.7	46.3	58.4	48.0
2014 - Jun - 05	21 : 40	52.9	64.7	46.0	56.8	47.9
2014 - Jun - 05	21 : 45	58.7	79.1	46.2	59.7	48.1
2014 - Jun - 05	21 : 50	55.5	69.2	46.6	57.9	48.8
2014 - Jun - 05	21 : 55	51.7	65.1	44.0	54.8	47.3
2014 - Jun - 05	22 : 00	52.3	64.2	45.6	54.4	47.8
2014 - Jun - 05	22 : 05	51.4	62.5	45.8	53.4	47.5
2014 - Jun - 05	22 : 10	50.3	63.8	44.8	52.5	46.6
2014 - Jun - 05	22 : 15	50.6	63.3	45.6	52.6	47.2
2014 - Jun - 05	22 : 20	52.0	62.6	46.2	54.3	48.3
2014 - Jun - 05	22 : 25	50.7	61.6	46.3	52.8	47.6
2014 - Jun - 05	22 : 30	50.8	58.9	45.4	53.1	47.3
2014 - Jun - 05	22 : 35	50.7	62.8	44.3	52.7	47.3
2014 - Jun - 05	22 : 40	50.1	57.3	46.0	51.9	47.7
2014 - Jun - 05	22 : 45	51.0	61.1	46.1	53.0	47.6
2014 - Jun - 05	22 : 50	51.1	60.8	46.5	53.1	48.2
2014 - Jun - 05	22 : 55	50.5	62.3	45.6	52.4	47.4
2014 - Jun - 05	23 : 00	52.1	69.1	45.7	53.9	47.8
2014 - Jun - 05	23 : 05	51.0	58.5	46.3	53.5	47.8
2014 - Jun - 05	23 : 10	53.5	67.7	46.0	56.3	48.0
2014 - Jun - 05	23 : 15	50.1	60.2	44.6	52.2	47.2

Date	Start Time	LAeq	LAFmax	LAFmin	LAF10	LAF90
2014 - Jun - 05	23 : 20	49.8	62.9	44.6	52.0	46.4
2014 - Jun - 05	23 : 25	50.7	70.0	44.8	52.6	47.2
2014 - Jun - 05	23 : 30	50.0	58.1	45.2	51.8	47.6
2014 - Jun - 05	23 : 35	52.1	63.6	44.9	54.6	47.2
2014 - Jun - 05	23 : 40	56.7	77.4	43.6	56.8	47.1
2014 - Jun - 05	23 : 45	50.0	67.6	44.5	51.9	46.6
2014 - Jun - 05	23 : 50	49.2	59.0	44.5	51.3	46.4
2014 - Jun - 05	23 : 55	50.5	68.4	45.0	52.4	47.2
2014 - Jun - 06	00 : 00	50.6	62.8	45.2	52.8	47.2
2014 - Jun - 06	00 : 05	52.5	64.2	45.6	56.2	47.6
2014 - Jun - 06	00 : 10	50.0	57.0	44.7	51.9	47.1
2014 - Jun - 06	00 : 15	50.3	64.3	43.3	52.6	45.1
2014 - Jun - 06	00 : 20	49.7	61.9	43.0	52.4	45.2
2014 - Jun - 06	00 : 25	50.0	58.3	42.7	52.5	45.7
2014 - Jun - 06	00 : 30	50.3	60.5	40.7	53.0	45.8
2014 - Jun - 06	00 : 35	50.8	66.5	43.8	52.7	45.9
2014 - Jun - 06	00 : 40	49.9	65.5	42.4	52.1	45.6
2014 - Jun - 06	00 : 45	50.5	58.5	43.1	52.9	46.6
2014 - Jun - 06	00 : 50	50.1	57.8	43.9	52.4	46.9
2014 - Jun - 06	00 : 55	49.9	58.7	41.3	53.1	44.4
2014 - Jun - 06	01 : 00	49.6	61.8	40.7	52.7	44.1
2014 - Jun - 06	01 : 05	58.8	77.5	40.5	55.7	43.6
2014 - Jun - 06	01 : 10	50.3	58.7	43.9	53.1	46.4
2014 - Jun - 06	01 : 15	50.9	67.7	41.1	53.4	44.6
2014 - Jun - 06	01 : 20	49.3	60.7	42.0	51.7	45.6
2014 - Jun - 06	01 : 25	50.3	60.2	40.9	53.3	45.3
2014 - Jun - 06	01 : 30	49.9	60.4	41.8	52.5	45.2
2014 - Jun - 06	01 : 35	50.3	65.6	40.6	53.1	44.6
2014 - Jun - 06	01 : 40	47.7	56.3	39.2	50.9	42.9
2014 - Jun - 06	01 : 45	49.1	56.8	39.9	52.2	43.7
2014 - Jun - 06	01 : 50	48.6	58.3	40.6	51.4	43.6
2014 - Jun - 06	01 : 55	48.2	57.4	39.8	51.5	42.1
2014 - Jun - 06	02 : 00	48.8	58.9	42.0	51.6	44.1
2014 - Jun - 06	02 : 05	49.5	60.0	42.8	52.3	44.9
2014 - Jun - 06	02 : 10	49.3	58.7	40.1	53.5	42.9
2014 - Jun - 06	02 : 15	48.8	59.8	41.7	51.8	43.8
2014 - Jun - 06	02 : 20	48.3	58.8	41.2	51.3	43.2
2014 - Jun - 06	02 : 25	47.9	56.7	38.0	51.5	41.3
2014 - Jun - 06	02 : 30	50.0	60.5	40.2	53.1	43.0
2014 - Jun - 06	02 : 35	51.9	68.5	38.2	52.8	41.8
2014 - Jun - 06	02 : 40	49.1	61.3	39.1	52.0	43.6
2014 - Jun - 06	02 : 45	48.5	57.0	40.1	52.2	43.1
2014 - Jun - 06	02 : 50	48.8	58.7	39.9	52.3	42.3
2014 - Jun - 06	02 : 55	47.9	55.6	38.9	51.5	41.9
2014 - Jun - 06	03 : 00	48.5	57.1	39.9	51.6	43.3
2014 - Jun - 06	03 : 05	47.6	56.7	39.5	51.1	42.5
2014 - Jun - 06	03 : 10	48.7	57.5	40.0	52.2	43.0
2014 - Jun - 06	03 : 15	48.4	58.6	39.1	51.7	42.8
2014 - Jun - 06	03 : 20	49.0	59.4	40.8	52.7	42.7
2014 - Jun - 06	03 : 25	48.2	55.7	39.2	51.6	42.1
2014 - Jun - 06	03 : 30	48.7	58.9	40.7	51.5	43.4
2014 - Jun - 06	03 : 35	49.4	58.9	41.4	53.3	43.4
2014 - Jun - 06	03 : 40	49.8	57.7	37.4	53.2	41.9
2014 - Jun - 06	03 : 45	48.5	57.1	40.6	52.2	42.9
2014 - Jun - 06	03 : 50	49.7	58.8	41.8	52.7	44.8
2014 - Jun - 06	03 : 55	49.2	58.0	41.1	51.9	44.0
2014 - Jun - 06	04 : 00	48.9	58.1	40.9	52.3	43.1
2014 - Jun - 06	04 : 05	56.2	76.5	40.3	54.1	43.8
2014 - Jun - 06	04 : 10	49.0	56.8	39.9	52.6	43.3
2014 - Jun - 06	04 : 15	48.6	57.3	40.0	51.7	43.2
2014 - Jun - 06	04 : 20	57.5	79.0	41.0	56.4	44.2
2014 - Jun - 06	04 : 25	51.3	68.0	41.2	52.9	43.8
2014 - Jun - 06	04 : 30	50.7	63.1	41.1	54.2	44.8
2014 - Jun - 06	04 : 35	49.5	58.2	39.5	53.1	44.3
2014 - Jun - 06	04 : 40	49.7	57.6	40.0	53.6	42.7
2014 - Jun - 06	04 : 45	50.8	61.4	40.6	54.1	44.6
2014 - Jun - 06	04 : 50	50.2	57.4	40.0	53.8	43.8
2014 - Jun - 06	04 : 55	51.2	60.9	39.0	54.7	43.4

Date	Start Time	LAeq	LAFmax	LAFmin	LAF10	LAF90
2014 - Jun - 06	05 : 00	52.3	69.0	39.7	54.0	44.2
2014 - Jun - 06	05 : 05	49.8	59.1	42.1	52.8	44.6
2014 - Jun - 06	05 : 10	53.2	60.6	42.6	55.7	48.1
2014 - Jun - 06	05 : 15	54.2	71.6	48.7	56.0	51.5
2014 - Jun - 06	05 : 20	54.5	72.4	49.2	56.4	51.3
2014 - Jun - 06	05 : 25	55.6	70.6	44.2	57.0	47.5
2014 - Jun - 06	05 : 30	50.1	60.0	40.8	52.7	44.5
2014 - Jun - 06	05 : 35	50.6	57.3	40.8	53.9	44.7
2014 - Jun - 06	05 : 40	50.1	62.5	41.2	53.7	44.2
2014 - Jun - 06	05 : 45	50.9	62.7	40.4	54.2	45.3
2014 - Jun - 06	05 : 50	50.9	59.8	43.2	53.7	45.6
2014 - Jun - 06	05 : 55	51.3	62.8	43.9	54.3	46.1
2014 - Jun - 06	06 : 00	51.5	64.4	42.8	54.5	45.5
2014 - Jun - 06	06 : 05	51.8	61.8	44.7	54.6	46.5
2014 - Jun - 06	06 : 10	50.6	62.0	42.3	53.0	45.9
2014 - Jun - 06	06 : 15	51.3	57.5	43.7	54.1	46.5
2014 - Jun - 06	06 : 20	52.2	63.4	44.2	54.5	46.8
2014 - Jun - 06	06 : 25	51.8	66.1	44.4	54.2	47.5
2014 - Jun - 06	06 : 30	51.9	62.7	46.4	54.5	48.3
2014 - Jun - 06	06 : 35	51.3	59.8	45.0	54.0	47.1
2014 - Jun - 06	06 : 40	51.9	59.5	45.6	54.7	48.0
2014 - Jun - 06	06 : 45	52.6	65.6	47.2	54.7	48.9
2014 - Jun - 06	06 : 50	53.5	67.5	45.3	55.9	48.2
2014 - Jun - 06	06 : 55	52.5	68.0	44.9	54.5	47.8
2014 - Jun - 06	07 : 00	52.0	63.8	45.6	54.7	47.5
2014 - Jun - 06	07 : 05	51.7	62.1	45.6	53.6	47.9
2014 - Jun - 06	07 : 10	53.5	70.9	46.8	56.5	48.2
2014 - Jun - 06	07 : 15	52.8	63.4	45.6	55.6	48.6
2014 - Jun - 06	07 : 20	52.4	59.9	46.7	54.9	48.7
2014 - Jun - 06	07 : 25	53.0	63.3	47.8	55.1	49.5
2014 - Jun - 06	07 : 30	53.1	65.1	47.2	55.5	48.9
2014 - Jun - 06	07 : 35	52.4	63.5	46.0	54.8	48.4
2014 - Jun - 06	07 : 40	52.4	65.2	47.3	54.5	49.2
2014 - Jun - 06	07 : 45	54.9	70.6	47.5	55.3	49.3
2014 - Jun - 06	07 : 50	56.1	74.6	46.9	57.6	49.4
2014 - Jun - 06	07 : 55	58.4	77.6	46.7	58.7	48.8
2014 - Jun - 06	08 : 00	54.3	72.7	46.7	54.7	48.4
2014 - Jun - 06	08 : 05	51.7	58.7	47.5	53.6	49.1
2014 - Jun - 06	08 : 10	63.9	88.6	48.0	66.0	50.0
2014 - Jun - 06	08 : 15	55.9	81.0	47.8	56.8	49.4
2014 - Jun - 06	08 : 20	59.8	69.9	47.6	64.7	50.8
2014 - Jun - 06	08 : 25	57.9	72.0	47.4	63.0	49.4
2014 - Jun - 06	08 : 30	58.7	77.6	47.7	64.0	49.4
2014 - Jun - 06	08 : 35	58.6	70.9	46.4	63.7	49.2
2014 - Jun - 06	08 : 40	54.1	65.1	47.7	56.8	49.8
2014 - Jun - 06	08 : 45	55.6	70.4	46.6	59.8	49.3
2014 - Jun - 06	08 : 50	57.6	73.8	47.0	62.2	49.3
2014 - Jun - 06	08 : 55	58.7	67.6	47.3	63.0	49.4
2014 - Jun - 06	09 : 00	59.2	76.2	47.7	60.4	49.4
2014 - Jun - 06	09 : 05	55.8	77.2	47.7	57.5	49.6
2014 - Jun - 06	09 : 10	55.4	80.7	46.3	56.6	48.6
2014 - Jun - 06	09 : 15	53.2	71.7	49.2	54.4	50.4
2014 - Jun - 06	09 : 20	56.2	74.8	49.3	57.8	51.1
2014 - Jun - 06	09 : 25	55.7	79.8	49.2	57.2	50.4
2014 - Jun - 06	09 : 30	60.2	83.1	47.2	57.7	50.6
2014 - Jun - 06	09 : 35	56.7	69.3	49.9	60.0	51.3
2014 - Jun - 06	09 : 40	56.1	66.9	48.0	60.5	50.7
2014 - Jun - 06	09 : 45	52.7	73.4	45.9	54.1	48.1
2014 - Jun - 06	09 : 50	56.5	78.2	46.2	59.8	49.4
2014 - Jun - 06	09 : 55	54.3	66.0	47.1	56.8	49.8
2014 - Jun - 06	10 : 00	53.4	66.3	47.6	55.3	49.8
2014 - Jun - 06	10 : 05	52.3	66.6	47.0	54.2	48.9
2014 - Jun - 06	10 : 10	57.4	72.2	47.4	59.9	49.3
2014 - Jun - 06	10 : 15	56.7	79.1	46.7	59.8	48.6
2014 - Jun - 06	10 : 20	65.7	80.2	48.9	70.4	51.7
2014 - Jun - 06	10 : 25	75.0	87.8	71.1	75.2	73.3
2014 - Jun - 06	10 : 30	75.7	88.7	71.8	75.9	73.4
2014 - Jun - 06	10 : 35	76.3	93.8	72.2	77.5	73.3

Date	Start Time	LAeq	LAFmax	LAFmin	LAF10	LAF90
2014 - Jun - 06	10 : 40	68.7	77.4	47.3	73.3	51.8
2014 - Jun - 06	10 : 45	55.2	75.6	47.0	55.6	49.3
2014 - Jun - 06	10 : 50	51.7	67.9	47.3	53.5	48.8
2014 - Jun - 06	10 : 55	52.3	65.9	46.2	54.0	48.6
2014 - Jun - 06	11 : 00	51.6	61.7	48.2	53.4	49.5
2014 - Jun - 06	11 : 05	53.5	66.9	49.0	55.0	50.7
2014 - Jun - 06	11 : 10	51.9	60.6	48.2	53.5	49.8
2014 - Jun - 06	11 : 15	52.4	62.9	48.5	54.4	50.2
2014 - Jun - 06	11 : 20	53.6	64.1	49.0	55.6	50.9
2014 - Jun - 06	11 : 25	54.6	71.8	46.9	56.3	49.5
2014 - Jun - 06	11 : 30	56.8	74.0	48.5	58.8	50.4
2014 - Jun - 06	11 : 35	57.5	79.4	48.5	57.8	49.8
2014 - Jun - 06	11 : 40	63.1	79.2	47.6	65.5	49.5
2014 - Jun - 06	11 : 45	56.9	71.5	49.2	59.3	50.8
2014 - Jun - 06	11 : 50	52.6	62.2	48.1	54.9	49.5
2014 - Jun - 06	11 : 55	51.6	61.3	47.6	53.2	49.3
2014 - Jun - 06	12 : 00	57.8	73.7	48.5	57.5	50.5
2014 - Jun - 06	12 : 05	54.8	67.0	49.4	57.9	50.8
2014 - Jun - 06	12 : 10	52.5	66.9	49.0	54.1	50.2
2014 - Jun - 06	12 : 15	53.3	67.0	48.0	55.5	50.1
2014 - Jun - 06	12 : 20	65.4	91.7	49.0	56.0	50.5
2014 - Jun - 06	12 : 25	60.2	89.4	50.0	56.0	51.3
2014 - Jun - 06	12 : 30	58.8	69.7	49.8	61.6	51.3
2014 - Jun - 06	12 : 35	62.2	81.8	58.0	63.0	59.5
2014 - Jun - 06	12 : 40	61.9	77.6	57.7	63.6	59.3
2014 - Jun - 06	12 : 45	62.3	78.3	57.8	64.0	58.9
2014 - Jun - 06	12 : 50	60.8	78.1	56.9	62.2	58.1
2014 - Jun - 06	12 : 55	57.7	72.1	48.4	61.8	50.2
2014 - Jun - 06	13 : 00	57.1	73.1	47.9	56.2	49.4
2014 - Jun - 06	13 : 05	54.2	68.5	49.1	56.1	50.2
2014 - Jun - 06	13 : 10	56.0	75.0	48.0	57.7	49.7
2014 - Jun - 06	13 : 15	51.8	65.5	48.0	53.2	49.4
2014 - Jun - 06	13 : 20	55.0	68.9	49.6	55.2	51.3
2014 - Jun - 06	13 : 25	51.6	60.7	47.6	53.4	49.3
2014 - Jun - 06	13 : 30	52.0	63.4	49.1	53.7	50.2
2014 - Jun - 06	13 : 35	52.4	63.2	48.9	54.1	50.5
2014 - Jun - 06	13 : 40	51.0	71.8	47.9	52.1	49.0
2014 - Jun - 06	13 : 45	57.2	72.1	48.4	60.4	51.1
2014 - Jun - 06	13 : 50	61.3	79.0	48.1	62.2	51.2
2014 - Jun - 06	13 : 55	60.8	84.1	48.9	56.5	50.4
2014 - Jun - 06	14 : 00	65.9	89.6	48.5	64.9	49.8
2014 - Jun - 06	14 : 05	62.0	85.2	48.9	60.5	50.7
2014 - Jun - 06	14 : 10	67.1	88.2	48.6	68.7	52.8
2014 - Jun - 06	14 : 15	69.3	90.6	50.0	72.1	58.6
2014 - Jun - 06	14 : 20	67.8	80.0	54.7	69.2	63.5
2014 - Jun - 06	14 : 25	67.5	83.7	54.8	68.8	59.8
2014 - Jun - 06	14 : 30	66.7	78.4	50.0	68.9	56.2
2014 - Jun - 06	14 : 35	67.6	72.8	55.2	69.4	62.3
2014 - Jun - 06	14 : 40	67.2	72.3	56.2	69.1	61.1
2014 - Jun - 06	14 : 45	66.6	74.5	55.9	68.5	63.5
2014 - Jun - 06	14 : 50	67.1	87.7	50.2	68.3	57.7
2014 - Jun - 06	14 : 55	67.5	84.5	50.5	69.3	59.5
2014 - Jun - 06	15 : 00	65.5	83.0	50.0	68.6	52.1
2014 - Jun - 06	15 : 05	65.6	89.4	48.8	67.3	51.2
2014 - Jun - 06	15 : 10	66.9	76.6	50.8	69.0	57.4
2014 - Jun - 06	15 : 15	61.5	81.8	48.2	66.6	49.4
2014 - Jun - 06	15 : 20	64.5	89.1	48.3	65.3	50.2
2014 - Jun - 06	15 : 25	68.2	84.8	50.7	69.5	57.5
2014 - Jun - 06	15 : 30	67.0	70.9	51.6	69.1	58.5
2014 - Jun - 06	15 : 35	69.9	88.3	50.2	69.4	59.0
2014 - Jun - 06	15 : 40	66.3	84.2	51.5	67.3	58.5
2014 - Jun - 06	15 : 45	69.7	86.6	51.4	70.8	59.2
2014 - Jun - 06	15 : 50	67.0	80.7	53.4	68.5	59.6
2014 - Jun - 06	15 : 55	66.7	70.7	50.6	68.7	57.7
2014 - Jun - 06	16 : 00	68.5	94.3	49.3	69.2	56.5
2014 - Jun - 06	16 : 05	61.8	76.6	47.0	66.8	49.4
2014 - Jun - 06	16 : 10	57.2	83.5	47.3	56.5	49.4
2014 - Jun - 06	16 : 15	51.1	62.7	46.1	53.2	48.0

Date	Start Time	LAeq	LAFmax	LAFmin	LAF10	LAF90
2014 - Jun - 06	16 : 20	56.3	71.4	46.8	60.3	48.8
2014 - Jun - 06	16 : 25	54.7	74.0	46.8	54.0	48.7
2014 - Jun - 06	16 : 30	54.6	67.6	47.5	55.5	49.1
2014 - Jun - 06	16 : 35	52.3	66.1	47.9	53.9	49.5
2014 - Jun - 06	16 : 40	51.3	63.9	47.0	53.1	48.6
2014 - Jun - 06	16 : 45	53.0	74.0	47.8	53.5	49.7
2014 - Jun - 06	16 : 50	52.0	63.4	47.3	54.0	49.5
2014 - Jun - 06	16 : 55	65.2	80.1	46.8	70.6	49.6
2014 - Jun - 06	17 : 00	50.9	58.3	47.3	52.5	48.6
2014 - Jun - 06	17 : 05	52.8	67.3	46.8	55.1	48.7
2014 - Jun - 06	17 : 10	51.8	60.3	48.1	53.6	49.7
2014 - Jun - 06	17 : 15	51.8	62.7	48.1	53.7	49.6
2014 - Jun - 06	17 : 20	52.6	66.4	47.2	53.9	49.0
2014 - Jun - 06	17 : 25	52.5	64.9	47.1	54.3	49.0
2014 - Jun - 06	17 : 30	50.7	61.1	46.5	52.3	48.2
2014 - Jun - 06	17 : 35	52.7	64.6	47.6	54.8	49.9
2014 - Jun - 06	17 : 40	58.9	76.7	46.7	59.5	49.3
2014 - Jun - 06	17 : 45	54.4	67.6	46.9	57.9	49.0
2014 - Jun - 06	17 : 50	52.9	63.4	46.5	54.8	49.0
2014 - Jun - 06	17 : 55	55.3	69.7	47.4	58.7	49.3
2014 - Jun - 06	18 : 00	52.4	61.8	47.4	54.4	49.3
2014 - Jun - 06	18 : 05	50.8	61.3	46.1	52.5	48.5
2014 - Jun - 06	18 : 10	51.7	66.5	47.7	53.6	49.0
2014 - Jun - 06	18 : 15	62.5	86.3	47.2	63.9	49.6
2014 - Jun - 06	18 : 20	64.4	86.7	47.9	67.9	52.2
2014 - Jun - 06	18 : 25	64.3	83.5	49.2	67.5	52.6
2014 - Jun - 06	18 : 30	60.1	81.8	47.7	62.7	50.6
2014 - Jun - 06	18 : 35	63.5	84.8	46.9	64.5	50.0
2014 - Jun - 06	18 : 40	70.7	87.8	48.6	74.0	52.0
2014 - Jun - 06	18 : 45	73.3	89.4	49.5	77.1	53.7
2014 - Jun - 06	18 : 50	73.3	87.3	49.3	77.4	54.0
2014 - Jun - 06	18 : 55	71.5	88.6	48.0	75.0	52.8
2014 - Jun - 06	19 : 00	71.9	90.8	48.7	74.6	52.7
2014 - Jun - 06	19 : 05	70.7	89.1	49.7	73.7	53.8
2014 - Jun - 06	19 : 10	64.1	84.5	50.0	66.3	52.8
2014 - Jun - 06	19 : 15	60.1	82.5	49.2	60.6	51.5
2014 - Jun - 06	19 : 20	63.0	85.1	49.3	63.9	51.6
2014 - Jun - 06	19 : 25	65.9	87.5	49.1	68.8	52.4
2014 - Jun - 06	19 : 30	57.9	72.2	48.2	61.1	50.6
2014 - Jun - 06	19 : 35	66.6	86.6	49.5	68.0	51.9
2014 - Jun - 06	19 : 40	71.0	90.6	49.3	74.4	55.0
2014 - Jun - 06	19 : 45	64.6	83.0	48.6	67.9	52.1
2014 - Jun - 06	19 : 50	65.9	84.4	47.8	66.8	51.0
2014 - Jun - 06	19 : 55	66.8	85.0	49.1	69.7	53.6
2014 - Jun - 06	20 : 00	66.6	84.5	48.8	69.4	53.6
2014 - Jun - 06	20 : 05	64.1	88.1	48.3	62.7	50.3
2014 - Jun - 06	20 : 10	51.9	58.9	47.5	54.2	49.4
2014 - Jun - 06	20 : 15	51.6	57.9	47.8	53.6	49.3
2014 - Jun - 06	20 : 20	51.5	62.1	46.3	53.3	48.6
2014 - Jun - 06	20 : 25	52.7	63.3	47.0	55.4	48.5
2014 - Jun - 06	20 : 30	51.4	65.9	46.6	53.4	48.4
2014 - Jun - 06	20 : 35	53.5	67.4	46.9	55.9	49.6
2014 - Jun - 06	20 : 40	54.7	68.7	47.2	56.7	50.1
2014 - Jun - 06	20 : 45	53.5	73.0	47.3	54.9	49.3
2014 - Jun - 06	20 : 50	52.3	64.2	46.1	53.9	48.6
2014 - Jun - 06	20 : 55	52.4	63.4	46.5	54.6	49.3
2014 - Jun - 06	21 : 00	52.9	66.7	47.3	55.0	48.9
2014 - Jun - 06	21 : 05	57.4	75.4	47.0	57.9	48.7
2014 - Jun - 06	21 : 10	50.8	67.8	46.2	52.5	48.2
2014 - Jun - 06	21 : 15	51.7	62.9	47.2	53.4	48.9
2014 - Jun - 06	21 : 20	51.7	65.5	47.4	53.5	48.9
2014 - Jun - 06	21 : 25	51.4	63.1	46.4	53.6	48.2
2014 - Jun - 06	21 : 30	51.6	62.4	47.3	53.5	49.0
2014 - Jun - 06	21 : 35	51.2	57.6	46.7	53.0	48.8
2014 - Jun - 06	21 : 40	51.3	62.4	47.0	53.6	48.3
2014 - Jun - 06	21 : 45	51.4	58.4	47.5	53.1	49.0
2014 - Jun - 06	21 : 50	51.0	64.1	46.5	53.2	48.0
2014 - Jun - 06	21 : 55	51.4	64.2	46.9	53.1	48.6

Date	Start Time	LAeq	LAFmax	LAFmin	LAF10	LAF90
2014 - Jun - 06	22 : 00	54.0	72.0	47.4	57.5	49.1
2014 - Jun - 06	22 : 05	52.5	63.0	47.7	54.4	49.5
2014 - Jun - 06	22 : 10	51.5	61.0	47.4	53.5	48.9
2014 - Jun - 06	22 : 15	53.5	67.7	47.7	56.5	49.2
2014 - Jun - 06	22 : 20	57.2	76.0	46.6	56.6	49.8
2014 - Jun - 06	22 : 25	53.2	64.7	48.3	54.9	49.6
2014 - Jun - 06	22 : 30	51.1	61.0	47.2	53.1	48.8
2014 - Jun - 06	22 : 35	55.5	72.7	47.6	55.2	49.3
2014 - Jun - 06	22 : 40	52.7	65.3	47.9	54.7	49.8
2014 - Jun - 06	22 : 45	52.4	62.1	48.2	53.9	49.9
2014 - Jun - 06	22 : 50	52.4	59.0	48.3	54.5	49.4
2014 - Jun - 06	22 : 55	52.5	64.2	48.0	54.5	49.3
2014 - Jun - 06	23 : 00	51.2	57.6	47.6	53.1	49.0
2014 - Jun - 06	23 : 05	52.4	65.6	47.5	54.2	49.4
2014 - Jun - 06	23 : 10	51.4	57.4	47.7	53.5	49.1
2014 - Jun - 06	23 : 15	51.3	61.7	46.9	53.0	48.7
2014 - Jun - 06	23 : 20	51.7	61.3	47.2	54.1	49.2
2014 - Jun - 06	23 : 25	51.3	62.6	47.3	53.0	48.9
2014 - Jun - 06	23 : 30	50.9	58.5	47.0	52.4	48.7
2014 - Jun - 06	23 : 35	52.2	60.0	47.2	54.9	49.0
2014 - Jun - 06	23 : 40	51.6	62.2	47.4	53.2	48.8
2014 - Jun - 06	23 : 45	52.4	71.5	45.4	54.2	48.0
2014 - Jun - 06	23 : 50	51.4	63.5	46.7	53.2	48.7
2014 - Jun - 06	23 : 55	51.3	60.0	47.0	53.3	48.5
2014 - Jun - 07	00 : 00	52.8	63.4	47.1	55.0	49.2
2014 - Jun - 07	00 : 05	51.2	62.5	47.3	52.9	48.7
2014 - Jun - 07	00 : 10	52.6	63.3	47.6	54.8	49.3
2014 - Jun - 07	00 : 15	53.6	64.2	48.0	55.8	50.5
2014 - Jun - 07	00 : 20	53.1	65.2	46.3	55.6	48.5
2014 - Jun - 07	00 : 25	52.5	59.6	47.5	55.1	49.3
2014 - Jun - 07	00 : 30	53.0	64.2	46.2	55.7	49.2
2014 - Jun - 07	00 : 35	58.0	68.4	47.7	61.6	50.7
2014 - Jun - 07	00 : 40	56.6	69.2	46.8	59.7	49.9
2014 - Jun - 07	00 : 45	53.7	63.4	46.7	56.1	49.9
2014 - Jun - 07	00 : 50	54.5	65.9	47.3	57.0	50.6
2014 - Jun - 07	00 : 55	51.5	60.1	45.4	53.5	48.6
2014 - Jun - 07	01 : 00	52.0	64.9	46.9	53.7	48.5
2014 - Jun - 07	01 : 05	51.2	68.2	46.2	53.3	48.1
2014 - Jun - 07	01 : 10	53.2	65.5	46.9	55.0	49.3
2014 - Jun - 07	01 : 15	51.4	62.2	45.6	53.5	48.2
2014 - Jun - 07	01 : 20	52.8	69.4	46.0	55.1	48.3
2014 - Jun - 07	01 : 25	56.4	76.1	46.1	57.1	49.3
2014 - Jun - 07	01 : 30	50.9	63.8	44.8	52.7	47.3
2014 - Jun - 07	01 : 35	52.4	60.6	46.5	54.8	48.5
2014 - Jun - 07	01 : 40	51.4	61.5	44.4	53.7	48.1
2014 - Jun - 07	01 : 45	51.5	59.6	44.8	54.0	47.6
2014 - Jun - 07	01 : 50	52.0	66.8	46.0	53.7	47.9
2014 - Jun - 07	01 : 55	50.6	57.2	44.2	52.8	46.9
2014 - Jun - 07	02 : 00	56.3	78.4	44.2	54.8	47.0
2014 - Jun - 07	02 : 05	50.9	62.0	44.3	53.3	46.2
2014 - Jun - 07	02 : 10	54.4	68.4	44.9	56.0	46.8
2014 - Jun - 07	02 : 15	51.5	62.2	45.8	53.6	48.2
2014 - Jun - 07	02 : 20	49.8	57.4	44.2	52.2	46.3
2014 - Jun - 07	02 : 25	50.4	60.4	43.9	53.1	46.8
2014 - Jun - 07	02 : 30	50.3	57.4	45.1	52.5	47.1
2014 - Jun - 07	02 : 35	49.6	57.3	44.5	51.8	46.4
2014 - Jun - 07	02 : 40	50.4	62.6	43.6	52.6	45.3
2014 - Jun - 07	02 : 45	50.7	62.3	44.2	53.3	46.4
2014 - Jun - 07	02 : 50	49.7	58.4	44.4	52.1	45.9
2014 - Jun - 07	02 : 55	50.3	58.8	44.5	53.3	46.0
2014 - Jun - 07	03 : 00	50.0	57.4	44.4	52.6	46.5
2014 - Jun - 07	03 : 05	51.2	67.6	44.0	53.4	46.5
2014 - Jun - 07	03 : 10	55.3	75.1	43.9	54.7	46.3
2014 - Jun - 07	03 : 15	51.8	67.0	44.4	54.1	47.1
2014 - Jun - 07	03 : 20	50.0	57.6	43.3	52.4	46.1
2014 - Jun - 07	03 : 25	56.1	77.0	44.3	56.0	46.3
2014 - Jun - 07	03 : 30	50.4	61.4	43.7	52.7	46.3
2014 - Jun - 07	03 : 35	57.3	75.7	45.3	58.2	47.5

Date	Start Time	LAeq	LAFmax	LAFmin	LAF10	LAF90
2014 - Jun - 07	03 : 40	50.6	57.8	45.1	52.9	47.3
2014 - Jun - 07	03 : 45	59.8	66.3	51.9	62.2	56.1
2014 - Jun - 07	03 : 50	58.2	65.7	48.2	61.4	53.5
2014 - Jun - 07	03 : 55	59.2	71.3	53.1	61.5	55.3
2014 - Jun - 07	04 : 00	58.4	66.7	44.5	62.0	46.2
2014 - Jun - 07	04 : 05	53.8	73.6	43.9	56.0	46.5
2014 - Jun - 07	04 : 10	51.8	66.9	44.8	54.0	46.6
2014 - Jun - 07	04 : 15	50.9	60.6	45.8	53.0	47.7
2014 - Jun - 07	04 : 20	50.6	60.7	44.4	53.3	46.1
2014 - Jun - 07	04 : 25	51.3	65.7	44.2	53.8	46.4
2014 - Jun - 07	04 : 30	49.4	56.7	43.0	52.7	45.0
2014 - Jun - 07	04 : 35	50.3	60.3	43.5	53.0	46.0
2014 - Jun - 07	04 : 40	49.8	63.9	42.6	52.7	45.2
2014 - Jun - 07	04 : 45	53.5	81.0	42.8	52.9	46.1
2014 - Jun - 07	04 : 50	50.2	69.3	42.8	53.1	45.0
2014 - Jun - 07	04 : 55	51.8	67.4	43.0	53.8	45.9
2014 - Jun - 07	05 : 00	52.1	64.1	43.0	55.3	45.8
2014 - Jun - 07	05 : 05	51.0	66.8	42.0	53.9	45.1
2014 - Jun - 07	05 : 10	50.4	63.3	44.3	53.5	45.9
2014 - Jun - 07	05 : 15	50.9	61.6	43.8	53.6	46.3
2014 - Jun - 07	05 : 20	51.1	61.6	43.5	53.8	46.6
2014 - Jun - 07	05 : 25	51.6	60.6	44.3	54.9	47.6
2014 - Jun - 07	05 : 30	53.5	70.2	43.8	54.4	46.3
2014 - Jun - 07	05 : 35	51.8	60.2	44.6	54.5	47.2
2014 - Jun - 07	05 : 40	51.0	61.0	43.8	54.0	46.4
2014 - Jun - 07	05 : 45	50.8	59.0	43.2	53.5	46.1
2014 - Jun - 07	05 : 50	50.3	62.5	43.0	53.4	44.9
2014 - Jun - 07	05 : 55	51.1	62.7	43.6	53.9	46.2
2014 - Jun - 07	06 : 00	50.9	68.6	45.0	52.4	46.7
2014 - Jun - 07	06 : 05	50.5	62.5	44.2	52.9	46.9
2014 - Jun - 07	06 : 10	50.3	65.0	44.1	51.6	46.0
2014 - Jun - 07	06 : 15	51.2	62.2	44.7	53.5	47.3
2014 - Jun - 07	06 : 20	52.2	65.2	44.5	54.1	47.6
2014 - Jun - 07	06 : 25	55.2	69.1	44.7	58.4	47.9
2014 - Jun - 07	06 : 30	52.2	63.1	45.0	54.6	48.1
2014 - Jun - 07	06 : 35	50.7	63.6	44.3	53.3	46.3
2014 - Jun - 07	06 : 40	51.0	59.8	44.8	53.0	47.8
2014 - Jun - 07	06 : 45	52.0	60.7	46.2	54.4	48.6
2014 - Jun - 07	06 : 50	52.9	62.3	46.3	55.6	48.2
2014 - Jun - 07	06 : 55	51.7	59.2	45.8	54.3	47.5
2014 - Jun - 07	07 : 00	59.1	76.6	46.3	61.2	47.9
2014 - Jun - 07	07 : 05	51.2	58.6	43.6	54.4	46.5
2014 - Jun - 07	07 : 10	53.2	59.0	45.9	55.5	48.6
2014 - Jun - 07	07 : 15	53.6	61.5	47.3	55.9	49.6
2014 - Jun - 07	07 : 20	51.7	57.9	46.1	54.7	48.1
2014 - Jun - 07	07 : 25	52.7	66.7	46.6	54.8	49.4
2014 - Jun - 07	07 : 30	55.5	80.3	46.2	56.1	49.0
2014 - Jun - 07	07 : 35	58.4	84.3	48.0	59.1	50.2
2014 - Jun - 07	07 : 40	57.1	80.9	46.8	57.3	49.7
2014 - Jun - 07	07 : 45	62.5	81.6	47.5	64.7	49.9
2014 - Jun - 07	07 : 50	55.0	75.6	46.1	54.6	48.3
2014 - Jun - 07	07 : 55	54.4	61.6	47.3	57.3	49.7
2014 - Jun - 07	08 : 00	52.8	66.5	47.5	54.9	49.5
2014 - Jun - 07	08 : 05	54.7	69.4	48.0	57.4	49.8
2014 - Jun - 07	08 : 10	70.0	79.8	52.8	72.4	55.5
2014 - Jun - 07	08 : 15	72.0	79.2	68.0	75.7	68.6
2014 - Jun - 07	08 : 20	69.5	77.7	68.0	69.5	68.5
2014 - Jun - 07	08 : 25	73.0	78.0	68.1	76.4	68.7
2014 - Jun - 07	08 : 30	69.6	77.5	67.9	70.5	68.4
2014 - Jun - 07	08 : 35	67.1	83.7	48.4	69.5	51.1
2014 - Jun - 07	08 : 40	64.1	77.8	48.8	68.3	50.8
2014 - Jun - 07	08 : 45	61.8	82.4	46.4	62.2	49.7
2014 - Jun - 07	08 : 50	67.7	86.6	48.4	70.2	52.5
2014 - Jun - 07	08 : 55	56.4	78.5	48.4	57.5	50.7
2014 - Jun - 07	09 : 00	56.4	77.6	47.9	58.0	50.6
2014 - Jun - 07	09 : 05	53.2	72.1	47.2	55.6	48.9
2014 - Jun - 07	09 : 10	54.8	77.2	46.5	53.9	48.7
2014 - Jun - 07	09 : 15	54.3	69.4	45.2	56.7	47.7

Date	Start Time	LAeq	LAFmax	LAFmin	LAF10	LAF90
2014 - Jun - 07	09 : 20	51.4	63.5	46.4	53.3	48.0
2014 - Jun - 07	09 : 25	53.4	68.9	47.5	55.1	49.5
2014 - Jun - 07	09 : 30	52.0	60.9	46.4	54.2	48.8
2014 - Jun - 07	09 : 35	58.4	79.0	46.2	58.7	49.0
2014 - Jun - 07	09 : 40	54.2	69.8	45.5	56.6	47.9
2014 - Jun - 07	09 : 45	51.3	61.0	45.3	53.2	48.3
2014 - Jun - 07	09 : 50	51.2	58.0	44.9	53.7	47.3
2014 - Jun - 07	09 : 55	51.2	59.6	47.0	52.9	48.6
2014 - Jun - 07	10 : 00	60.5	66.6	50.4	63.7	56.2
2014 - Jun - 07	10 : 05	58.9	66.8	51.7	62.1	53.5
2014 - Jun - 07	10 : 10	53.7	63.0	48.7	55.3	50.8
2014 - Jun - 07	10 : 15	59.4	71.0	49.9	63.7	52.2
2014 - Jun - 07	10 : 20	55.9	63.1	52.0	57.3	54.2
2014 - Jun - 07	10 : 25	54.8	65.5	50.6	56.2	52.8
2014 - Jun - 07	10 : 30	52.4	59.2	48.2	54.1	50.3
2014 - Jun - 07	10 : 35	53.7	62.6	48.3	56.6	50.3
2014 - Jun - 07	10 : 40	55.8	62.1	50.9	58.0	52.5
2014 - Jun - 07	10 : 45	58.9	66.0	51.7	61.9	54.4
2014 - Jun - 07	10 : 50	56.9	62.5	52.8	58.3	55.0
2014 - Jun - 07	10 : 55	55.3	60.7	50.7	57.3	52.8
2014 - Jun - 07	11 : 00	54.2	65.6	49.4	56.0	51.8
2014 - Jun - 07	11 : 05	53.3	59.7	48.0	55.1	50.8
2014 - Jun - 07	11 : 10	58.2	77.6	49.0	58.7	51.1
2014 - Jun - 07	11 : 15	51.9	57.0	47.0	54.0	49.2
2014 - Jun - 07	11 : 20	51.3	63.1	47.3	52.7	48.8
2014 - Jun - 07	11 : 25	51.7	58.3	47.0	53.9	48.8
2014 - Jun - 07	11 : 30	52.6	62.7	46.6	54.9	49.1
2014 - Jun - 07	11 : 35	51.8	63.7	46.1	54.5	48.1
2014 - Jun - 07	11 : 40	63.0	78.8	47.7	65.0	49.5
2014 - Jun - 07	11 : 45	51.7	61.3	47.8	53.7	49.2
2014 - Jun - 07	11 : 50	53.9	67.7	47.4	55.1	48.8
2014 - Jun - 07	11 : 55	55.7	71.0	48.2	57.2	49.8
2014 - Jun - 07	12 : 00	54.0	66.1	48.2	57.2	49.9
2014 - Jun - 07	12 : 05	53.2	64.8	47.0	55.5	49.3
2014 - Jun - 07	12 : 10	52.2	60.5	48.8	54.4	49.7
2014 - Jun - 07	12 : 15	51.6	64.4	46.5	53.2	48.7
2014 - Jun - 07	12 : 20	51.2	57.6	47.1	53.4	48.7
2014 - Jun - 07	12 : 25	56.3	76.1	46.8	56.9	49.0
2014 - Jun - 07	12 : 30	50.9	58.7	46.4	52.7	48.3
2014 - Jun - 07	12 : 35	52.0	67.5	46.8	53.6	48.3
2014 - Jun - 07	12 : 40	51.4	59.8	46.9	53.5	48.5
2014 - Jun - 07	12 : 45	50.8	57.8	46.6	53.0	48.3
2014 - Jun - 07	12 : 50	51.6	70.3	46.8	52.8	49.1
2014 - Jun - 07	12 : 55	54.7	75.5	47.7	55.0	49.4
2014 - Jun - 07	13 : 00	52.0	62.9	47.7	54.1	49.0
2014 - Jun - 07	13 : 05	59.4	74.2	47.9	62.8	49.7
2014 - Jun - 07	13 : 10	51.6	60.2	47.7	53.5	49.1
2014 - Jun - 07	13 : 15	52.3	64.5	47.1	54.3	49.0
2014 - Jun - 07	13 : 20	54.9	72.3	46.5	55.5	48.1
2014 - Jun - 07	13 : 25	50.8	58.9	45.2	52.7	47.9
2014 - Jun - 07	13 : 30	51.0	62.8	45.9	52.5	48.0
2014 - Jun - 07	13 : 35	51.1	58.9	45.5	53.7	47.3
2014 - Jun - 07	13 : 40	50.1	60.9	45.5	51.9	47.6
2014 - Jun - 07	13 : 45	51.9	64.3	46.6	54.2	48.6
2014 - Jun - 07	13 : 50	51.3	65.6	45.4	52.7	47.8
2014 - Jun - 07	13 : 55	50.9	65.6	45.2	52.9	47.5
2014 - Jun - 07	14 : 00	50.8	64.2	45.3	52.6	47.7
2014 - Jun - 07	14 : 05	51.3	63.6	46.3	53.3	47.9
2014 - Jun - 07	14 : 10	51.8	63.0	45.9	54.3	48.2
2014 - Jun - 07	14 : 15	50.1	58.9	45.7	51.8	47.3
2014 - Jun - 07	14 : 20	51.1	61.4	44.7	53.3	47.7
2014 - Jun - 07	14 : 25	50.9	64.7	45.1	53.0	47.7
2014 - Jun - 07	14 : 30	50.7	62.7	45.8	52.8	47.6
2014 - Jun - 07	14 : 35	50.1	56.6	45.6	52.4	47.4
2014 - Jun - 07	14 : 40	51.7	64.3	46.3	54.0	48.1
2014 - Jun - 07	14 : 45	53.0	61.6	45.6	55.8	48.3
2014 - Jun - 07	14 : 50	58.8	76.4	44.7	61.4	47.8
2014 - Jun - 07	14 : 55	50.9	60.4	45.4	52.5	47.6

Date	Start Time	LAeq	LAFmax	LAFmin	LAF10	LAF90
2014 - Jun - 07	15 : 00	51.9	73.0	45.8	53.6	47.2
2014 - Jun - 07	15 : 05	50.9	65.9	46.4	52.6	48.0
2014 - Jun - 07	15 : 10	50.0	59.9	43.8	52.4	46.5
2014 - Jun - 07	15 : 15	51.0	64.8	45.8	53.2	47.9
2014 - Jun - 07	15 : 20	55.1	74.8	45.3	54.2	47.0
2014 - Jun - 07	15 : 25	56.4	70.4	46.1	59.2	47.6
2014 - Jun - 07	15 : 30	50.1	58.6	45.4	52.1	47.4
2014 - Jun - 07	15 : 35	51.2	62.2	44.9	53.6	47.6
2014 - Jun - 07	15 : 40	50.7	59.1	46.4	52.7	48.1
2014 - Jun - 07	15 : 45	52.2	65.3	45.2	54.5	48.3
2014 - Jun - 07	15 : 50	57.6	76.3	45.9	56.2	48.4
2014 - Jun - 07	15 : 55	52.8	64.3	47.4	55.6	49.0
2014 - Jun - 07	16 : 00	52.8	66.1	46.8	55.0	49.6
2014 - Jun - 07	16 : 05	51.1	66.0	46.3	52.7	48.4
2014 - Jun - 07	16 : 10	56.4	70.4	47.0	58.6	48.7
2014 - Jun - 07	16 : 15	51.1	65.6	45.4	52.3	48.4
2014 - Jun - 07	16 : 20	52.3	68.8	46.4	53.7	48.5
2014 - Jun - 07	16 : 25	60.8	74.9	47.1	66.1	49.0
2014 - Jun - 07	16 : 30	51.5	69.8	47.4	52.9	48.8
2014 - Jun - 07	16 : 35	52.0	68.8	47.3	53.7	49.0
2014 - Jun - 07	16 : 40	50.4	57.8	46.9	52.2	48.4
2014 - Jun - 07	16 : 45	51.5	58.9	47.5	53.2	49.3
2014 - Jun - 07	16 : 50	53.4	66.7	47.0	54.3	49.4
2014 - Jun - 07	16 : 55	50.6	58.3	45.4	52.9	47.5
2014 - Jun - 07	17 : 00	51.3	63.2	46.2	53.6	47.5
2014 - Jun - 07	17 : 05	51.5	61.9	44.0	53.7	47.1
2014 - Jun - 07	17 : 10	52.1	65.5	44.4	53.7	46.8
2014 - Jun - 07	17 : 15	53.9	71.7	46.3	54.6	48.1
2014 - Jun - 07	17 : 20	56.1	78.4	45.4	54.4	47.8
2014 - Jun - 07	17 : 25	50.1	61.6	45.5	52.2	46.9
2014 - Jun - 07	17 : 30	50.4	61.8	45.5	52.2	47.4
2014 - Jun - 07	17 : 35	50.7	58.4	45.6	52.9	47.4
2014 - Jun - 07	17 : 40	50.1	59.0	45.2	52.3	46.7
2014 - Jun - 07	17 : 45	56.8	74.3	45.1	60.3	47.1
2014 - Jun - 07	17 : 50	63.4	83.4	46.1	67.2	49.6
2014 - Jun - 07	17 : 55	59.9	82.0	45.7	61.0	48.0
2014 - Jun - 07	18 : 00	50.9	62.4	45.8	53.3	47.3
2014 - Jun - 07	18 : 05	60.0	79.0	45.7	60.4	47.9
2014 - Jun - 07	18 : 10	50.7	58.7	45.2	52.8	48.0
2014 - Jun - 07	18 : 15	50.9	62.8	45.0	53.1	47.6
2014 - Jun - 07	18 : 20	51.6	74.2	44.8	53.0	46.9
2014 - Jun - 07	18 : 25	56.5	72.4	44.9	57.8	48.0
2014 - Jun - 07	18 : 30	53.5	70.8	46.0	55.8	48.6
2014 - Jun - 07	18 : 35	53.0	67.7	46.0	55.3	48.7
2014 - Jun - 07	18 : 40	53.9	71.2	46.1	56.3	48.8
2014 - Jun - 07	18 : 45	57.5	75.9	46.0	60.6	49.3
2014 - Jun - 07	18 : 50	57.8	77.9	45.8	60.2	49.1
2014 - Jun - 07	18 : 55	54.4	69.0	46.3	56.2	48.2
2014 - Jun - 07	19 : 00	51.8	66.4	44.5	54.0	47.5
2014 - Jun - 07	19 : 05	52.1	69.7	44.8	53.8	48.0
2014 - Jun - 07	19 : 10	49.8	61.1	44.1	51.4	47.1
2014 - Jun - 07	19 : 15	54.2	66.4	46.4	57.0	48.3
2014 - Jun - 07	19 : 20	52.7	69.3	46.7	55.1	48.5
2014 - Jun - 07	19 : 25	52.7	67.3	45.8	55.9	48.1
2014 - Jun - 07	19 : 30	54.0	64.1	46.2	57.2	48.3
2014 - Jun - 07	19 : 35	51.5	65.4	45.0	53.6	48.2
2014 - Jun - 07	19 : 40	53.2	71.2	46.4	54.9	48.9
2014 - Jun - 07	19 : 45	53.5	76.8	46.5	54.7	48.1
2014 - Jun - 07	19 : 50	52.2	69.1	46.8	54.0	48.3
2014 - Jun - 07	19 : 55	56.6	73.4	46.4	55.5	48.0
2014 - Jun - 07	20 : 00	51.7	72.1	45.7	53.0	48.4
2014 - Jun - 07	20 : 05	52.3	71.2	46.5	54.2	48.9
2014 - Jun - 07	20 : 10	53.5	71.9	46.3	55.8	48.8
2014 - Jun - 07	20 : 15	51.0	62.2	46.2	52.8	48.0
2014 - Jun - 07	20 : 20	54.3	66.5	46.0	57.3	48.2
2014 - Jun - 07	20 : 25	50.6	68.6	45.1	52.8	47.1
2014 - Jun - 07	20 : 30	51.1	67.0	45.1	53.5	47.3
2014 - Jun - 07	20 : 35	50.8	65.7	45.3	52.6	47.0

Date	Start Time	LAeq	LAFmax	LAFmin	LAF10	LAF90
2014 - Jun - 07	20 : 40	50.3	60.6	46.0	52.2	47.6
2014 - Jun - 07	20 : 45	50.0	60.0	45.1	52.1	47.1
2014 - Jun - 07	20 : 50	50.6	61.4	44.7	52.4	47.1
2014 - Jun - 07	20 : 55	52.8	66.7	45.6	55.4	47.7
2014 - Jun - 07	21 : 00	52.6	69.1	45.1	54.7	47.8
2014 - Jun - 07	21 : 05	52.0	73.5	45.4	53.2	47.6
2014 - Jun - 07	21 : 10	51.9	67.3	45.6	54.2	47.6
2014 - Jun - 07	21 : 15	57.0	76.8	44.4	55.5	47.6
2014 - Jun - 07	21 : 20	50.4	65.2	44.7	52.2	47.0
2014 - Jun - 07	21 : 25	53.4	66.6	46.2	56.8	47.8
2014 - Jun - 07	21 : 30	51.1	66.7	45.0	53.3	47.1
2014 - Jun - 07	21 : 35	52.7	69.6	44.9	54.7	47.3
2014 - Jun - 07	21 : 40	51.1	63.5	46.3	53.2	48.0
2014 - Jun - 07	21 : 45	49.3	60.1	45.2	50.9	47.0
2014 - Jun - 07	21 : 50	48.9	59.6	45.0	50.5	46.6
2014 - Jun - 07	21 : 55	49.8	59.2	44.2	52.2	46.8
2014 - Jun - 07	22 : 00	50.8	64.3	45.0	52.7	47.0
2014 - Jun - 07	22 : 05	49.9	59.3	44.5	51.9	46.9
2014 - Jun - 07	22 : 10	49.5	56.6	44.3	51.7	46.5
2014 - Jun - 07	22 : 15	49.7	57.2	44.3	52.1	46.7
2014 - Jun - 07	22 : 20	49.6	62.1	43.7	51.7	46.4
2014 - Jun - 07	22 : 25	59.0	74.9	45.8	60.9	47.5
2014 - Jun - 07	22 : 30	50.3	66.3	45.0	52.1	46.9
2014 - Jun - 07	22 : 35	49.7	61.9	45.7	51.7	47.2
2014 - Jun - 07	22 : 40	51.2	65.0	45.5	53.5	46.8
2014 - Jun - 07	22 : 45	54.1	63.3	48.6	56.3	51.2
2014 - Jun - 07	22 : 50	54.0	67.1	48.5	55.8	50.9
2014 - Jun - 07	22 : 55	57.4	74.6	47.9	60.3	50.7
2014 - Jun - 07	23 : 00	55.3	74.0	48.2	57.0	50.7
2014 - Jun - 07	23 : 05	54.8	70.4	46.3	56.7	49.6
2014 - Jun - 07	23 : 10	54.3	69.2	47.6	56.4	50.0
2014 - Jun - 07	23 : 15	54.2	67.9	47.8	56.7	49.9
2014 - Jun - 07	23 : 20	55.4	72.1	46.4	57.4	48.8
2014 - Jun - 07	23 : 25	55.8	70.5	47.6	58.6	49.9
2014 - Jun - 07	23 : 30	54.2	64.1	46.7	56.6	50.1
2014 - Jun - 07	23 : 35	54.4	73.1	45.3	56.9	48.7
2014 - Jun - 07	23 : 40	50.9	63.7	44.0	53.1	46.1
2014 - Jun - 07	23 : 45	50.1	61.5	44.5	52.3	46.5
2014 - Jun - 07	23 : 50	50.8	61.6	44.6	52.6	46.4
2014 - Jun - 07	23 : 55	50.8	65.6	45.3	53.2	47.4
2014 - Jun - 08	00 : 00	55.4	73.3	45.0	54.8	46.6
2014 - Jun - 08	00 : 05	50.0	65.3	45.3	51.8	47.0
2014 - Jun - 08	00 : 10	51.2	62.8	43.7	52.8	46.5
2014 - Jun - 08	00 : 15	50.7	69.3	44.5	52.2	46.4
2014 - Jun - 08	00 : 20	52.8	68.6	44.6	53.7	47.2
2014 - Jun - 08	00 : 25	50.9	59.1	45.3	53.2	47.3
2014 - Jun - 08	00 : 30	50.1	59.7	45.3	52.0	46.9
2014 - Jun - 08	00 : 35	49.7	57.6	45.2	51.7	46.9
2014 - Jun - 08	00 : 40	50.9	64.2	44.2	53.2	46.5
2014 - Jun - 08	00 : 45	49.2	59.5	42.7	51.7	46.0
2014 - Jun - 08	00 : 50	49.8	56.6	43.9	52.5	46.2
2014 - Jun - 08	00 : 55	71.2	94.6	43.9	69.8	46.1
2014 - Jun - 08	01 : 00	75.3	96.1	44.3	60.7	46.0
2014 - Jun - 08	01 : 05	49.4	66.0	44.5	51.4	46.5
2014 - Jun - 08	01 : 10	51.1	67.9	44.3	53.1	46.8
2014 - Jun - 08	01 : 15	50.6	62.2	46.0	52.5	47.7
2014 - Jun - 08	01 : 20	56.6	76.3	44.3	57.5	47.1
2014 - Jun - 08	01 : 25	57.8	77.8	43.9	55.3	46.2
2014 - Jun - 08	01 : 30	57.7	78.0	43.7	55.3	46.7
2014 - Jun - 08	01 : 35	49.0	56.6	41.9	50.9	45.3
2014 - Jun - 08	01 : 40	50.9	62.6	41.6	53.2	45.8
2014 - Jun - 08	01 : 45	49.8	57.2	43.4	52.3	45.9
2014 - Jun - 08	01 : 50	50.6	63.1	45.1	52.6	46.6
2014 - Jun - 08	01 : 55	51.3	62.8	42.4	53.4	45.1
2014 - Jun - 08	02 : 00	49.6	56.8	42.5	52.2	45.5
2014 - Jun - 08	02 : 05	49.8	60.2	43.3	52.3	45.3
2014 - Jun - 08	02 : 10	50.1	62.8	42.7	52.5	44.7
2014 - Jun - 08	02 : 15	49.5	61.5	42.9	52.3	45.1

Date	Start Time	LAeq	LAFmax	LAFmin	LAF10	LAF90
2014 - Jun - 08	02 : 20	49.3	56.6	42.7	51.9	44.9
2014 - Jun - 08	02 : 25	48.9	56.3	42.1	51.5	44.8
2014 - Jun - 08	02 : 30	49.6	57.0	43.2	52.5	44.9
2014 - Jun - 08	02 : 35	49.9	57.4	43.5	52.6	46.5
2014 - Jun - 08	02 : 40	50.3	59.8	42.6	52.7	45.8
2014 - Jun - 08	02 : 45	51.5	61.5	44.2	53.9	47.2
2014 - Jun - 08	02 : 50	51.9	73.9	43.4	53.9	46.8
2014 - Jun - 08	02 : 55	53.8	69.7	42.8	54.4	46.1
2014 - Jun - 08	03 : 00	51.8	67.1	40.9	53.1	44.4
2014 - Jun - 08	03 : 05	49.5	57.8	42.1	52.6	44.7
2014 - Jun - 08	03 : 10	54.0	69.9	41.4	53.5	44.9
2014 - Jun - 08	03 : 15	49.9	59.0	42.6	52.9	45.0
2014 - Jun - 08	03 : 20	49.8	58.5	41.6	52.4	44.5
2014 - Jun - 08	03 : 25	48.9	56.9	42.9	51.5	44.8
2014 - Jun - 08	03 : 30	50.4	57.0	42.9	53.1	45.6
2014 - Jun - 08	03 : 35	50.2	63.8	43.1	53.2	44.5
2014 - Jun - 08	03 : 40	50.1	57.2	42.7	53.0	44.8
2014 - Jun - 08	03 : 45	48.7	56.8	41.7	51.3	44.4
2014 - Jun - 08	03 : 50	48.4	57.5	41.9	51.2	44.0
2014 - Jun - 08	03 : 55	48.5	61.1	43.0	51.1	44.7
2014 - Jun - 08	04 : 00	49.7	63.6	43.2	52.0	45.4
2014 - Jun - 08	04 : 05	49.4	64.6	43.0	51.7	44.8
2014 - Jun - 08	04 : 10	48.2	56.5	42.4	50.6	44.7
2014 - Jun - 08	04 : 15	49.3	60.4	42.0	52.2	45.0
2014 - Jun - 08	04 : 20	47.7	56.3	41.5	50.1	44.1
2014 - Jun - 08	04 : 25	50.6	69.3	41.8	52.2	44.4
2014 - Jun - 08	04 : 30	52.9	68.5	42.9	52.4	45.2
2014 - Jun - 08	04 : 35	48.3	57.0	42.1	51.4	44.1
2014 - Jun - 08	04 : 40	48.8	57.5	42.8	51.4	44.6
2014 - Jun - 08	04 : 45	49.7	57.0	42.6	52.7	44.6
2014 - Jun - 08	04 : 50	53.6	66.5	42.4	55.7	45.7
2014 - Jun - 08	04 : 55	49.1	61.4	42.4	52.0	44.7
2014 - Jun - 08	05 : 00	48.8	63.2	41.9	51.7	44.0
2014 - Jun - 08	05 : 05	52.8	69.3	40.7	54.5	44.2
2014 - Jun - 08	05 : 10	49.1	57.3	42.0	51.7	44.9
2014 - Jun - 08	05 : 15	56.4	77.0	43.6	56.1	45.5
2014 - Jun - 08	05 : 20	51.3	64.4	44.0	53.7	46.1
2014 - Jun - 08	05 : 25	49.0	60.8	42.1	52.0	44.4
2014 - Jun - 08	05 : 30	56.0	79.0	42.0	52.8	44.6
2014 - Jun - 08	05 : 35	48.5	56.2	41.8	51.6	43.7
2014 - Jun - 08	05 : 40	50.9	68.3	42.0	52.1	45.1
2014 - Jun - 08	05 : 45	50.8	72.6	41.9	53.0	44.4
2014 - Jun - 08	05 : 50	52.0	62.9	42.6	55.2	45.3
2014 - Jun - 08	05 : 55	53.2	70.4	42.6	55.3	45.2
2014 - Jun - 08	06 : 00	55.5	73.3	43.1	57.3	46.5
2014 - Jun - 08	06 : 05	51.4	69.2	43.1	53.0	45.8
2014 - Jun - 08	06 : 10	50.4	58.9	44.0	53.0	46.8
2014 - Jun - 08	06 : 15	51.9	70.4	44.3	53.3	46.5
2014 - Jun - 08	06 : 20	51.2	70.0	43.4	53.0	46.1
2014 - Jun - 08	06 : 25	49.5	57.4	42.1	52.4	45.1
2014 - Jun - 08	06 : 30	49.9	56.8	41.4	52.9	45.2
2014 - Jun - 08	06 : 35	49.6	60.5	42.7	52.6	45.1
2014 - Jun - 08	06 : 40	51.3	60.8	40.5	54.4	44.4
2014 - Jun - 08	06 : 45	50.6	57.2	43.1	53.4	45.5
2014 - Jun - 08	06 : 50	49.5	57.2	40.8	53.2	44.0
2014 - Jun - 08	06 : 55	50.9	62.6	40.5	53.9	44.5

Start Time	LAeq	LAFmax	LAFmin	LAF10	LAF90
13 : 30	71.5	88.8	60.3	74.5	64.3
13 : 40	70.5	91.5	61.2	73.4	64.2
13 : 50	69.0	83.2	61.5	72.2	64.3
14 : 00	69.4	83.8	59.9	72.4	62.9
14 : 30	67.3	84.1	60.7	69.3	63.6
14 : 40	68.7	81.6	60.0	70.7	63.3
14 : 50	68.8	87.0	61.5	70.2	64.3
15 : 00	70.0	85.8	62.0	72.7	64.3
15 : 10	70.6	96.9	61.5	70.2	64.0
15 : 20	69.7	88.3	60.9	71.5	64.3

Start Time	LAeq	LAFmax	LAFmin	LAF10	LAF90
13 : 29	70.2	83.7	43.1	73.3	60.3
13 : 40	69.0	86.5	56.9	71.7	61.1
13 : 52	70.5	87.6	53.6	73.5	60.7
14 : 28	67.7	89.0	58.6	69.2	61.9
14 : 38	68.0	88.2	60.0	70.2	63.6
14 : 49	68.0	85.6	59.8	69.4	62.5
14 : 59	70.9	93.5	59.6	71.8	62.7
15 : 09	70.4	95.5	61.3	71.6	63.0
15 : 19	68.2	85.5	59.3	70.9	62.7

APPENDIX C

Acoustic terminology

Acoustic Terminology

1. *Noise, defined as unwanted sound, is measured in units of decibels, dB. The range of audible sound is from 0 dB to 140 dB. Two equal sources of sound, if added together will result in an increase of 3 dB, i.e. $50\text{ dB} + 50\text{ dB} = 53\text{ dB}$. A 10 dB increase in sound is perceived as a doubling of loudness.*
2. *Frequency (or pitch) of sound is measured in units of Hertz. 1 Hertz = 1 cycle/second. The range of frequencies audible to the human ear is around 20Hz to 1800Hz (or 18kHz). The capability of a person to hear higher frequencies will reduce with age. The ear is more sensitive to medium frequency than high or low frequencies.*
3. *To take account of the varying sensitivity of people to different frequencies a weighting scale has been universally adopted called "A-weighting". The measuring equipment has the ability to automatically weight (or filter) a sound to this A scale so that the sound level it measures best correlates to the subjective response of a person. The unit of measurement thus becomes dBA (decibel, A-weighted).*
4. *The second important characteristic of sound is amplitude or level. Two units are used to express level a) sound power level – L_W and b) sound pressure level – L_p . Sound power level is an inherent property of a source whilst sound pressure level is dependent on surroundings/distance/directivity etc. The sound level that is measured on a meter is the sound pressure level, L_p .*
5. *External sound levels are rarely steady but rise or fall in response to the activity in the area – cars, voices, planes, birdsong, etc. A person's subjective response to different noises has been found to vary dependent on its temporal distribution (i.e. its variation with time). For this reason a set of statistical indices have been developed.*

6. *There are four main statistical indices in use in the UK:*

L_{A90} : *the sound level (in dBA) exceeded for 90% of the time. This unit gives an indication of the sound level during the quieter periods of time in any given sample. It is used to describe the “background noise level” of an area.*

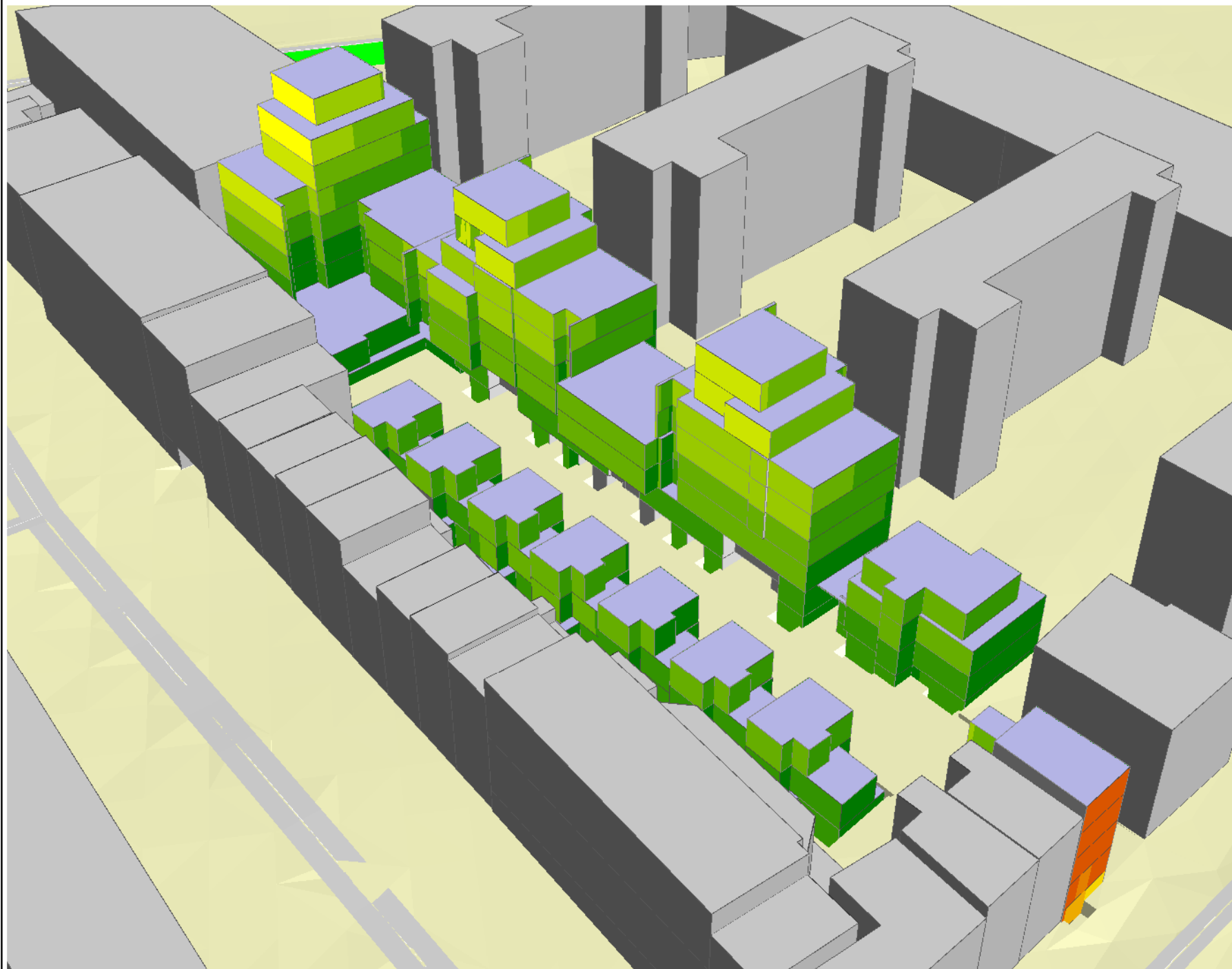
L_{AeqT} : *The equivalent continuous sound level over a period of time, T. this unit may be described as “the notional steady noise level that would provide, over a period, the same energy as the varying noise in questions”. In other words, the energy average level. This unit is now used to measure a wide variety of different types of noise of an industrial or commercial nature, as well as road traffic, aircraft and trains.*

L_{A10} : *The sound level (in dBA) exceeded for 10% of the time. This level gives an indication of the sound level during the noisier periods of time in any given sample. It has been used over many years to measure and assess road traffic noise.*

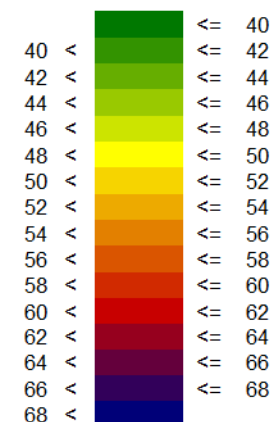
L_{Amax} : *The maximum level of sound, i.e. the peak level of sound measured in any given period. This unit is used to measure and assess transient noises, i.e. gun shots, individual vehicles etc.*

APPENDIX D

SoundPLAN computer modelling results



Noise level
LAeq(T)
(dB)



Grays Inn Road

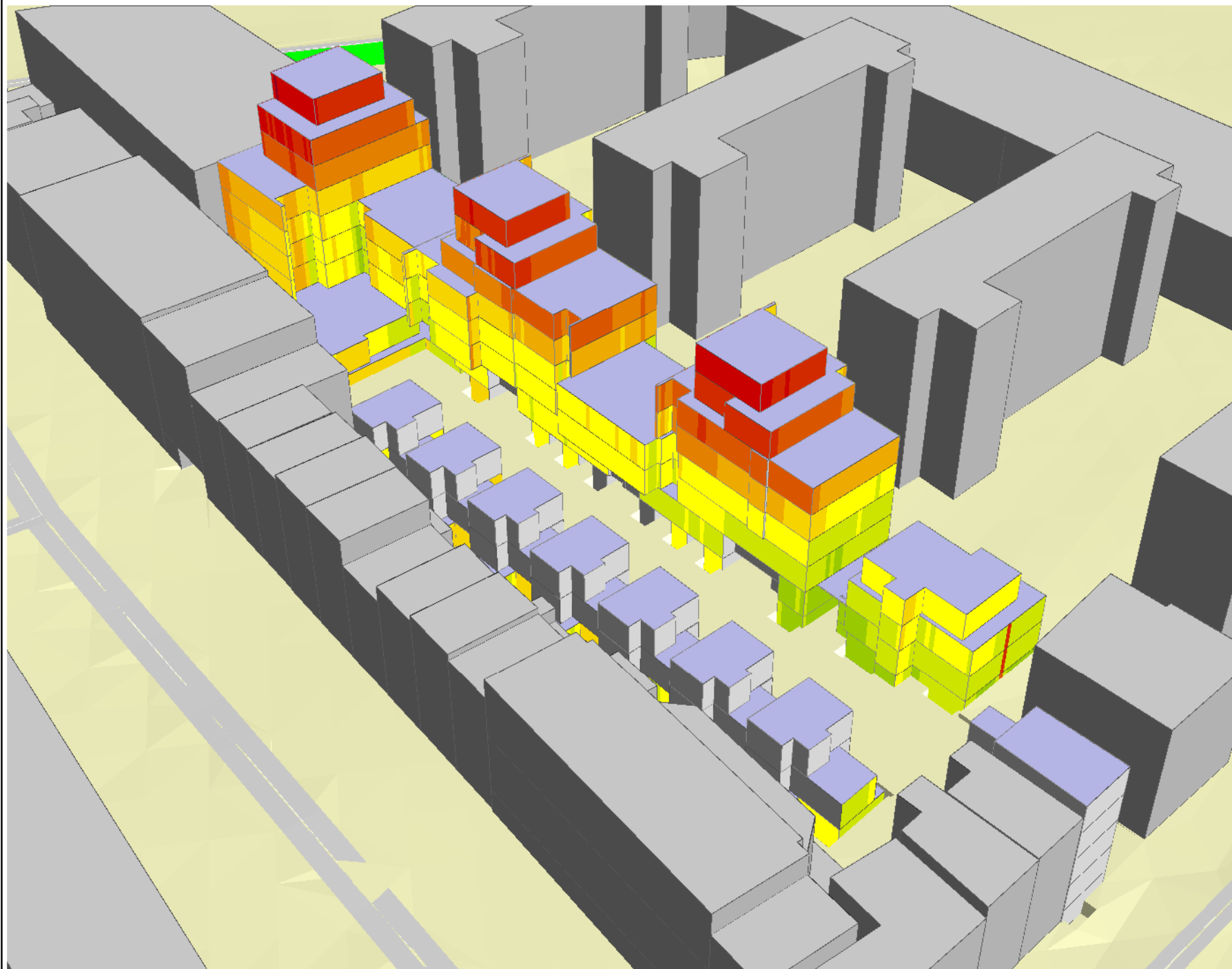
Facade Noise Levels

Date: 17.06.2014

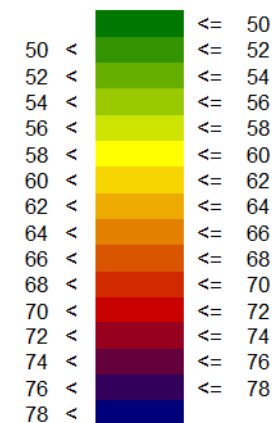
Consultant: K J Gayler

SHARPS REDMORE
ACOUSTIC CONSULTANTS





Noise level
L_{Amax}
(dB)



Grays Inn Road
Peak Facade Levels

Date: 17.06.2014

Consultant: K J Gayler