mayer brown

REDEVELOPMENT OF 22 TOWER STREET, LONDON

NOISE STATEMENT

APRIL 2014

the journey is the reward

REDEVELOPMENT OF 22 TOWER STREET, LONDON

NOISE STATEMENT

APRIL 2014

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Prepared by:	**SG**
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Mayer Brown Limited, Lion House, Oriental Road, Woking, Surrey GU22 8AR
Telephone 01483 750508 Fax 01483 750437 wokingoffice@mayerbrown.co.uk www.mayerbrown.co.uk

REDEVELOPMENT OF 22 TOWER STREET, LONDON
NOISE STATEMENT

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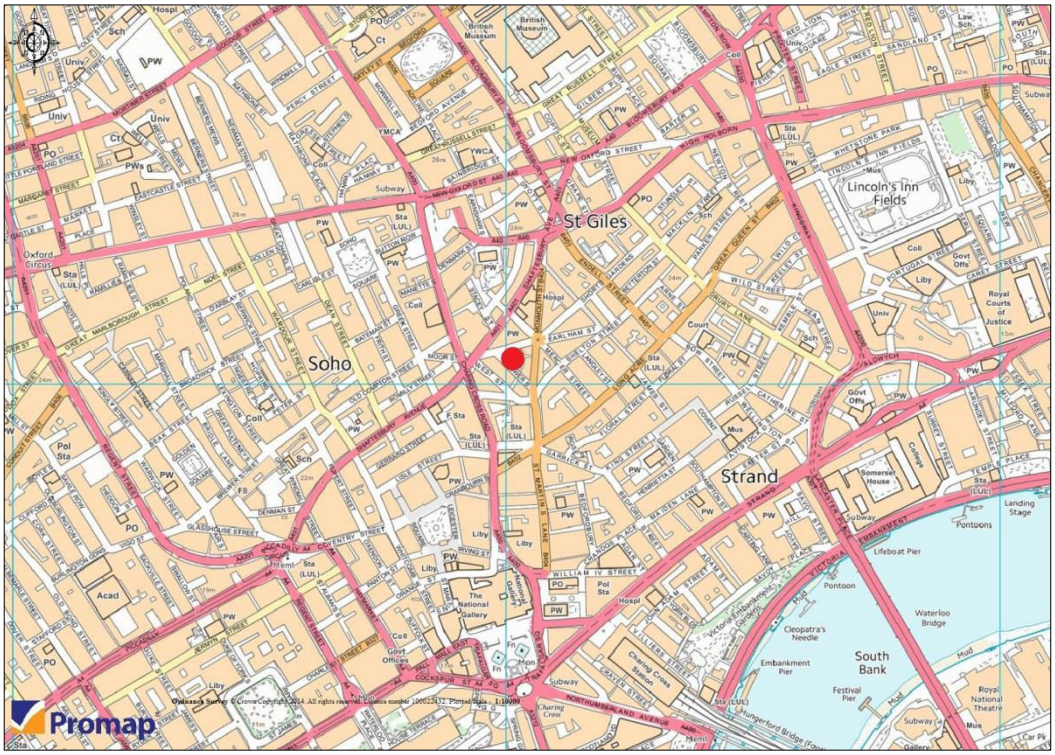
1 Introduction

1.1 Mayer Brown Ltd has been appointed by Leith Planning to undertake this noise assessment in support of a planning application for the proposed redevelopment of 22 Tower Street, London. The location of the proposed redevelopment area is illustrated in **Figure 1.1**: Site Location in Relation to the Local Highway Network.



(Source: Ordnance Survey, Licence: AL100002189)

Figure 1.1: Site in Relation to the Local Highway Network

1.2 This application site currently has planning consent for office use. The site is bounded predominantly by office/residential and retail properties. This is illustrated in **Figure 1.2**: The Existing Site Layout

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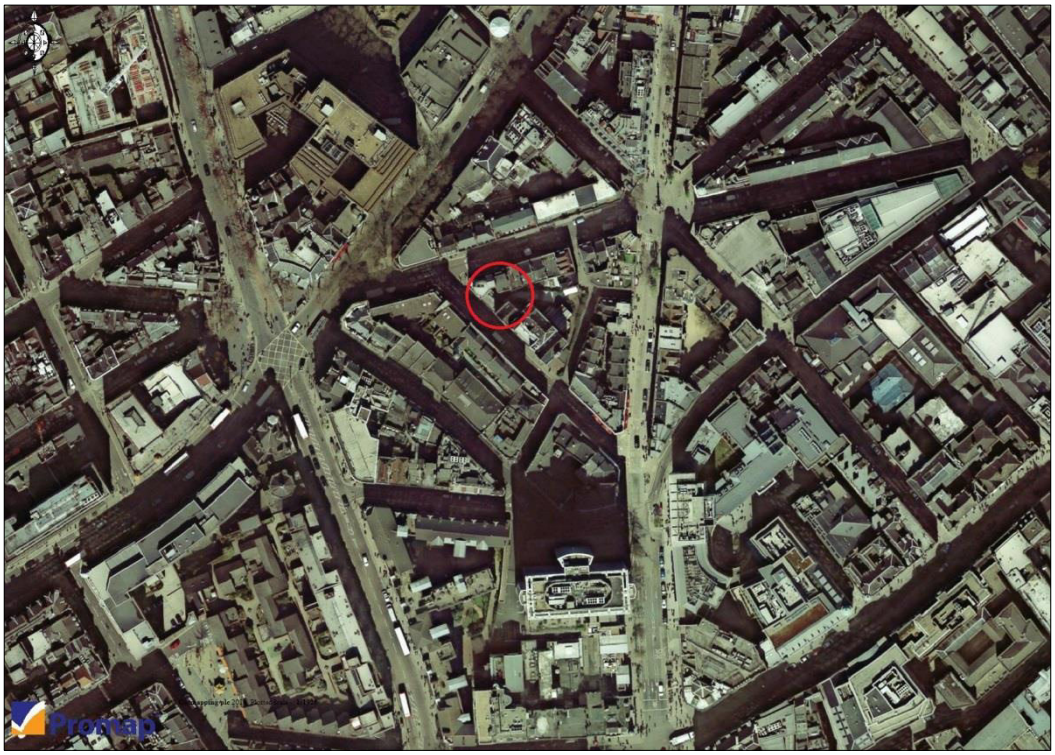


(Source: Ordnance Survey, Licence: AL100002189)

Figure 1.2: Existing Site Layout

1.3 The planning application comprises the conversion of 22 Tower Street in London from offices to 22-24 flats.

1.4 The main noise source identified during the site visit was the surrounding road network.

1.5 This assessment has been undertaken using the guidance and parameters set out in Section 2.

1.6 This report contains references of a technical nature, a glossary of acoustic terminology has, therefore, been provided in Appendix A to assist with any interpretation.

2 National and Local Policies and Principles

2.1 This assessment has been prepared using many published policies, standards, guidelines and best practice documents, which will be referred to throughout this report. Below is a summary of each document.

National Legislation

The Control of Pollution Act 1974

2.2 The Control of Pollution Act 1974 section 62 and 63 contains powers for local authorities to deal with noise and vibration from construction and demolition sites.

The Planning and Compulsory Purchase Act 2004

2.3 The Planning and Compulsory Purchase Act 2004 requires local authorities to draw up local Development plans, setting the broad framework for acceptable Development in their area and reconciling the conflicts inherent in Development. Under the Town and Country Planning Act 1990, and in their Development management role, local planning authorities may attach conditions to Planning Consents, which may include controls on the emission of noise. Advice on the use of these powers is given to English authorities in the light of the Government's Noise Policy Statement for England in the National Planning Policy Framework (March 2012). These are further discussed below.

The Noise Insulation Regulations

2.4 The Noise Insulation Regulations were introduced under the powers of The Land Compensation Act 1973, in order to alleviate road traffic noise problems caused by new, altered or additional carriageways, and to set down standards and criteria for noise insulation treatment of residential dwellings. These Regulations were amended by the Noise Insulation (Amendment) Regulations 1988, and are applied when predicting road traffic noise levels set out in CRTN.

The Environmental Protection Act 1990

2.5 The Environmental Protection Act 1990 provides the principal controls over so-called "statutory nuisances", including noise emitted from premises so as to be prejudicial to health or a nuisance. It also applies to nuisances arising from vehicles (e.g. from car alarms but not traffic), machinery and other equipment, in the street. Under the Act, local authorities have a duty to inspect their areas from time-to-time to detect nuisances when satisfied that a statutory nuisance exists or are likely to occur or recur, to serve an abatement notice on the person responsible. They also have a duty to

investigate any complaint made by a person living within their area. Though businesses have a defence of"„best practicable means", failure to comply with a notice is a criminal offence. Local authorities have a power of entry to private premises and powers to carry out works in default of Notices.

The Building Regulations 2010

2.6 The Building Regulations 2010 govern standards of construction for new buildings and major conversion and repair work. Part E deals with resistance to the passage of sound and requires, among other things, that houses, flats and rooms for residential purposes shall be designed and constructed in such a way that they provide reasonable resistance to the passage of sound from other parts of the same building and from adjoining buildings.

National Policy

2.7 In March 2012, the current Planning Policy Guidance documents were superseded by the National Planning Policy Framework (NPPF). The aim of this document is to set out the Government's requirements for the planning system, only to the extent that it is relevant, proportionate and necessary to do so. It also aims to enable local people and councils to produce their own distinctive local and neighbourhood plans.

2.8 The NPPF is based upon 12 Core planning principles, two of which have relevance to the proposals:

2.9 Number 4 states that planning should:

"...contribute to conserving and enhancing the natural environment and reducing pollution..."

2.10 Policy 11 Conserving and Enhancing the Natural Environment also states that the planning system should contribute to and enhance the natural and local environment by:

"...preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability;

Regional Planning Policy

The London Plan[1]

2.11 The London Plan is the overall strategic plan for London, setting out an integrated economic, environmental, transport and social framework for the development of London over the next 20–25 years.

2.12 In Chapter 3 – London's People, paragraph 3.11 states the following:

"Housing has a major impact on the health of residents, and the policies in this Plan are intended to enable Londoners to live in well designed, high quality homes, appropriately sized and energy efficient, warm and dry, safe, providing good access to high quality social infrastructure, green spaces, and limiting disturbance from noise…"

2.13 Policy 5.3, Sustainable design and construction states:

Major development proposals should meet the minimum standards outlined in the Mayor's supplementary planning guidance and this should be clearly demonstrated within a design and access statement. The standards include measures to achieve other policies in this Plan and the following sustainable design principles:

(…) minimising pollution (including noise, air and urban run-off)

2.14 Chapter 7 – London's Living Spaces and Places, paragraph 7.18, states the following:

"The effects of traffic can have a significant impact on the quality of the public realm in terms of air quality, noise and amenity of a space. The negative effects of traffic should be minimised to ensure people's enjoyment of public realm is maximised…"

2.15 Policy 7.15 – Reducing Noise and Enhancing Soundscapes that:

*"**Strategic***

A). The transport, spatial and design policies of this plan will be implemented in order to reduce noise and support the objectives of the Mayor's Ambient Noise Strategy."

Planning decisions

B. Development proposals should seek to reduce noise by:

a) minimising the existing and potential adverse impacts of noise on, from, within, or in the vicinity of, development proposals

[1] Greater London Authority (GLA) (2011) The London Plan. Spatial development strategy for Greater London . GLA, London.

b) separating new noise sensitive development from major noise sources wherever practicable through the use of distance, screening, or internal layout in preference to sole reliance on sound insulation

c) promoting new technologies and improved practices to reduce noise at source.

LDF preparation

C. Boroughs and others with relevant responsibilities should have policies to:

a) reduce the adverse impact of noise through the distribution of noise making and noise sensitive uses, and in highway management and transport policies…

b) protect Quiet Areas, to be formally identified under Environmental Noise (England) Regulations 2006 (as amended) and consider protection of spaces of relative tranquillity or high soundscape quality, particularly through borough open space strategies."

Greater London Authority Ambient Noise Strategy[2]

2.16 The Greater London Authority Ambient Noise Strategy considers a wide range of issues relating to noise which may affect this particular development. These include noise from transportation sources, known as ambient noise, and construction activities, which are described as neighbourhood noise.

2.17 The general objectives are identified as minimising the adverse impacts of road traffic noise and improving noise environments in London's neighbourhoods, especially for housing, schools, hospitals and other noise sensitive uses.

2.18 The strategy states the following policies for urban noise sensitive development:

"Policy 69

The London Plan, 2004 (Policy 4A.14) states that the Mayor will and boroughs should reduce noise by:

- Minimising the existing and potential adverse impacts of noise on, from, within, or in the vicinity of, development proposals;
- Separating new noise sensitive development from major noise sources wherever practicable;
- Supporting new technologies and improved practices to reduce noise at source, especially in road, rail and air transport;

[2] Greater London Authority (GLA). (2004).The Mayor's Ambient Noise Strategy.GLA, London.

- Reducing the impact of traffic noise through highway management and transport policies;
- Containing noise from late night entertainment and other 24-hour activities, and where appropriate promoting well-managed designated locations."

"Policy 70

The Mayor will, in strategic referrals which include residential development on sites with noise levels higher than Noise Exposure Category A of Planning Policy Guidance Note 24, or the equivalent level in any revision of guidance, seek specific evidence on the action to be taken to address noise."

Local Planning Policy

City of Westminster Council – Core Strategy

2.19 The City of Westminster Core Strategy was adopted in January 2011. Policy CS31 Noise states:

"The council will work to reduce noise pollution and its impacts and protect Noise Sensitive Receptors from noise by:

- *Requiring development to minimise and contain noise and vibration;*
- *Ensuring development provides an acceptable noise and vibration climate for occupants and is designed to minimise exposure to vibration and external noise sources; and*
- *Securing improvements to Westminster's sound environment, including protecting open spaces of particular value for their relative tranquillity."*

3 Assessment Methodology and Criteria

National Standards and Guidelines

3.1 Regional Guidance and Local Development Frameworks put the assessment of noise into the context of the regional and local plans for the area.

3.2 Guidelines on Community Noise has been developed by the World Health Organisation in order to "…consolidate actual scientific knowledge on the health impacts of community noise and to provide guidance to environmental health authorities..."

3.3 BS5228: (2009) Code of practise for noise and vibration control on construction and open sites – Part 1: Noise[3] gives recommendations for basic methods of noise control relating to construction and open sites. It applies to work activities and operations that generate significant noise levels. It also includes industry-specific guidance.

3.4 BS5228: (2009) Code of practise for noise and vibration control on construction and open sites – Part 2: Vibration[4] gives recommendations for basic methods of vibration control relating to construction and open sites where work activities/operations generate significant vibration levels.

3.5 British Standard 4142: (1997) Method of Rating Industrial Noise Affecting Mixed Residential and Industrial Areas[5] describes a method of determining the level of a noise of an industrial nature, together with procedures for assessing whether the noise in question is likely to give rise to complaints from persons living in the vicinity. The standard is intended to be used for assessing the measured or calculated noise levels from both existing premises and new or modified premises. The criterion related to BS:4142 is described in paragraph 3.18

3.6 BS 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings[6] provides information on the design of buildings that have internal acoustic environments.

3.7 Noise Insulation Regulations[7] . These regulations give guidance on the specified noise level at which noise insulation is required as mitigation against unacceptable noise

[3]British Standard Institute (2009) BS5228: Code of practise for noise and vibration control on construction and open sites – Part 1: Noise. BSI, London.

[4] British Standard Institute (2009) BS 5228. Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration. BSI, London.

[5] British Standard Institute (1997) BS 4142: Method for Rating Industrial Noise Affecting Mixed Residential and Industrial Areas. BSI. London

[6] British Standards Institute (2014) BS Sound Insulation and Noise Reduction for Buildings. BSI, London

levels from a 'new or altered highway'. The 'specified' noise level is defined as 'a noise level of 68 dB(A) L10 (18hr)'. The Regulations come in to force where:

- The relevant noise level ("...the level of noise expressed as (L_{10} 18hr) one metre in front of the most exposed of any windows and doors in a facade of a building caused or expected to be caused by traffic using or expected to use any highway.") is greater by at least 1dB(A) than the prevailing noise and is not less than the specified level;

Design Manual Roads and Bridges Noise and Vibration Assessment

3.8 The Design Manual for Roads and Bridges (DMRB) Volume 11 Section 3 Part 7 '*Noise and Vibration'* should be considered for a new road scheme, or a development that may alter traffic noise levels on an existing road.

3.9 The proposal is for a large residential led development but the impact of site generated traffic upon the local road network is not likely to significant due to the low number of vehicle movements associated with the development (40 vehicle movements per day).

3.10 A DMRB assessment will determine both the impact of the development upon the local noise environment, and any associated changes to noise induced annoyance levels in local residents as a result of the development.

3.11 For a change in road traffic noise to be audible, an increase or decrease of 3dB is typically required. **Table 3.1** details the magnitude of noise impacts both in the short and the long term as published in DMRB 11.3.7 (2011).

Short Term		Long Term	
Noise Change $LA_{10,18Hr}$ dB	Magnitude of Impact (Opening Year)	Noise Change $LA_{10,18Hr}$ dB	Magnitude of Impact (Future Year)
0	No change	0	No change
0.1 - 0.9	Negligible	0.1 - 2.9	Negligible
1 - 2.9	Minor	3 - 4.9	Minor
3 - 4.9	Moderate	5.9.9	Moderate
5+	Major	10 +	Major

Table 3.1: DMRB Traffic Noise Assessment Criteria

Background to Noise Legislation

3.12 The band of the frequency response of the ear, that is, the audible range of the human ear, is usually taken to be from about 20 Hz to 20,000Hz. Since the auditory system is not equally sensitive throughout this frequency range (being less sensitive at low and high frequencies), this is taken into account when making acoustic measurements by

[7] DEFRA (1975 as amended 1988) Noise Insulation Regulations. HMSO, London

the use of A-weighting, a weighting filter which has a frequency response similar to the human auditory system. All the measurement results referred to in this report are A-weighted.

3.13 For many types of noise, the noise level index Equivalent Continuous A-Weighted Sound Pressure Level (LA_{eq},T) is used as the basis of determining community response. The LA_{eq},T is defined as the A-Weighted sound pressure level of the steady sound, which contains the same acoustic energy as the noise being assessed over a specific time period, T, and is used in this assessment as the unit of measurement for the average noise level throughout the survey period.

3.14 The procedures used in the Calculation of Road Traffic Noise[8], which are used in this assessment, assume typical traffic and noise propagation conditions, which are consistent with moderately adverse wind velocities and directions during the specified periods. All road noise levels expressed here are in terms of index L_{10} (18-hour) dB(A). This is the arithmetic average of the values of L_{10} hourly dB(A) for each of the eighteen one-hour periods between 06:00 to 24:00 hours.

3.15 All noise monitoring was undertaken in accordance with guidelines set out in the pertinent documents such as BS:8233 and BS:4142.

The Potential Effects of Noise

3.16 The WHO 'Guidelines for Community Noise' states that physically, there is no distinction between sound and noise. Sound is a sensory perception and the complex pattern of sound waves is labelled noise, music speech etc. Noise is thus defined as unwanted sound.

3.17 Sound in air can be considered as the propagation of energy through air in the form of oscillatory changes in pressure. The size of the pressure changes in acoustic waves is quantified on a logarithmic decibel (dB) scale, firstly, because the range of audible sound pressures is very great, and secondly because the loudness function of the human auditory system is approximately logarithmic.

3.18 The dynamic range of the auditory system is generally taken to be 0dB to 140dB. Generally, the addition of noise from two sources producing the same sound pressure level, will lead to an increase in sound pressure level of 3dB. A 3dB noise change is generally considered to be just noticeable, whilst a 5dB change is generally accepted

[8] Department of Transport. (1998) Calculation of Road Traffic Noise (CRTN). HMSO. London.

as clearly perceptible. A 10dB change leads to the subjective impression of a doubling or halving of loudness.

3.19 The principal potential adverse effects of noise are:

i) Activity disturbance;

ii) Annoyance; and

iii) Interference with processes or activities.

4 Baseline Conditions

Noise Monitoring

Unmanned Survey

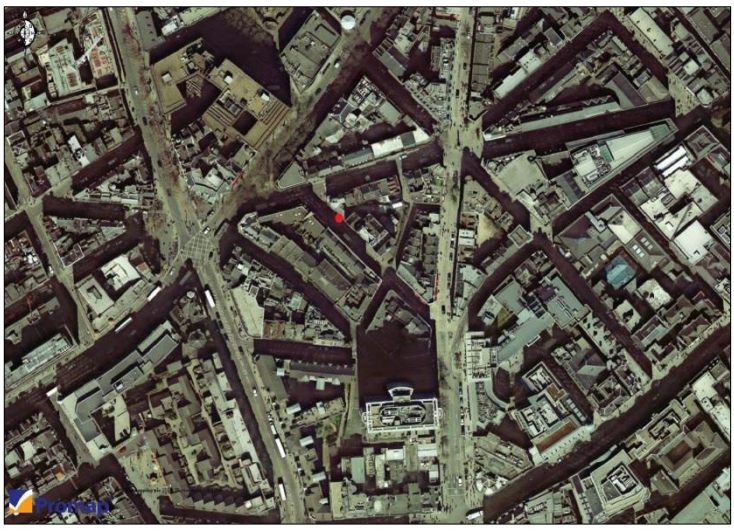
4.1 Fully automated environmental noise monitoring was undertaken for road noise between approximately 12:00 hours on Wednesday 3rd April and 11:00 hours on Monday 11th April 2014.

4.2 Due to the nature of the survey, i.e. unmanned, it is not possible to accurately comment on the weather conditions throughout the entire survey period. However, at the beginning of the survey period the wind conditions were calm and the sky was cloudy. We understand that generally throughout the survey period the weather conditions were similar to this, but with a few intermittent heavy rain showers.

4.3 The measurement position is described in **Table 4.1** below and illustrated in **Figure 4.1**.

Position	Description
1	The sound meter was located on the 2nd floor of the building. The microphone was extended on a pole, approximately 1.5m from the front façade of the building overlooking Tower Street. The dominant noise source was noted to be road traffic.

Table 4.1: Unmanned Noise Survey Locations



(Source: Ordnance Survey, Licence: AL100002189)

Figure 4.1: Noise Monitoring Locations

4.4 Details of the Instrumentation used are set out in Appendix B.

Results

4.5 The results are shown in Appendix C, presenting 15 minute A-weighted (dBA) L_{10}, L_{90}, L_{eq} and L_{max} levels at the measurement position throughout the duration of the survey.

L_{eq} Noise Levels

4.6 In order to compare the results of our survey with suitable national guidelines criterion, it is necessary to convert the measured $LA_{eq(15\ minute)}$ noise levels into daytime $LA_{eq(1\text{-}hour)}$ and $LA_{eq(16\text{-}hour)}$ and night-time $LA_{eq(1\text{-}hour)}$ and $LA_{eq(8\text{-}hour)}$ levels.

4.7 A summary of the worst-case measured $LA_{eq,16hr}$ and $LA_{eq,8hr}$ is presented in **Table 4.2** below.

Location	Day-time (7.00 – 23.00)	Night-Time (23.00 – 7.00)
1	61 dBA	60 dBA

Table 4.2: Summary of Unmanned Noise Monitoring Results

4.8 A summary of the lowest measured LA_{90} noise levels are presented in **Table 4.3** below.

Location	Day-time (7.00 – 23.00)	Night-Time (23.00 – 7.00)	24 Hours
1	51 dBA	49 dBA	49 dBA

Table 4.3: Summary of the Lowest L_{A90} Noise Monitoring Results

4.9 A summary of the worst-case measured LA_{10} noise levels are presented in **Table 4.4** below.

Location	Noise Levels ($L_{A10,18hr}$ 06:00 – 24:00)
1	62 dBA

Table 4.4: Summary of the Worst-Case L_{A10} Noise Monitoring Results

4.10 The LA_{MAX} events which exceeded 82dBA during the night time periods throughout the survey period are presented in **Table 4.5** below.

Night	Position 1
Thursday	1
Friday	2
Saturday	1
Sunday	1

Table 4.5: Summary of the LA_{MAX} Events

5 Potential Impacts

Sources of Noise Effects

Operational Traffic

5.1 There are no traffic implications associated with this completed development, therefore no noise impact from this potential source.

Operational Activities

5.2 At this stage, it is not anticipated that there will be significant noise emissions from plant associated with the completed development. However, any stationary plant and services proposed will be selected in accordance with BS4142 and with the design criteria that LA_{eq} noise from building services would not exceed baseline background noise levels. This will ensure that no significant effects are likely from on-site stationary noise sources. The likely plant associated with this development will be for a mechanical ventilation system.

Construction Noise

5.3 As well as considering the effect of the existing noise on the future residents of the proposed development, consideration must also be given to the effects of construction noise upon the existing residents in the vicinity of the site.

5.4 As the proposal is for a change of use of an existing structure, the only construction works will be connected with the internal alteration and re-fitting.

5.5 It is not anticipated that noise associated with these works will adversely affect any nearby residential properties.

5.6 There is potential for some minor disturbance to the existing commercial users of the building during the re-fitting works but these can be minimised by considerate construction techniques.

6 Mitigation Measures and Residual Impacts

Redevelopment

6.1 As there is no demolition or construction associated with this development, only internal refurbishment, it is not considered that noise mitigation over and above those of a "considerate contractor" type scheme are required.

Completed Development

6.2 BS8233:2014 states that resting and sleeping conditions in living areas and bedrooms can be achieved by the following target $L_{Aeq,T}$ internal noise levels:

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 $L_{Aeq,8hour}$

Table 6.1: BS8233:2014 Indoor Ambient Noise Levels for Dwellings

6.3 The World Health Organisation document on "Guidelines for Community Noise" states the following guideline values for community noise in specific environments.

Specific environment	Critical Health Effects	L_{Aeq}	$L_{Amax,fast}$
Dwelling, indoors	Speech intelligibility and moderate annoyance	35dB	-
Inside Bedrooms	Sleep disturbance, night-time	30dB	45dB

Table 6.2: WHO Guideline values for Community Noise

6.4 "For a good sleep, it is believed that indoor sound pressure levels should not exceed approximately 45dBA L_{Amax} more than 10- 15 times per night, (Vallet & Varnet 1991)."

6.5 At this stage of the design scheme, neither the precise types of window to be used are known nor has the selection of acoustic vents been made.

6.6 Annex 6 of PPG24 states the following:

"Typical noise reduction of a dwelling façade with windows set in brick/block wall."

Difference between external and internal Noise Levels			
Noise Source	Single Glazing	Thermal Double Glazing	Secondary Glazing
Road Traffic	28dBA	33dBA	34dBA
Civil Aircraft	27dBA	32dBA	35dBA
Military Aircraft	29dBA	35dBA	39dBA
Diesel Train	28dBA	32dBA	35dBA
Electric Train	30dBA	36dBA	41dBA

Table 6.3: Difference Between External and Internal Noise Levels

6.7 Please note that the values in the above table are the difference between dB(A) levels measured outside and inside typical dwellings, therefore 3dB(A) should be added to free field noise levels to determine outside levels.

6.8 A simple assessment based on the glazing options in **Table 6.3** and using the 16 and 8 averaging periods in the assessment criteria, indicates the following noise levels may be expected with conventional thermal double glazing within the proposed worst case dwellings.

Position	Daytime L_{aeq}(16-hour) dBA	Night-time L_{aeq}(8-hour)
1	30	31

Table 6.4: BS8233:2014 Predicted Worst Case Internal Noise Levels Using Thermal Double Glazing

6.9 The above predicted worst case internal noise levels are in line with the BS criteria as set out above and **Table 6.1**. It is thus demonstrated that acceptable internal noise levels are achievable within both the day/night-time periods.

6.10 Additionally, almost all of the night-time LA_{max} events would also be reduced to below 45dBA inside the proposed bedrooms.

6.11 It is advised that any trickle vents fitted in connection with the glazing be acoustically lined.

Operational Activities

6.12 There are no noise impacts associated with any operational activities of this development by way of plant or equipment, unless a positive pressure ventilation system is required for air quality reasons. If this is the case, then selection of plant will be in accordance with the statement in paragraph 5.2 above.

7 Conclusions

Demolition and Construction

7.1 As there is no demolition or construction associated with this development there will be not be any noise impact from this source.

7.2 There will be minimal noise impact associated with the internal re-fitting of the building, which can be managed by way of a “considerate contractor” type scheme.

Completed Development

7.3 It has been predicted that the internal noise levels could be achieved in line with BS 8233:2014 as a minimum on all facades when using conventional thermal double glazing units. It is also demonstrated that acceptable internal noise levels within the proposed residential development are achievable using conventional construction measures.

7.4 This assessment indicates that where noise mitigation measures are adopted as set out above, the development will be able to comply with the requirements of BS:8233.

APPENDIX A: Glossary of Acoustic Terminology

The acoustic terms used in this report are explained below:

dB : Decibel - Used as a measurement of sound pressure level. It is the logarithmic ratio of the noise being assessed to a standard reference level.

dB(A) : The human ear is more susceptible to mid-frequency noise than the high and low frequencies. To take account of this when measuring noise the 'A' weighting scale is used so that the measured noise corresponds roughly to the overall level of noise that is discerned by the average human. It is also possible to calculate the 'A' weighted noise level by applying certain corrections to an un-weighted spectrum. The measured or calculated 'A' weighted noise level is known as the dB(A) level.

Because of being a logarithmic scale noise levels in dB(A) do not have a linear relationship to each other. For similar noises, a change in noise level of 10dB(A) represents a doubling or halving of subjective loudness. A change of 3dB(A) is just perceptible.

L10 & L90: If a non-steady noise is to be described it is necessary to know both its level and the degree of fluctuation. The Ln indices are used for this purpose, and the term refers to the level exceeded for n% of the time, hence L10 is the level exceeded for 10% of the time and as such can be regarded as the 'average maximum level'. Similarly, L90 is the average minimum level and is often used to describe the background noise.

It is common practice to use the L10 index to describe traffic noise, as being a high average, it takes into account the increased annoyance that results from the non-steady nature of traffic noise.

Leq : The concept of Leq (equivalent continuous sound level) has up to recently been primarily used in assessing noise in industry but seems now to be finding use in defining many other types of noise, such as aircraft noise, environmental noise and construction noise.

Leq is defined as a notional steady sound level which, over a stated period of time, would contain the same amount of acoustical energy as the actual, fluctuating sound measured over that period (e.g. 1 hour).

The use of digital technology in sound level meters now makes the measurement of Leq very straightforward.

Lmax : Lmax is the maximum sound pressure level recorded over the period stated. Lmax is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the Leq noise level.

APPENDIX B: Instrumentation

Description	Manufacturer	Type	Serial Number	Latest Verification
Position 1 Type 1 Data Logging Sound Level Meter	Larson Davis	824	3157	LD calibration 15/08/2012
Type 1 Calibrator	Larson Davis	CAL200	3082	LD calibration 21/03/2013

The sound level meter, including the extension cable, was calibrated prior to and on completion of the surveys. No significant changes were found to have occurred (no more than 0.1 dB). The sound level meter was located in an environmental case with the microphone connected to the sound level meter via an extension cable. The microphone was fitted with an appropriate windshield

APPENDIX C: Noise Measurement Results

Rec #	Date	Time	Duration	Leq	SEL	LMin	LMax	UwPk	Peak	L1.00	L10.00	L50.00	L90.00	L95.00	L99.00
1	03-Apr-14	11:57:51	02:08.1	62.8	83.9	53	85.7	107	107.5	75.001	62.899	56.423	54.634	54.212	53.415
2	03-Apr-14	12:00:00	15:00.0	62.1	91.7	52.7	84	107.6	105.5	75.524	62.548	56.923	54.454	54.079	53.22
3	03-Apr-14	12:15:00	15:00.0	60.1	89.7	52.6	75.7	95.5	88.5	71.704	61.751	56.821	54.329	53.97	53.18
4	03-Apr-14	12:30:00	15:00.0	58.4	88	53	73.5	97.7	87.1	67.274	60.087	56.946	54.485	54.165	53.407
5	03-Apr-14	12:45:00	15:00.0	59.3	88.9	52.4	75.5	100.1	93.8	67.376	61.477	57.907	54.649	54.024	53.102
6	03-Apr-14	13:00:00	15:00.0	58.8	88.3	54	78.5	94.1	92	66.47	61.141	56.805	55.196	55.009	54.212
7	03-Apr-14	13:15:00	15:00.0	58.4	87.9	53.5	73.7	96.1	88.9	68.61	59.79	55.946	54.571	54.274	54.032
8	03-Apr-14	13:30:00	15:00.0	61.3	90.9	54.4	78.1	98	89.7	71.571	63.946	57.555	55.454	55.157	54.438
9	03-Apr-14	13:45:00	15:00.0	59.9	89.4	53.4	82.9	99.8	99.7	67.626	62.93	57.36	55.134	54.602	53.837
10	03-Apr-14	14:00:00	15:00.0	63.9	93.4	53.9	81.6	95.1	92.4	77.438	64.657	56.665	54.962	54.477	54.095
11	03-Apr-14	14:15:00	15:00.0	58.1	87.6	53.5	74.8	92.7	84.6	68.665	58.54	55.852	54.516	54.235	54.016
12	03-Apr-14	14:30:00	15:00.0	59.2	88.8	54	72.1	92.1	85	68.415	61.876	56.884	55.18	54.868	54.165
13	03-Apr-14	14:45:00	15:00.0	59.8	89.4	54	80.3	98	98.1	70.516	61.798	56.852	55.157	54.743	54.141
14	03-Apr-14	15:00:00	15:00.0	59.8	89.3	53.7	74.4	100	86.4	69.907	62.055	56.829	55.095	54.641	54.118
15	03-Apr-14	15:15:00	15:00.0	60.1	89.7	53.5	76.2	97.6	92	69.602	61.915	57.243	55.235	54.829	54.095
16	03-Apr-14	15:30:00	15:00.0	58.5	88.1	52.7	71.5	92.7	84.2	67.212	60.743	56.735	54.251	53.805	53.141
17	03-Apr-14	15:45:00	15:00.0	58	87.5	53.4	69	95.4	83.6	64.532	59.946	57.001	55.032	54.516	54.079
18	03-Apr-14	16:00:00	15:00.0	57.7	87.2	52.9	75.1	95.2	86.6	66.563	59.063	55.704	54.134	53.759	53.149
19	03-Apr-14	16:15:00	15:00.0	62.3	91.8	53.1	81.2	99.9	91.6	73.251	63.501	56.891	54.641	54.243	53.501
20	03-Apr-14	16:30:00	15:00.0	62.5	92	53.6	81.4	99.4	91.6	73.634	64.696	57.384	54.954	54.446	54.04
21	03-Apr-14	16:45:00	15:00.0	59.3	88.8	53.7	71.4	99.7	87	67.36	61.845	57.587	55.368	55.048	54.204
22	03-Apr-14	17:00:00	15:00.0	57.1	86.7	52.9	69.6	93.4	86.3	64.282	58.907	56.032	54.524	54.212	53.618
23	03-Apr-14	17:15:00	15:00.0	61.6	91.1	52.5	87.1	104	98.9	70.571	61.595	57.188	54.759	54.22	53.29
24	03-Apr-14	17:30:00	15:00.0	60.4	90	52.9	78.5	102.6	95.7	70.907	62.165	57.188	54.915	54.384	53.727
25	03-Apr-14	17:45:00	15:00.0	59	88.6	53.1	73.3	102.6	86.6	68.579	61.415	56.751	54.563	54.157	53.329
26	03-Apr-14	18:00:00	15:00.0	60.1	89.7	53.6	76.9	101.9	88.9	69.923	62.688	56.985	55.009	54.493	54.063
27	03-Apr-14	18:15:00	15:00.0	60.5	90	53	80.9	104.5	89.8	70.891	62.095	56.962	55.032	54.477	53.985
28	03-Apr-14	18:30:00	15:00.0	58.9	88.4	53.1	77.2	99.6	87.4	67.095	62.673	56.055	54.282	54.048	53.259
29	03-Apr-14	18:45:00	15:00.0	60.7	90.2	53.2	79.2	102.4	91	71.548	62.532	56.673	54.47	54.134	53.329
30	03-Apr-14	19:00:00	15:00.0	58.5	88.1	53	71.7	103.7	90.2	66.618	61.009	56.555	54.321	54.032	53.212
31	03-Apr-14	19:15:00	15:00.0	58.3	87.8	52.7	79.2	98.3	100.4	67.485	60.946	55.688	54.102	53.68	53.126
32	03-Apr-14	19:30:00	15:00.0	58.3	87.9	52.4	74.3	94.3	86.4	68.602	60.016	55.555	53.923	53.446	53.071
33	03-Apr-14	19:45:00	15:00.0	57.9	87.4	52.6	73.5	104.1	85.7	65.751	59.938	56.22	54.11	53.673	53.118
34	03-Apr-14	20:00:00	15:00.0	56.6	86.1	52.2	73.2	97.3	85.9	63.72	57.985	55.368	53.852	53.391	53.016
35	03-Apr-14	20:15:00	15:00.0	58.8	88.3	52.9	72.2	98.7	85.2	68.759	60.759	56.188	54.165	53.766	53.141
36	03-Apr-14	20:30:00	15:00.0	58.6	88.2	52.5	76.9	102	88.5	67.735	60.54	56.227	54.22	53.829	53.087
37	03-Apr-14	20:45:00	15:00.0	66.2	95.7	53.7	83.4	100.9	95.5	77.485	67.821	62.509	57.399	56.173	54.54
38	03-Apr-14	21:00:00	15:00.0	68.3	97.9	52.7	85.7	98.5	97.4	78.462	72.907	61.493	54.345	53.829	53.141
39	03-Apr-14	21:15:00	15:00.0	59	88.6	52.5	73.5	95.2	86.1	69.376	61.204	56.18	54.126	53.626	53.063
40	03-Apr-14	21:30:00	15:00.0	58.8	88.3	52.3	77.8	95	89.2	71.352	59.43	55.579	53.845	53.399	53.04
41	03-Apr-14	21:45:00	15:00.0	59.5	89	52	78	106.9	90.8	69.805	61.891	55.72	53.673	53.227	52.415
42	03-Apr-14	22:00:00	15:00.0	58.2	87.8	51.7	74.8	105.9	90.3	70.571	59.751	54.548	52.97	52.477	52.087

43	03-Apr-14	22:15:00	15:00.0	57.2	86.7	50.9	71.9	100.4	84.7	65.915	59.962	54.899	52.493	52.134	51.321
44	03-Apr-14	22:30:00	15:00.0	56	85.5	50.9	72.8	101	86.4	65.001	57.423	53.657	51.946	51.47	51.087
45	03-Apr-14	22:45:00	15:00.0	57.5	87.1	50.4	77.1	104.5	89.7	67.501	59.798	53.446	51.501	51.212	50.735
46	03-Apr-14	23:00:00	15:00.0	56.7	86.3	50.2	79	91.3	91.7	66.04	57.86	53.102	51.345	51.11	50.376
47	03-Apr-14	23:15:00	15:00.0	54.8	84.4	49.5	71.5	97.4	81.3	63.852	56.36	52.798	50.954	50.438	50.032
48	03-Apr-14	23:30:00	15:00.0	57.4	87	49.6	75.7	92.1	87.6	66.595	61.157	53.798	51.399	50.993	50.134
49	03-Apr-14	23:45:00	15:00.0	55.9	85.5	49.5	76.6	100.5	87.8	68.11	55.321	52.188	50.524	50.243	50.024
50	04-Apr-14	00:00:00	15:00.0	55.2	84.8	49.1	71.5	93.4	84.2	66.18	56.087	51.86	50.36	50.11	49.368
51	04-Apr-14	00:15:00	15:00.0	54.5	84.1	48.9	68.9	91.6	82.8	64.36	56.743	52.009	50.235	50.032	49.243
52	04-Apr-14	00:30:00	15:00.0	53.8	83.4	48.8	72.2	95.4	83.3	61.759	55.087	51.813	50.141	49.805	49.149
53	04-Apr-14	00:45:00	15:00.0	54.2	83.8	48.8	75.7	102.2	93.1	61.852	55.985	52.626	50.321	50.032	49.204
54	04-Apr-14	01:00:00	15:00.0	54.9	84.4	48.5	72.6	93.4	84.4	66.001	55.282	51.634	50.055	49.555	49.055
55	04-Apr-14	01:15:00	15:00.0	53.8	83.4	48.6	69.9	92.1	83.1	64.149	54.766	51.485	49.907	49.446	49.071
56	04-Apr-14	01:30:00	15:00.0	54	83.5	48.8	75.1	91.4	84.3	62.915	54.587	51.415	49.977	49.477	49.071
57	04-Apr-14	01:45:00	15:00.0	54.2	83.8	48.8	75.2	101.9	90.7	64.735	55.563	51.634	49.891	49.43	49.063
58	04-Apr-14	02:00:00	15:00.0	57	86.6	48.5	79.4	96.5	90.4	66.923	55.774	51.188	49.47	49.204	48.93
59	04-Apr-14	02:15:00	15:00.0	52.7	82.2	48.6	66	92.2	78	58.852	54.563	51.743	50.087	49.61	49.095
60	04-Apr-14	02:30:00	15:00.0	53	82.5	48.4	72	103.7	87.1	60.423	54.899	51.54	49.571	49.243	48.805
61	04-Apr-14	02:45:00	15:00.0	54.2	83.7	48.8	67.3	97.8	79.2	61.548	55.977	52.86	50.946	50.118	49.212
62	04-Apr-14	03:00:00	15:00.0	55.6	85.1	49.4	78.5	96.5	89.9	65.524	56.001	52.227	50.704	50.313	50.001
63	04-Apr-14	03:15:00	15:00.0	55.9	85.4	48.9	77.7	104.7	93	65.462	56.423	52.298	50.032	49.524	49.102
64	04-Apr-14	03:30:00	15:00.0	54.7	84.3	48.2	74.1	94.2	85.1	64.555	54.782	50.821	49.196	49.001	48.204
65	04-Apr-14	03:45:00	15:00.0	53.8	83.4	48.3	70.1	100.7	83	65.071	55.18	50.68	49.173	49.001	48.251
66	04-Apr-14	04:00:00	15:00.0	52.8	82.4	48.1	70	97	83.9	61.407	53.673	50.47	49.134	48.923	48.18
67	04-Apr-14	04:15:00	15:00.0	54.1	83.6	48.3	75.1	93.6	87.1	62.134	54.907	50.923	49.032	48.54	48.305
68	04-Apr-14	04:30:00	15:00.0	52.1	81.6	48.1	65	100.2	79.1	57.891	54.485	50.954	49.188	48.907	48.18
69	04-Apr-14	04:45:00	15:00.0	57.7	87.3	48.8	78.9	99.3	89.9	69.751	57.04	52.227	50.165	49.727	49.126
70	04-Apr-14	05:00:00	15:00.0	54.4	84	48.6	71.1	93.5	85.7	63.704	56.095	52.657	50.493	50.079	49.204
71	04-Apr-14	05:15:00	15:00.0	58.9	88.5	49.8	77.4	98.8	90.5	70.813	60.501	54.165	52.048	51.352	50.376
72	04-Apr-14	05:30:00	15:00.0	56.8	86.3	50.1	76.3	98.8	88.3	67.071	57.907	53.977	52.032	51.477	51.001
73	04-Apr-14	05:45:00	15:00.0	54.9	84.5	50.9	71.4	91.6	82	60.61	57.055	53.673	52.149	51.899	51.165
74	04-Apr-14	06:00:00	15:00.0	56.7	86.3	49.9	71.2	95.2	83	67.626	58.204	53.923	51.407	50.86	50.165
75	04-Apr-14	06:15:00	15:00.0	58.1	87.7	50.3	78.9	96.3	93.5	69.641	60.212	53.954	51.743	51.313	50.805
76	04-Apr-14	06:30:00	15:00.0	65	94.5	51.6	85.2	99.4	99.9	76.876	68.266	57.368	53.641	53.134	52.251
77	04-Apr-14	06:45:00	15:00.0	58.3	87.8	51.7	76.4	102.7	84.7	68.134	60.68	55.524	53.329	53.032	52.212
78	04-Apr-14	07:00:00	15:00.0	60.6	90.2	52.2	76.1	101.4	91.7	72.196	62.087	57.259	54.251	53.72	53.001
79	04-Apr-14	07:15:00	15:00.0	58.4	88	51.4	74.4	97.8	87.8	68.68	60.407	55.555	53.095	52.54	52.024
80	04-Apr-14	07:30:00	15:00.0	59.2	88.8	52.3	77.7	101.9	91.4	70.384	60.86	55.923	53.712	53.29	52.641
81	04-Apr-14	07:45:00	15:00.0	59.7	89.3	52.2	81.1	102.5	97.5	68.907	62.235	56.86	54.243	53.759	53.102
82	04-Apr-14	08:00:00	15:00.0	59.6	89.2	52.9	74.9	99.9	88.3	69.313	62.04	56.665	54.368	54.04	53.227
83	04-Apr-14	08:15:00	15:00.0	59.7	89.2	52.1	77.6	100.7	91.2	70.032	61.766	56.415	53.821	53.345	52.759
84	04-Apr-14	08:30:00	15:00.0	61.8	91.3	51.7	79.2	106.1	92.9	71.79	64.095	58.938	54.126	53.485	52.634
85	04-Apr-14	08:45:00	15:00.0	59.7	89.3	52.3	74	99.3	90.8	67.641	61.93	58.063	54.243	53.79	53.063

86	04-Apr-14	09:00:00	15:00.0	60.2	89.7	51.5	80.9	104.4	92.5	71.313	61.532	55.766	53.407	53.016	52.18
87	04-Apr-14	09:15:00	15:00.0	61.3	90.8	52.7	77.9	98.8	91	72.391	63.321	56.641	54.407	54.102	53.29
88	04-Apr-14	09:30:00	15:00.0	62.6	92.2	52.7	82.9	99.4	95	73.11	65.548	56.688	54.266	53.821	53.134
89	04-Apr-14	09:45:00	15:00.0	59.3	88.8	52.3	79.2	100.1	96.6	67.79	62.493	55.868	53.798	53.368	53.024
90	04-Apr-14	10:00:00	15:00.0	64.6	94.2	52.8	88.7	98.6	96	74.001	60.555	57.118	54.501	54.126	53.274
91	04-Apr-14	10:15:00	15:00.0	58	87.6	52.6	70.6	96.5	84.2	67.329	59.962	56.165	54.36	54.11	53.313
92	04-Apr-14	10:30:00	15:00.0	57.1	86.7	52.4	71	98	85.9	64.251	59.72	55.727	53.751	53.345	53.016
93	04-Apr-14	10:45:00	15:00.0	58.6	88.2	52.2	82.8	99.3	95.3	69.485	58.821	55.149	53.524	53.227	52.868
94	04-Apr-14	11:00:00	15:00.0	59.7	89.3	51.8	77.7	99.9	89.3	72.227	60.477	55.384	53.391	53.016	52.188
95	04-Apr-14	11:15:00	15:00.0	61.3	90.9	52.6	83.6	104.1	94.2	72.298	60.798	55.821	54.024	53.509	53.071
96	04-Apr-14	11:30:00	15:00.0	61.6	91.1	52.5	82	93.9	90.9	74.501	61.907	55.884	53.907	53.438	53.055
97	04-Apr-14	11:45:00	15:00.0	61.8	91.3	52.2	82.4	101.1	95.8	73.938	62.727	56.587	54.18	53.673	53.001
98	04-Apr-14	12:00:00	15:00.0	61.5	91.1	52.2	86.7	107.9	96.1	69.727	61.235	56.095	54.102	53.563	53.016
99	04-Apr-14	12:15:00	15:00.0	58.9	88.4	53.3	73.2	96.6	89.9	67.782	61.243	56.923	54.805	54.321	53.61
100	04-Apr-14	12:30:00	15:00.0	59.8	89.3	52.8	76.2	98.9	90.4	69.423	61.813	56.821	54.415	54.095	53.274
101	04-Apr-14	12:45:00	15:00.0	59.5	89	52.3	74.8	105.4	90.1	69.173	61.86	56.509	54.29	53.852	53.016
102	04-Apr-14	13:00:00	15:00.0	60.3	89.8	52.1	77	101.7	93.9	70.595	63.141	56.087	53.657	53.259	52.595
103	04-Apr-14	13:15:00	15:00.0	58.6	88.2	52.5	76.3	96.6	89.1	69.751	60.157	55.571	53.595	53.266	53.001
104	04-Apr-14	13:30:00	15:00.0	59.5	89	52.4	73.8	92.8	86.8	69.024	61.837	56.938	54.446	54.079	53.235
105	04-Apr-14	13:45:00	15:00.0	59.5	89	52.4	77.4	98.8	88.5	69.93	60.68	56.485	54.368	54.079	53.243
106	04-Apr-14	14:00:00	15:00.0	62	91.5	53.1	78.9	103.1	94.2	71.173	65.212	58.352	55.079	54.454	53.587
107	04-Apr-14	14:15:00	15:00.0	59.6	89.1	52.8	73.4	96.7	84.5	68.915	62.04	56.837	54.626	54.149	53.274
108	04-Apr-14	14:30:00	15:00.0	59.3	88.9	53.2	74.5	94.8	88.3	68.735	61.438	56.946	55.165	54.657	54.009
109	04-Apr-14	14:45:00	15:00.0	59.1	88.6	53.4	76.3	97.4	88.8	69.235	59.626	56.321	54.829	54.352	53.821
110	04-Apr-14	15:00:00	15:00.0	59.9	89.5	53.2	74.7	98.3	93.6	69.915	62.555	57.102	55.157	54.751	54.071
111	04-Apr-14	15:15:00	15:00.0	60	89.5	53.2	85.2	101	94.1	70.587	62.579	56.118	54.384	54.118	53.376
112	04-Apr-14	15:30:00	15:00.0	61.6	91.2	53.2	79.2	101.5	92.4	72.837	63.68	56.813	54.899	54.384	53.774
113	04-Apr-14	15:45:00	15:00.0	57.2	86.8	52.7	80.3	106.5	93.2	65.266	58.352	55.516	54.095	53.68	53.126
114	04-Apr-14	16:00:00	15:00.0	59.3	88.9	53.3	74.6	102.3	88.7	70.626	60.587	56.298	54.532	54.22	53.68
115	04-Apr-14	16:15:00	15:00.0	58.6	88.2	53.5	80.6	95	94.9	67.595	60.313	56.321	54.579	54.251	53.899
116	04-Apr-14	16:30:00	15:00.0	60.7	90.3	53	83.5	107	93.7	69.571	60.657	55.97	54.251	54.032	53.243
117	04-Apr-14	16:45:00	15:00.0	59.8	89.3	52.6	77.7	104.6	88.2	70.813	61.68	56.235	54.446	54.134	53.313
118	04-Apr-14	17:00:00	15:00.0	62	91.5	53.6	84.3	109.7	99.6	72.423	60.954	56.446	54.884	54.423	54.048
119	04-Apr-14	17:15:00	15:00.0	63.7	93.2	54	81.4	106.6	94.6	76.501	63.868	57.837	55.821	55.313	54.501
120	04-Apr-14	17:30:00	15:00.0	60.5	90.1	53.7	80.2	99	96.6	69.118	62.93	57.876	56.118	55.555	54.641
121	04-Apr-14	17:45:00	15:00.0	60	89.5	53.4	89.1	98.5	98.4	67.571	61.274	56.72	54.751	54.337	54.001
122	04-Apr-14	18:00:00	15:00.0	59.6	89.2	53.4	76.5	103.1	90.8	68.915	62.032	57.18	55.048	54.54	54.079
123	04-Apr-14	18:15:00	15:00.0	60.8	90.4	54	74.3	97.4	88.9	70.305	63.415	58.485	55.532	55.118	54.274
124	04-Apr-14	18:30:00	15:00.0	62.5	92	53	79	98.4	90.4	71.649	65.548	59.243	55.313	54.72	54.032
125	04-Apr-14	18:45:00	15:00.0	61.6	91.2	53.8	85.6	99.4	96.9	69.821	64.587	58.235	55.376	55.048	54.227
126	04-Apr-14	19:00:00	15:00.0	59.1	88.7	53.4	78.3	98.2	100.2	68.048	61.805	56.665	54.626	54.282	54.009
127	04-Apr-14	19:15:00	15:00.0	59.6	89.2	53.3	73.6	93.8	89.7	69.188	62.024	57.11	54.993	54.423	53.798
128	04-Apr-14	19:30:00	15:00.0	57.6	87.2	52.9	73.9	93.9	85.4	66.001	59.149	55.813	54.313	54.079	53.29

129	04-Apr-14	19:45:00	15:00.0	58.3	87.8	53.4	73.2	97.9	89.5	67.43	59.891	56.852	54.962	54.438	54.016
130	04-Apr-14	20:00:00	15:00.0	58.4	87.9	53	73.2	98	86.9	66.579	60.61	56.548	54.602	54.227	53.509
131	04-Apr-14	20:15:00	15:00.0	59.1	88.7	53.4	72.1	95.8	84.8	67.665	61.595	57.227	55.016	54.43	53.673
132	04-Apr-14	20:30:00	15:00.0	58.7	88.3	53.4	75	94.5	84.5	66.157	61.454	56.97	55.188	54.805	54.118
133	04-Apr-14	20:45:00	15:00.0	57.7	87.3	53	74	97.9	87.8	65.72	59.766	56.134	54.391	54.141	53.462
134	04-Apr-14	21:00:00	15:00.0	61	90.6	53.2	82.2	98.5	94.9	73.11	61.618	56.423	54.532	54.22	53.727
135	04-Apr-14	21:15:00	15:00.0	67	96.5	53.6	93	102.2	100.8	79.149	67.102	57.102	54.852	54.399	54.04
136	04-Apr-14	21:30:00	15:00.0	60.2	89.8	52.9	80.5	107.2	94.3	70.501	62.532	56.712	54.571	54.212	53.501
137	04-Apr-14	21:45:00	15:00.0	71.1	100.7	52.8	95	104.5	104.3	83.813	65.438	58.415	55.196	54.415	53.415
138	04-Apr-14	22:00:00	15:00.0	60.6	90.2	55.6	74.7	97.1	85.6	70.095	62.845	58.188	56.477	56.227	56.024
139	04-Apr-14	22:15:00	15:00.0	61.3	90.8	52.5	76.8	106.6	91	72.376	63.446	57.571	54.329	53.813	53.11
140	04-Apr-14	22:30:00	15:00.0	57.8	87.3	52	74.4	97	86.1	66.907	59.876	55.259	53.321	53.063	52.259
141	04-Apr-14	22:45:00	15:00.0	56.2	85.7	50.9	72.7	98.5	85.9	65.805	57.446	54.095	52.071	51.571	51.102
142	04-Apr-14	23:00:00	15:00.0	57.3	86.9	51.2	71.7	98.4	82.9	66.798	59.97	54.509	52.657	52.29	51.97
143	04-Apr-14	23:15:00	15:00.0	54.9	84.5	50.4	69.8	94.3	81.9	62.946	56.72	53.384	51.579	51.251	50.79
144	04-Apr-14	23:30:00	15:00.0	57.1	86.6	50.9	73.9	103.5	87.5	66.251	59.634	54.376	52.391	52.087	51.274
145	04-Apr-14	23:45:00	15:00.0	56.7	86.3	50.4	78.4	92.6	87.4	66.462	57.438	53.313	51.657	51.274	50.766
146	05-Apr-14	00:00:00	15:00.0	61.5	91.1	50.2	81.5	97.5	92.7	75.251	61.68	53.501	51.298	51.04	50.235
147	05-Apr-14	00:15:00	15:00.0	58.8	88.3	49.9	78.4	104.7	90.2	69.321	61.68	54.579	51.423	51.087	50.266
148	05-Apr-14	00:30:00	15:00.0	54.9	84.4	49.8	70.4	95.6	85.8	62.899	56.79	52.743	51.141	50.751	50.141
149	05-Apr-14	00:45:00	15:00.0	54.7	84.3	50	73.2	97.5	90.1	62.704	56.337	52.899	51.321	51.087	50.313
150	05-Apr-14	01:00:00	15:00.0	53.4	82.9	49.9	66.8	90	79	61.345	54.852	51.923	50.626	50.305	50.055
151	05-Apr-14	01:15:00	15:00.0	56.1	85.7	49.4	72	100.1	82.9	67.11	58.54	52.805	50.587	50.251	49.899
152	05-Apr-14	01:30:00	15:00.0	55.7	85.3	49.1	76.8	90.3	88.6	65.938	55.61	52.274	50.587	50.243	49.673
153	05-Apr-14	01:45:00	15:00.0	54.1	83.6	49	76.3	91.6	91.1	62.954	55.009	52.22	50.47	50.188	49.634
154	05-Apr-14	02:00:00	15:00.0	57.5	87.1	49.6	79.2	96.7	89.7	68.54	56.415	52.087	50.532	50.251	50.032
155	05-Apr-14	02:15:00	15:00.0	58.9	88.5	49.1	80.8	94	92.3	69.774	59.907	53.282	50.79	50.321	49.657
156	05-Apr-14	02:30:00	15:00.0	58.4	87.9	49.8	85.3	107.2	92.8	69.352	57.72	52.696	51.016	50.516	50.087
157	05-Apr-14	02:45:00	15:00.0	54.6	84.1	48.9	69.9	92.4	86.1	63.173	57.345	52.352	50.227	49.954	49.188
158	05-Apr-14	03:00:00	15:00.0	53.1	82.7	48.7	68.5	91.9	80.3	62.329	54.235	51.516	50.079	49.634	49.11
159	05-Apr-14	03:15:00	15:00.0	55.8	85.3	48.9	77.7	97.6	88.6	63.384	55.993	51.696	50.095	49.665	49.126
160	05-Apr-14	03:30:00	15:00.0	58.1	87.6	49.4	75	103.2	87.8	68.751	62.321	52.524	50.548	50.18	49.423
161	05-Apr-14	03:45:00	15:00.0	56.1	85.7	49.3	67.1	91.4	79.4	62.97	61.868	51.891	50.399	50.188	50.009
162	05-Apr-14	04:00:00	15:00.0	56	85.5	48.5	77	93.2	88.6	66.704	56.97	51.563	49.618	49.29	49.032
163	05-Apr-14	04:15:00	15:00.0	52.9	82.5	48.5	68	98.6	83.2	61.055	54.438	51.446	49.438	49.173	48.587
164	05-Apr-14	04:30:00	15:00.0	52.9	82.5	48.3	72.5	98.2	84.2	59.923	54.954	51.22	49.602	49.259	48.845
165	05-Apr-14	04:45:00	15:00.0	53.6	83.1	48.2	68.7	94.2	84.2	61.821	56.282	51.188	49.36	49.126	48.43
166	05-Apr-14	05:00:00	15:00.0	54.7	84.2	48.7	75.2	92.6	88	65.282	54.946	51.282	49.907	49.446	49.071
167	05-Apr-14	05:15:00	15:00.0	57.8	87.3	49.5	73.3	96.2	85.2	68.251	60.774	53.313	50.657	50.305	50.016
168	05-Apr-14	05:30:00	15:00.0	58.4	87.9	49.6	81.9	97.7	93.4	68.501	56.907	53.102	50.845	50.407	50.048
169	05-Apr-14	05:45:00	15:00.0	54.8	84.4	49.5	70.1	92	82.6	64.72	56.696	52.141	50.407	50.173	49.93
170	05-Apr-14	06:00:00	15:00.0	56.6	86.1	50	74.8	94.2	86.3	67.501	57.727	53.001	51.009	50.509	50.095
171	05-Apr-14	06:15:00	15:00.0	62.3	91.9	49.8	84.8	104.8	99	75.227	62.712	55.391	51.829	51.212	50.298

172	05-Apr-14	06:30:00	15:00.0	55.6	85.1	49.9	73.7	98.9	93.7	64.704	57.774	53.477	51.43	51.141	50.391
173	05-Apr-14	06:45:00	15:00.0	57.5	87	50.6	75.7	96.5	94.3	69.68	57.899	53.946	51.907	51.43	51.055
174	05-Apr-14	07:00:00	15:00.0	57.5	87	49.9	73.5	90.4	86.1	68.657	58.97	54.079	52.079	51.43	50.415
175	05-Apr-14	07:15:00	15:00.0	54.7	84.2	50.3	70	90.2	79.1	61.516	56.821	53.555	51.868	51.391	51.016
176	05-Apr-14	07:30:00	15:00.0	55	84.6	50.3	67.1	93.3	81.5	61.571	57.087	53.891	52.22	51.93	51.063
177	05-Apr-14	07:45:00	15:00.0	56.7	86.3	50.7	73.5	95.7	94.6	67.805	57.704	53.805	52.102	51.626	51.095
178	05-Apr-14	08:00:00	15:00.0	56.2	85.7	50.5	76.3	97.6	87.6	66.915	57.04	53.571	51.712	51.337	51.032
179	05-Apr-14	08:15:00	15:00.0	60.9	90.5	50.8	77.5	97.2	90.1	74.524	61.048	54.923	52.376	52.055	51.235
180	05-Apr-14	08:30:00	15:00.0	60.4	90	51	79.6	105.7	93.4	72.001	63.11	55.829	52.665	52.22	51.399
181	05-Apr-14	08:45:00	15:00.0	57.9	87.5	50.5	75.7	100.7	88.8	69.29	59.563	54.759	52.524	52.04	51.134
182	05-Apr-14	09:00:00	15:00.0	60.8	90.3	51.9	81	100	93.6	69.54	62.915	56.524	53.688	53.266	52.524
183	05-Apr-14	09:15:00	15:00.0	60	89.5	51.3	78.8	102.8	95.5	70.774	62.173	56.102	53.251	52.735	52.063
184	05-Apr-14	09:30:00	15:00.0	56.9	86.5	51.3	68.9	97.9	83.9	66.43	59.134	54.852	52.735	52.345	52.032
185	05-Apr-14	09:45:00	15:00.0	58.2	87.8	51.5	78.7	99.2	95.3	69.118	59.048	54.352	52.587	52.274	52.024
186	05-Apr-14	10:00:00	15:00.0	55.6	85.2	51.3	73.1	97.8	85.2	61.626	56.766	54.079	52.501	52.235	52.016
187	05-Apr-14	10:15:00	15:00.0	57.2	86.7	51.6	73.2	94.9	84.5	67.149	58.595	54.712	53.173	52.837	52.149
188	05-Apr-14	10:30:00	15:00.0	57.8	87.4	52	71.3	96.3	88.8	65.548	61.235	55.477	53.376	53.087	52.298
189	05-Apr-14	10:45:00	15:00.0	57.1	86.7	51.8	73.7	100.5	87	65.813	58.884	55.071	53.227	52.977	52.188
190	05-Apr-14	11:00:00	15:00.0	66.2	95.7	51.9	93.6	110.2	104.1	77.829	61.852	54.915	53.134	52.735	52.141
191	05-Apr-14	11:15:00	15:00.0	64.7	94.3	52.2	84.7	107.6	99.1	79.001	63.149	55.141	53.485	53.196	52.68
192	05-Apr-14	11:30:00	15:00.0	58.5	88.1	52.2	72.9	98.5	86	68.345	61.188	55.766	53.813	53.36	52.985
193	05-Apr-14	11:45:00	15:00.0	58.4	87.9	52.1	69	101.1	84.8	66.118	62.329	55.516	53.54	53.204	52.532
194	05-Apr-14	12:00:00	15:00.0	58.6	88.1	52.3	73.4	103.4	87.5	68.501	61.087	55.626	53.438	53.188	52.813
195	05-Apr-14	12:15:00	15:00.0	57.4	87	51.7	73.9	96.8	86.7	67.665	59.446	54.93	53.259	53.048	52.259
196	05-Apr-14	12:30:00	15:00.0	57.1	86.6	52.5	71.4	104.6	84.4	63.884	58.852	55.938	53.759	53.337	53.001
197	05-Apr-14	12:45:00	15:00.0	59.5	89	53	79.5	98.5	91	69.782	60.805	56.407	54.532	54.204	53.524
198	05-Apr-14	13:00:00	15:00.0	58	87.5	52.4	72.7	98.4	87.2	66.516	60.095	55.86	54.087	53.595	53.071
199	05-Apr-14	13:15:00	15:00.0	57.8	87.3	52.9	73.5	99.5	90	65.509	59.805	56.376	54.477	54.102	53.266
200	05-Apr-14	13:30:00	15:00.0	58.9	88.4	52.8	79.4	101.1	89	68.923	59.704	56.266	54.36	54.048	53.227
201	05-Apr-14	13:45:00	15:00.0	59	88.6	52.9	72.9	103.8	85.7	68.36	61.493	56.571	54.391	54.087	53.274
202	05-Apr-14	14:00:00	15:00.0	57.8	87.4	52.9	76.8	100.7	93.3	65.649	59.837	56.345	54.61	54.243	53.571
203	05-Apr-14	14:15:00	15:00.0	57.6	87.2	52.8	72.3	99.8	83.8	64.79	59.235	56.376	54.493	54.118	53.282
204	05-Apr-14	14:30:00	15:00.0	58.5	88.1	53.2	75.6	97.7	88.2	67.243	60.845	56.259	54.509	54.188	53.516
205	05-Apr-14	14:45:00	15:00.0	59.1	88.7	53.6	79.2	101.7	93.4	68.907	60.407	56.829	55.063	54.579	54.102
206	05-Apr-14	15:00:00	15:00.0	59.4	89	53.1	78.3	94.7	90.3	69.852	60.712	56.524	54.524	54.188	53.462
207	05-Apr-14	15:15:00	15:00.0	61.2	90.7	53.3	86.1	107.6	97.1	67.477	61.391	57.548	55.212	54.759	54.126
208	05-Apr-14	15:30:00	15:00.0	57.6	87.1	53.2	70.6	100.8	87.2	63.915	59.305	56.751	55.126	54.641	54.024
209	05-Apr-14	15:45:00	15:00.0	57.8	87.3	53.3	71.4	100.3	85	65.751	59.649	56.329	54.587	54.235	53.595
210	05-Apr-14	16:00:00	15:00.0	59.2	88.8	53.4	76.7	102.5	93.3	68.587	61.798	56.595	54.47	54.18	53.548
211	05-Apr-14	16:15:00	15:00.0	60.5	90	53.8	76.4	97.7	87.9	69.891	62.696	57.837	55.743	55.305	54.665
212	05-Apr-14	16:30:00	15:00.0	59.1	88.7	53.3	85.8	99.2	95.2	66.141	61.907	56.735	54.985	54.454	54.024
213	05-Apr-14	16:45:00	15:00.0	57.6	87.2	52.9	73.6	97.3	86.8	64.688	59.829	56.188	54.47	54.149	53.368
214	05-Apr-14	17:00:00	15:00.0	60.8	90.4	53.4	78.2	100.5	90.3	69.72	63.477	58.274	55.305	54.79	54.102

215	05-Apr-14	17:15:00	15:00.0	64.2	93.7	53.3	79.2	101.5	94	76.54	66.735	58.165	55.352	54.907	54.118
216	05-Apr-14	17:30:00	15:00.0	60.1	89.7	53.7	80.7	103.4	91.6	69.399	61.688	57.423	55.384	55.079	54.259
217	05-Apr-14	17:45:00	15:00.0	58.7	88.3	53.3	74.8	98.5	85.9	68.454	60.43	56.407	54.587	54.243	53.704
218	05-Apr-14	18:00:00	15:00.0	61.8	91.4	54.1	77	100.8	90.4	72.54	64.618	58.134	55.688	55.243	54.43
219	05-Apr-14	18:15:00	15:00.0	61.6	91.1	53.7	76.8	104.5	87.6	71.665	64.938	57.688	55.47	55.173	54.501
220	05-Apr-14	18:30:00	15:00.0	58	87.5	52.9	71.3	96.9	85.7	66.251	60.743	55.923	54.227	53.962	53.173
221	05-Apr-14	18:45:00	15:00.0	60.4	90	53	75.8	99.1	87.3	69.524	64.095	56.962	54.782	54.282	53.462
222	05-Apr-14	19:00:00	15:00.0	59.6	89.2	53	76.3	97	88.3	70.079	61.657	56.68	54.563	54.165	53.337
223	05-Apr-14	19:15:00	15:00.0	59.5	89.1	52.6	76.7	99.2	88.1	69.345	62.548	56.11	54.071	53.563	53.063
224	05-Apr-14	19:30:00	15:00.0	59.8	89.3	53	78.8	98.7	90.1	70.579	61.009	55.985	54.376	54.11	53.352
225	05-Apr-14	19:45:00	15:00.0	62.9	92.4	53.1	83.7	98.5	93.2	74.829	63.266	56.798	54.579	54.22	53.524
226	05-Apr-14	20:00:00	15:00.0	58.1	87.6	52.9	83.1	98.3	96.8	65.977	59.86	55.641	54.149	53.805	53.157
227	05-Apr-14	20:15:00	15:00.0	58.7	88.3	53.4	82.1	99.6	97.1	66.173	60.72	57.165	54.821	54.368	54.001
228	05-Apr-14	20:30:00	15:00.0	57.1	86.7	53.2	68.8	101.9	88.5	64.618	58.821	56.048	54.477	54.204	53.868
229	05-Apr-14	20:45:00	15:00.0	60	89.5	53	80.2	105.9	89.8	69.149	60.579	56.274	54.415	54.087	53.266
230	05-Apr-14	21:00:00	15:00.0	61.6	91.2	53.2	92.4	101.5	102.2	70.055	62.688	56.743	54.602	54.251	53.72
231	05-Apr-14	21:15:00	15:00.0	59.8	89.4	52.7	74.4	96	87.6	69.274	62.352	56.798	54.845	54.345	53.618
232	05-Apr-14	21:30:00	15:00.0	61.9	91.5	52.5	81.1	107.2	92.9	71.548	64.845	57.673	55.024	54.47	53.907
233	05-Apr-14	21:45:00	15:00.0	60.1	89.6	53	78	103	91.6	69.595	62.423	56.805	54.274	54.016	53.212
234	05-Apr-14	22:00:00	15:00.0	59.3	88.8	52.4	81.4	102.3	96	68.477	61.071	56.22	54.298	54.048	53.204
235	05-Apr-14	22:15:00	15:00.0	59.2	88.7	53.6	78.6	104.8	90.8	69.399	60.391	56.071	54.415	54.173	53.759
236	05-Apr-14	22:30:00	15:00.0	58.2	87.7	52.7	74.2	95.6	86.9	67.063	60.876	55.438	53.704	53.337	53.048
237	05-Apr-14	22:45:00	15:00.0	58.1	87.7	51.9	78.6	108.4	93.9	67.813	60.805	54.899	53.282	53.04	52.227
238	05-Apr-14	23:00:00	15:00.0	59.7	89.3	52.2	74.2	98.7	87.9	69.759	62.399	57.024	54.196	53.634	53.063
239	05-Apr-14	23:15:00	15:00.0	57.6	87.2	51.8	76	100.5	89	65.555	59.946	55.774	53.61	53.188	52.345
240	05-Apr-14	23:30:00	15:00.0	56.8	86.4	50.3	70.7	100.1	86.8	65.001	59.813	54.571	52.266	51.805	51.141
241	05-Apr-14	23:45:00	15:00.0	57.9	87.4	50.9	80.7	101	92.4	66.071	59.923	55.735	52.712	52.235	51.384
242	06-Apr-14	00:00:00	15:00.0	58.4	87.9	50.5	78.9	101	89.7	68.157	60.079	54.063	51.813	51.36	51.001
243	06-Apr-14	00:15:00	15:00.0	56.8	86.3	49.6	75.1	101	87.9	67.001	58.22	53.649	52.016	51.485	51.016
244	06-Apr-14	00:30:00	15:00.0	57.5	87.1	50.3	75.1	99	87.3	69.712	58.376	53.001	51.329	51.102	50.36
245	06-Apr-14	00:45:00	15:00.0	55.5	85	49.9	69.1	96.4	79.8	65.188	57.524	53.11	51.126	50.665	50.126
246	06-Apr-14	01:00:00	15:00.0	55.9	85.4	49.6	71.7	99.9	83.1	66.829	57.274	52.688	51.087	50.61	50.079
247	06-Apr-14	01:15:00	15:00.0	57.7	87.3	50.3	80.6	103.5	92.8	67.001	60.47	53.282	51.298	51.048	50.266
248	06-Apr-14	01:30:00	15:00.0	56.4	86	50.3	72.8	94	86.6	67.43	56.727	54.087	52.134	51.532	50.548
249	06-Apr-14	01:45:00	15:00.0	57.2	86.7	51.3	70.2	92	88.5	67.47	59.016	54.907	52.915	52.43	52.048
250	06-Apr-14	02:00:00	15:00.0	57.1	86.7	50.1	74.4	98	87.2	68.845	57.641	53.93	51.852	51.282	50.391
251	06-Apr-14	02:15:00	15:00.0	58.2	87.7	50	77	100	88.1	69.868	58.759	54.024	52.188	51.712	51.032
252	06-Apr-14	02:30:00	15:00.0	56.8	86.3	51.1	77.2	94.9	88.5	64.298	57.79	53.923	52.22	52.001	51.204
253	06-Apr-14	02:45:00	15:00.0	54.4	84	49.5	69	94.9	79.3	62.446	56.087	53.118	51.196	50.704	50.11
254	06-Apr-14	03:00:00	15:00.0	53.9	83.4	49.3	71.1	100.6	86.3	61.032	55.595	52.868	50.962	50.462	50.063
255	06-Apr-14	03:15:00	15:00.0	53.7	83.3	49.4	63.1	97.9	76.3	59.305	55.798	53.009	50.79	50.298	49.524
256	06-Apr-14	03:30:00	15:00.0	53.7	83.3	49.5	68	95.9	79.8	60.782	55.462	52.43	50.704	50.329	50.024
257	06-Apr-14	03:45:00	15:00.0	54.8	84.3	48.9	71.6	96.5	83.8	66.251	55.923	51.837	50.126	49.704	49.134

258	06-Apr-14	04:00:00	15:00.0	52.7	82.3	48.9	68.3	93.1	80.3	61.595	53.54	51.18	49.649	49.321	49.055
259	06-Apr-14	04:15:00	15:00.0	53.6	83.1	48.8	71.5	94.7	83.3	62.329	54.602	51.36	49.751	49.36	49.055
260	06-Apr-14	04:30:00	15:00.0	54.2	83.7	48.7	72.6	91	85.1	64.134	55.626	51.712	49.712	49.345	49.048
261	06-Apr-14	04:45:00	15:00.0	52.1	81.7	48.4	65.3	98.4	76.8	59.548	53.938	50.813	49.305	49.118	48.516
262	06-Apr-14	05:00:00	15:00.0	52.3	81.9	48.5	63.7	94.8	75.2	59.712	53.962	51.165	49.54	49.251	49.024
263	06-Apr-14	05:15:00	15:00.0	53.6	83.2	49.1	70.2	93.2	81.3	60.837	55.962	52.204	50.173	49.86	49.173
264	06-Apr-14	05:30:00	15:00.0	52.8	82.4	49.1	65.9	93.9	80.6	60.649	54.313	51.657	50.11	49.696	49.134
265	06-Apr-14	05:45:00	15:00.0	54	83.6	48.9	71.8	94.1	88	63.805	55.626	51.774	50.095	49.649	49.126
266	06-Apr-14	06:00:00	15:00.0	52.4	82	49.8	58.8	96.8	69.8	56.595	54.259	51.821	50.493	50.243	50.04
267	06-Apr-14	06:15:00	15:00.0	54.2	83.8	49.6	71.3	99.7	83.6	63.829	55.602	52.352	50.595	50.29	50.04
268	06-Apr-14	06:30:00	15:00.0	63.7	93.2	50.1	83.2	103	94.9	76.501	65.251	54.649	51.837	51.313	50.509
269	06-Apr-14	06:45:00	15:00.0	55.6	85.1	49.7	73.2	100.2	88.3	66.626	56.313	52.743	50.985	50.477	50.079
270	06-Apr-14	07:00:00	15:00.0	56.3	85.8	49.6	72	98.3	84	67.696	57.024	53.141	51.009	50.501	50.087
271	06-Apr-14	07:15:00	15:00.0	59.9	89.4	51.4	83.1	95.4	94.1	67.54	59.548	55.977	53.305	52.837	52.048
272	06-Apr-14	07:30:00	15:00.0	59.5	89.1	51.2	78.9	95.6	94.3	69.845	60.618	57.235	53.993	53.157	51.954
273	06-Apr-14	07:45:00	15:00.0	56.9	86.4	50.4	79.6	97.1	95.6	66.766	56.962	54.024	52.251	51.97	51.165
274	06-Apr-14	08:00:00	15:00.0	58.3	87.8	50.6	80.4	99.8	92.1	67.735	57.915	54.821	52.399	52.032	51.18
275	06-Apr-14	08:15:00	15:00.0	57	86.6	50.5	74	99.2	89.3	66.845	59.352	54.235	52.095	51.61	51.079
276	06-Apr-14	08:30:00	15:00.0	56.1	85.6	50.6	70.7	95.3	82.7	66.095	57.735	54.016	51.829	51.384	51.032
277	06-Apr-14	08:45:00	15:00.0	58	87.6	50.9	73.8	100	85.1	66.829	60.407	55.399	53.009	52.352	51.407
278	06-Apr-14	09:00:00	15:00.0	58.2	87.8	51.5	77.9	98.1	87.6	66.735	60.462	56.18	52.79	52.345	51.845
279	06-Apr-14	09:15:00	15:00.0	57.9	87.4	51.3	80.9	100.7	92.5	69.329	58.22	54.313	52.54	52.196	51.454
280	06-Apr-14	09:30:00	15:00.0	56.1	85.6	51.4	70.2	95.8	85.6	66.196	57.462	54.196	52.47	52.18	51.54
281	06-Apr-14	09:45:00	15:00.0	56.3	85.9	51.4	74.9	99.5	89.2	65.735	57.352	54.516	52.829	52.345	51.72
282	06-Apr-14	10:00:00	15:00.0	58.6	88.2	51.2	73.3	104.2	86.8	69.243	60.876	55.665	53.188	52.595	51.68
283	06-Apr-14	10:15:00	15:00.0	58.3	87.8	51.3	78.3	101.9	93.4	68.782	59.516	54.571	52.626	52.282	52.009
284	06-Apr-14	10:30:00	15:00.0	58.5	88.1	51.7	74	97.1	88.5	68.446	61.704	54.813	53.04	52.548	52.095
285	06-Apr-14	10:45:00	15:00.0	56.6	86.2	51.9	78.4	104.7	97.2	64.751	58.454	54.774	53.149	52.759	52.141
286	06-Apr-14	11:00:00	15:00.0	58.9	88.4	51.8	79.2	97.8	91.3	69.329	60.235	54.884	53.18	52.774	52.149
287	06-Apr-14	11:15:00	15:00.0	57.6	87.2	51.7	72	103.9	86.1	65.915	60.845	55.227	53.134	52.634	52.095
288	06-Apr-14	11:30:00	15:00.0	58.2	87.8	52.1	76.4	100.4	88.5	68.727	60.126	55.055	53.305	53.055	52.259
289	06-Apr-14	11:45:00	15:00.0	59.1	88.7	52.7	79.7	106.6	91.6	68.055	62.196	55.634	53.634	53.298	53.032
290	06-Apr-14	12:00:00	15:00.0	58.3	87.8	52.6	75.6	106.8	86.9	67.774	60.587	55.618	53.751	53.36	53.048
291	06-Apr-14	12:15:00	15:00.0	58.1	87.7	52.3	74.7	107.3	89.1	66.813	60.407	55.813	53.821	53.391	53.04
292	06-Apr-14	12:30:00	15:00.0	58.1	87.7	53	72.3	104.2	87.4	67.399	59.712	56.423	54.032	53.524	53.102
293	06-Apr-14	12:45:00	15:00.0	57.7	87.3	52.3	72.3	105.6	83.9	67.735	59.595	55.524	53.766	53.329	52.899
294	06-Apr-14	13:00:00	15:00.0	60.1	89.6	52.7	77.9	104.3	87.5	70.641	61.649	57.016	54.43	54.04	53.204
295	06-Apr-14	13:15:00	15:00.0	57.7	87.3	52.2	73.2	103.2	86	66.157	59.985	55.696	53.696	53.29	52.759
296	06-Apr-14	13:30:00	15:00.0	58.9	88.4	52.6	72	105.2	83.4	68.134	61.712	56.04	54.188	53.759	53.102
297	06-Apr-14	13:45:00	15:00.0	59.3	88.9	51.9	75.5	95.1	88.6	68.595	62.751	56.095	53.587	53.173	52.345
298	06-Apr-14	14:00:00	15:00.0	58.6	88.1	52.1	71.3	109.3	86.5	67.766	61.634	55.704	53.548	53.165	52.36
299	06-Apr-14	14:15:00	15:00.0	58.2	87.8	51.8	73.8	102.6	85.8	68.766	60.016	54.79	53.134	52.704	52.134
300	06-Apr-14	14:30:00	15:00.0	56.5	86	52.3	70.1	97.9	89.9	64.391	58.485	54.907	53.391	53.141	52.446

301	06-Apr-14	14:45:00	15:00.0	57.9	87.5	52.5	76.1	101.6	90.9	64.774	60.313	56.446	54.368	54.095	53.298
302	06-Apr-14	15:00:00	15:00.0	58.7	88.2	52.1	73.4	99	89.4	68.618	60.751	55.727	53.751	53.329	52.97
303	06-Apr-14	15:15:00	15:00.0	58.3	87.9	51.9	73.2	97.2	85.2	68.884	59.79	55.704	53.454	53.095	52.266
304	06-Apr-14	15:30:00	15:00.0	56.8	86.4	51.8	69.8	98	89.5	64.884	58.868	55.415	53.305	53.032	52.227
305	06-Apr-14	15:45:00	15:00.0	57.2	86.7	52.1	71.9	103.3	84.3	64.399	59.516	55.626	53.899	53.423	53.04
306	06-Apr-14	16:00:00	15:00.0	56.6	86.2	52.3	67.5	101.2	80.8	63.641	58.915	55.376	53.688	53.313	53.016
307	06-Apr-14	16:15:00	15:00.0	57.6	87.2	52.4	72.1	106.6	86.9	65.649	60.024	55.649	53.954	53.446	53.032
308	06-Apr-14	16:30:00	15:00.0	57.1	86.7	52.4	81.1	100.1	91	64.555	58.899	55.446	53.899	53.43	53.055
309	06-Apr-14	16:45:00	15:00.0	62.2	91.7	52.6	81.2	101.9	92	71.274	66.743	57.11	54.485	54.134	53.251
310	06-Apr-14	17:00:00	15:00.0	55.3	84.8	51.8	68	93.3	83.8	61.782	57.352	54.18	52.837	52.407	52.071
311	06-Apr-14	17:15:00	15:00.0	57.9	87.4	51.8	79.4	104.1	89.9	66.134	59.063	54.751	53.141	52.782	52.141
312	06-Apr-14	17:30:00	15:00.0	57.4	87	51.8	74.2	96.9	85.7	67.618	58.743	54.821	53.126	52.688	52.126
313	06-Apr-14	17:45:00	15:00.0	56.9	86.5	51.4	69	94.1	81.5	66.321	58.735	55.071	53.087	52.563	52.055
314	06-Apr-14	18:00:00	15:00.0	65.9	95.4	51.3	94.6	113.4	103.9	73.282	61.313	55.04	53.11	52.61	52.071
315	06-Apr-14	18:15:00	15:00.0	58.2	87.8	52	76.3	99.1	87.7	68.298	59.196	55.68	53.587	53.22	52.516
316	06-Apr-14	18:30:00	15:00.0	57.8	87.4	51.3	76.1	101.9	91.9	68.407	59.626	55.079	53.11	52.595	52.016
317	06-Apr-14	18:45:00	15:00.0	59.6	89.2	51.5	80.2	107.1	92	71.079	59.704	55.141	52.79	52.352	52.009
318	06-Apr-14	19:00:00	15:00.0	55.8	85.3	51.2	72.5	95.2	91.6	65.04	56.954	53.805	52.313	52.071	51.29
319	06-Apr-14	19:15:00	15:00.0	55.3	84.8	51.1	74.2	100.2	82.5	61.891	56.821	53.977	52.391	52.126	51.376
320	06-Apr-14	19:30:00	15:00.0	56.1	85.6	51.2	74.4	102.1	92.8	65.501	57.563	53.946	52.29	52.063	51.282
321	06-Apr-14	19:45:00	15:00.0	57.7	87.3	51	80	91.8	91.7	68.665	56.962	53.751	52.235	52.032	51.243
322	06-Apr-14	20:00:00	15:00.0	56.1	85.6	51.1	71.4	100.7	85.9	64.079	58.665	54.126	52.313	52.079	51.305
323	06-Apr-14	20:15:00	15:00.0	57	86.6	50.9	79.1	97.2	92.5	66.134	57.407	53.704	52.165	51.907	51.173
324	06-Apr-14	20:30:00	15:00.0	56	85.5	50.9	71.3	94.7	82.4	66.407	56.829	53.884	52.329	52.048	51.235
325	06-Apr-14	20:45:00	15:00.0	56.2	85.8	50.6	74.3	96.5	83.9	67.063	57.438	53.509	51.852	51.399	51.032
326	06-Apr-14	21:00:00	15:00.0	59.3	88.8	50.4	80.2	95.7	91.3	71.438	57.079	53.485	52.141	51.946	51.165
327	06-Apr-14	21:15:00	15:00.0	56.4	85.9	50.9	73.2	95	86	64.899	58.173	53.93	52.118	51.657	51.126
328	06-Apr-14	21:30:00	15:00.0	57	86.6	51	73	97.7	84.5	66.946	58.821	54.563	52.657	52.251	51.548
329	06-Apr-14	21:45:00	15:00.0	56.8	86.4	50.8	71.4	96.7	83.7	67.001	59.016	54.001	52.165	51.766	51.149
330	06-Apr-14	22:00:00	15:00.0	55	84.6	49.6	67.9	95.7	80	64.204	56.891	53.274	51.305	50.938	50.157
331	06-Apr-14	22:15:00	15:00.0	58.8	88.4	50	82	105	94.4	69.641	58.001	52.837	51.024	50.532	50.102
332	06-Apr-14	22:30:00	15:00.0	55.5	85.1	49.8	69.8	103.9	82.2	65.329	57.876	52.751	51.079	50.61	50.11
333	06-Apr-14	22:45:00	15:00.0	58.5	88	49.9	76.8	100.3	88.7	67.516	61.641	54.735	51.259	50.759	50.141
334	06-Apr-14	23:00:00	15:00.0	53.2	82.7	49.4	69.3	102.2	83.1	61.829	54.759	51.712	50.22	50.048	49.352
335	06-Apr-14	23:15:00	15:00.0	56	85.6	48.9	78.7	92.1	90	68.766	53.954	51.493	50.102	49.72	49.134
336	06-Apr-14	23:30:00	15:00.0	53.5	83	49	72.5	91.8	83.7	61.954	53.938	51.259	49.993	49.493	49.095
337	06-Apr-14	23:45:00	15:00.0	52.9	82.4	49	66.4	100.9	79.3	62.087	54.509	51.501	50.079	49.649	49.126
338	07-Apr-14	00:00:00	15:00.0	54.2	83.8	48.7	75.7	97.6	86.8	65.071	53.688	50.891	49.759	49.368	49.063
339	07-Apr-14	00:15:00	15:00.0	53	82.5	48.6	71.9	94.2	84	60.259	54.649	51.212	49.595	49.282	49.032
340	07-Apr-14	00:30:00	15:00.0	55.2	84.7	48.8	73.6	92.5	85	65.79	56.782	51.352	49.696	49.337	49.055
341	07-Apr-14	00:45:00	15:00.0	52.4	82	48.7	72.6	98.2	87.9	61.423	53.688	50.884	49.649	49.313	49.04
342	07-Apr-14	01:00:00	15:00.0	52	81.6	48.6	69	97.7	81.2	59.587	53.36	50.68	49.407	49.188	49.024
343	07-Apr-14	01:15:00	15:00.0	54.6	84.2	48.9	69.1	96.3	80.4	63.938	56.899	52.423	50.266	50.009	49.204

344	07-Apr-14	01:30:00	15:00.0	52.2	81.7	49	63.1	95.7	75.5	58.766	53.845	51.251	50.079	49.712	49.141
345	07-Apr-14	01:45:00	15:00.0	51.9	81.4	48.9	64.7	92.1	76.6	58.188	52.977	50.962	50.071	49.759	49.149
346	07-Apr-14	02:00:00	15:00.0	54.8	84.3	48.9	78.1	94.4	88.8	65.251	54.712	51.001	49.673	49.337	49.063
347	07-Apr-14	02:15:00	15:00.0	54.4	84	48.7	77.6	95.2	88.2	65.579	53.071	50.477	49.321	49.157	49.024
348	07-Apr-14	02:30:00	15:00.0	51.6	81.2	48.1	66.3	98.4	79.1	59.821	52.985	50.024	48.735	48.368	48.126
349	07-Apr-14	02:45:00	15:00.0	57.4	87	47.9	81.5	104.2	92.5	70.423	54.79	50.173	48.563	48.274	48.048
350	07-Apr-14	03:00:00	15:00.0	50.9	80.5	48	62.6	92.3	81.2	58.18	52.509	49.923	48.774	48.384	48.071
351	07-Apr-14	03:15:00	15:00.0	52.1	81.7	48.2	69.1	94.5	82.2	61.532	53.407	50.571	49.196	49.024	48.235
352	07-Apr-14	03:30:00	15:00.0	54.7	84.2	48.1	73.8	103.5	85.9	64.798	54.727	50.641	49.071	48.626	48.126
353	07-Apr-14	03:45:00	15:00.0	51.3	80.9	48.1	65.8	100.1	77.9	56.259	53.462	50.54	49.102	48.704	48.141
354	07-Apr-14	04:00:00	15:00.0	52.6	82.2	47.8	65.9	99.2	78.2	59.595	54.595	51.095	49.173	48.751	48.141
355	07-Apr-14	04:15:00	15:00.0	52.7	82.2	48.3	68.2	96.2	85	58.977	54.798	51.626	49.485	49.134	48.313
356	07-Apr-14	04:30:00	15:00.0	55.7	85.2	48.4	74.5	95.1	85.9	67.337	56.501	52.188	49.649	49.243	48.524
357	07-Apr-14	04:45:00	15:00.0	55	84.6	48.5	69.2	96	82.3	64.102	57.352	52.587	50.305	49.751	49.095
358	07-Apr-14	05:00:00	15:00.0	57.6	87.1	50.7	72.5	102.6	84.7	67.727	59.821	54.837	52.407	52.063	51.227
359	07-Apr-14	05:15:00	15:00.0	56.7	86.3	51.3	70.3	94.9	84.2	66.352	58.602	54.68	52.665	52.259	51.563
360	07-Apr-14	05:30:00	15:00.0	56.3	85.9	51.7	72.5	96.8	87.1	64.29	57.962	54.93	52.829	52.399	52.055
361	07-Apr-14	05:45:00	15:00.0	58.1	87.7	51.8	76.7	101.1	89.5	67.876	60.102	55.376	53.087	52.579	52.11
362	07-Apr-14	06:00:00	15:00.0	57.1	86.7	51.7	74.6	100.2	87	65.048	58.868	55.313	53.345	53.063	52.259
363	07-Apr-14	06:15:00	15:00.0	57.5	87	51.8	75.2	97.1	88	66.352	58.72	55.266	53.477	53.18	52.516
364	07-Apr-14	06:30:00	15:00.0	58.9	88.5	52.4	76.3	107.9	89.3	70.001	59.923	55.938	53.727	53.313	52.845
365	07-Apr-14	06:45:00	15:00.0	56.1	85.6	52.5	71.5	95.7	85.3	62.259	57.704	55.196	53.563	53.259	53.016
366	07-Apr-14	07:00:00	15:00.0	64.4	94	52.7	80.8	102.6	93.6	76.352	66.938	57.462	54.282	53.837	53.134
367	07-Apr-14	07:15:00	15:00.0	58.5	88.1	52.3	77.5	101.1	96.8	67.376	60.446	56.454	54.048	53.47	52.798
368	07-Apr-14	07:30:00	15:00.0	60.5	90.1	52.5	80.4	100.8	92.5	69.751	61.212	57.18	54.579	54.126	53.212
369	07-Apr-14	07:45:00	15:00.0	59	88.5	53	74.8	103.4	88.8	67.579	60.977	57.009	54.595	54.141	53.29
370	07-Apr-14	08:00:00	15:00.0	59.1	88.6	52.8	72.7	98	85.7	69.313	61.141	56.282	54.446	54.102	53.274
371	07-Apr-14	08:15:00	15:00.0	60.4	90	53.3	78.9	95.1	89.4	70.157	62.563	57.852	55.415	54.915	54.079
372	07-Apr-14	08:30:00	15:00.0	61.9	91.5	53.5	82.3	102.2	97	72.134	63.415	58.618	56.454	55.759	54.399
373	07-Apr-14	08:45:00	15:00.0	62.5	92.1	53.5	82.3	102.8	99.3	71.571	65.93	58.79	56.024	55.376	54.454
374	07-Apr-14	09:00:00	15:00.0	62	91.5	52.7	81.7	103.4	99.3	71.618	64.134	58.618	55.415	54.938	53.712
375	07-Apr-14	09:15:00	15:00.0	61.7	91.3	53.6	82.8	104.3	98.8	72.141	63.798	58.22	55.337	54.876	54.141
376	07-Apr-14	09:30:00	15:00.0	59.9	89.4	52.6	81.8	100.1	95.8	69.634	61.532	56.532	54.43	54.055	53.204
377	07-Apr-14	09:45:00	15:00.0	59.2	88.8	52.7	82.4	99.9	98.8	68.001	61.024	55.829	54.04	53.532	53.071
378	07-Apr-14	10:00:00	15:00.0	60	89.5	53.3	73.2	97.5	86.4	70.001	62.43	56.751	54.54	54.173	53.384
379	07-Apr-14	10:15:00	15:00.0	59.7	89.3	53.1	83.3	100.2	98.1	69.665	61.376	56.462	54.329	54.024	53.22
380	07-Apr-14	10:30:00	15:00.0	60.9	90.4	52.4	81.5	103.1	93.5	71.782	63.337	56.68	54.173	53.626	53.009
381	07-Apr-14	10:45:00	10:25.9	60.7	88.7	41.2	85.9	108.8	106.4	70.532	62.438	56.29	54.009	53.141	44.423