

## 8.0 NOISE AND VIBRATION

### 8.1 INTRODUCTION

This chapter assesses the impact of the anticipated noise and vibration associated with the proposed amendments contained within this application at nearby sensitive locations on the environment.

The noise sources associated with the proposed amendments are identical to those originally assessed in the application of 2006. The changes to the locations of the noise sources included in the proposed amendments required that the levels of noise and vibration be reassessed.

Construction noise impacts are identical to those assessed in 2006.

### 8.2 STUDY METHODOLOGY

The methodology adopted for this noise and vibration assessment is as follows:

- Characterisation of the receiving environment;
- Characterisation of the proposed development;
- Prediction of the noise and vibration impact associated with the proposed development;
- Evaluation of noise and vibration impacts.

In all cases, we have undertaken predictions and the impact assessment at the nearest noise sensitive residential locations surrounding the proposed site. Due to the nature of noise propagation, there is significant attenuation of noise as it travels away from the source, hence noise levels at more remote noise sensitive locations will be lower than noise levels predicted at the nearest residential locations. Therefore, noise impacts predicted at the nearest residential locations can be considered the “worst-case” scenario.

#### 8.2.1 Environmental Noise Survey

A series of environmental noise surveys were conducted in order to quantify the existing noise environment. The surveys were conducted in accordance with ISO 1996: *Acoustics – Description and measurement of environmental noise*: 1982. Specific details are set out in the following sections.

#### 8.2.2 Choice of Measurement Locations

A total of six measurement locations have been selected; four baseline measurement locations for the purposes of the EIS assessment with two additional construction monitoring locations for long term environmental monitoring. Three of the four EIS locations were used for the short-term attended noise

surveys. The fourth EIS location was used for the installation of unattended noise monitoring equipment for a continuous four day period. The two construction noise monitoring locations were installed in August 2008 and are due to remain on site for the duration of the construction phase. Refer to Figure 8.1 for their approximate positions. Each of which is discussed in turn below.

#### EIS Noise Survey Locations

- Location 1* Is located to the west of the proposed site. The position is located in the vicinity of a group of dwellings located approximately 700 metres from the R152 regional road.
- Location 2* Is located to the east of the proposed site. The position is located adjacent to a group of dwellings on the R152 regional road and the microphone was located approximately 10 metres from the R152 regional road.
- Location 3* Is located to the south of the proposed site. The position is located opposite a group of dwellings on the R152 regional road approximately 300 metres from the proposed site. The microphone was located approximately 10 metres from the R152 regional road.
- Location 4* Is located within the proposed site boundary at the southern corner of the proposed site. The microphone was located approximately 20 metres from the R152 regional road. This is the location of the long-term unattended monitoring equipment.

#### Construction Noise Survey Locations

- Location N1* is located at the site boundary in the eastern corner of the site and is considered representative of the noise levels at the dwelling adjacent to the east of the site on the R152.
- Location N2* is located at the site boundary in the western corner of the site, approximately 400m away from the nearest dwellings to the west of the site.

### 8.2.3 Survey Periods

Measurements were conducted over the course of the following survey periods:

- EIS Daytime                      4 October 2005 (Tue) between 11:45 – 14:25hrs;  
6 November 2005 (Sun) between 09:55 – 12:55hrs;  
17 November 2005 (Thu) between 15:15 – 16:30hrs;
- EIS Night-time                      3 – 4 October 2005 (Mon – Tue) between 23:15 – 01:55hrs;  
5 – 6 November 2005 (Sat – Sun) between 23:30 – 02:20hrs;
- EIS Unattended                      12 October 2005 (Wed) to 16 October 2005 (Sun).
- Construction Monitoring              6 August 2008 to 30 June 2009 (ongoing)

The proposed facility will operate continuously (i.e. 24 hours per day, seven days a week). The measurement periods therefore cover typical busy and off-peak periods during the weekday and weekend periods. These measurement periods were selected in order to provide a typical snapshot of the noise climate, with the primary purpose being to ensure that the proposed development noise criteria are commensurate with the prevailing environment. Additional measurements were undertaken at Location 1 during the day period on 17 November 2005 to quantify noise emissions from Platin Cement quarry that is in close proximity to dwellings at this location.

The weather throughout both the attended daytime and night-time survey periods on 3 and 4 October 2005 was dry with light winds from the south-east (wind speed not exceeding 1m/s).

The weather throughout both the attended daytime and night-time survey periods on 5 and 6 November 2005 was dry with moderate winds from the south-east (wind speed not exceeding 3m/s).

The weather throughout the attended daytime survey period on 17 November 2005 was dry with and calm.

### 8.2.4 Instrumentation

The attended noise measurements were performed using a Brüel & Kjær Type 2260 Sound Level Analysers. The measurement apparatus was check calibrated before and after the surveys using a Brüel & Kjær type 4231 Sound Level Calibrator. No significant deviation was observed.

The unattended measurements and long term construction noise measurements were performed using Brüel & Kjær Type 2238 Sound Level Meters. Check calibrations using Brüel & Kjær Type 4231 Sound Level Calibrators are carried out at appropriate intervals.

### 8.2.5 Procedure

The short-term attended measurements were conducted at the three locations on a cyclical basis. Sample periods were 15-minutes. The results were noted onto a Survey Record Sheet immediately following each sample, and were also saved to the instrument memory for later analysis where appropriate. Survey personnel noted all primary noise sources contributing to noise build-up.

The unattended noise monitoring at EIS location 4 was undertaken at a single fixed location over a five-day period. Equipment was configured to measure with sample periods of 15-minutes.

The long term construction monitoring is conducted at two fixed boundary locations. The meters are set to automatically log noise levels every 1-hour period.

### 8.2.6 Measurement Parameters

The noise survey results are presented in terms of the following five parameters:

**L<sub>Aeq</sub>** is the equivalent continuous sound level. It is a type of average and is used to describe a fluctuating noise in terms of a single noise level over the sample period. This parameter is representative of the specific noise from plant when plant is the dominant noise source, i.e. there is no extraneous noise from sources such as traffic.

**L<sub>Amax</sub>** is the instantaneous maximum sound level measured during the sample period.

**L<sub>Amin</sub>** is the instantaneous minimum sound level measured during the sample period. This parameter is representative of the specific noise from plant when there is extraneous noise from almost continuous sources such as fairly continuous traffic.

**L<sub>A10</sub>** is the sound level that is exceeded for 10% of the sample period. It is typically used as a descriptor for traffic noise.

**L<sub>A90</sub>** is the sound level that is exceeded for 90% of the sample period. It is typically used as a descriptor for background noise. This parameter is representative of the specific noise from plant when there is extraneous noise from intermittent noise sources such as intermittent traffic.

The "A" suffix denotes the fact that the sound levels have been "A-weighted" in order to account for the non-linear nature of human hearing. All sound levels in this report are expressed in terms of decibels (dB) relative to  $2 \times 10^{-5}$  Pa.

*For inspection purposes only.  
Consent of copyright owner required for any other use.*

### 8.3 RECEIVING ENVIRONMENT

#### 8.3.1 General Description

Lands surrounding the proposed site are a mix of agricultural farmland and residential housing. The majority of private residences are located to the south and east along the R152 regional road with the density of housing increasing on the approach to the township of Duleek. Lands to the west of the site are predominantly agricultural farmland with isolated private residences. Lands to the north of the proposed site are a mixture of agricultural farmland and commercial (Platin Cement works and quarry).

#### 8.3.2 Results and Discussion

##### EIS Location 1

The results for Location 1 are summarised in Table 8.1 below.

**Table 8.1 Summary of results for Location 1**

Time		Measured Noise Levels (dB re. $2 \times 10^{-5}$ Pa)				
		$L_{Aeq}$	$L_{Amax}$	$L_{Amin}$	$L_{A10}$	$L_{A90}$
Daytime 4 Oct 2005	11:45 – 12:00	49	59	41	51	45
	12:39 – 12:54	47	63	41	49	43
	13:32 – 13:47	49	61	40	50	44
Daytime 6 Nov 2005	09:55 – 10:10	44	64	31	47	35
	09:53 – 11:08	47	63	33	51	36
	11:57 – 12:12	57	77	32	49	36
Daytime 17 Nov 2005	15:15 – 15:30	56	74	39	56	43
	15:30 – 15:45	50	68	42	52	45
	15:45 – 16:00	50	70	42	52	45
	16:00 – 16:15	50	64	43	51	46
	16:15 – 16:30	48	59	45	50	46
Night-time 3-4 Oct 2005	23:15 – 23:30	39	60	23	43	27
	00:08 – 00:23	38	53	23	42	28
	01:01 – 01:16	39	54	22	43	26
Night-time 5-6 Nov 2005	23:30 – 23:45	45	55	33	47	38
	00:35 – 00:50	47	75	38	49	42
	01:28 – 01:43	45	68	35	48	40

Daytime noise levels at this monitoring location were dominated by distant traffic noise from the M1 motorway and R152 regional road. During the weekday survey periods, there was also noise from equipment operating at the Platin Cement site with quarry equipment the dominant noise source from this site. We note that the higher measured noise level during the surveys on 6 and 17 November 2005 (57dB and 56dB  $L_{Aeq}$ ) were dominated by farm machinery operating in the vicinity of the measurement location. Excluding these samples, noise levels during the weekday daytime periods were in the range 47 to 50dB  $L_{Aeq}$  and 43 to 46dB  $L_{A90}$ . Noise levels during the weekend daytime periods were in the range 44 to 47dB  $L_{Aeq}$  and 35 to 36dB  $L_{A90}$ . These surveys give an indication of the contribution due to noise from the Platin Cement works.

Night-time noise levels at this monitoring location were dominated by distant traffic noise from the M1 motorway and R152 regional road. Noise levels during this period were in the range 38 to 47dB  $L_{Aeq}$  and 26 to 42dB  $L_{A90}$ . We note that noise levels measured during the second night survey period (i.e. 5 – 6 November 2005) were higher than the first survey period due to increased wind generated noise in trees and foliage adjacent to the survey position.

These noise levels are typical of what would be expected in the type of environment under consideration. No significant sources of vibration were observed.

#### EIS Location 2

The results for Location 2 are summarised in Table 8.2 below.

**Table 8.2 Summary of results for Location 2**

Time		Measured Noise Levels (dB re. $2 \times 10^{-5}$ Pa)				
		$L_{Aeq}$	$L_{Amax}$	$L_{Amin}$	$L_{A10}$	$L_{A90}$
Daytime 4 Oct 2005	12:21 – 12:36	75	90	43	80	50
	13:15 – 13:30	76	88	40	80	50
	14:10 – 14:25	76	89	42	81	51
Daytime 6 Nov 2005	10:35 – 10:50	72	85	46	78	52
	11:34 – 11:49	72	87	38	77	51
	12:40 – 12:55	72	84	45	77	51
Night-time 3-4 Oct 2005	23:51 – 00:06	63	83	23	61	31
	00:44 – 00:59	60	85	21	54	25
	01:40 – 01:55	59	85	21	47	25
Night-time 5-6 Nov 2005	00:15 – 00:30	71	89	34	73	41
	01:09 – 01:24	68	87	29	65	33
	02:05 – 02:20	66	87	26	61	30

Traffic movements on the R152 regional road dominated daytime noise levels at this monitoring location. Plant and process noise from the nearby cement factory facility was also audible at this location during lulls in the traffic. Noise levels during daytime periods were in the range 72 to 76dB  $L_{Aeq}$  and 50 to 52dB  $L_{A90}$ . These noise levels are typical of what would be expected adjacent to a moderately busy regional road.

Occasional traffic movements on the R152 regional road dominated night-time noise levels at this monitoring location. Noise levels during this period were in the range 59 to 71dB  $L_{Aeq}$  and 25 to 33  $L_{A90}$ .

No significant sources of vibration were observed.

### EIS Location 3

The results for Location 3 are summarised in Table 8.3 below.

**Table 8.3 Summary of results for Location 3**

Time		Measured Noise Levels (dB re. $2 \times 10^{-5}$ Pa)				
		$L_{Aeq}$	$L_{Amax}$	$L_{Amin}$	$L_{A10}$	$L_{A90}$
Daytime 4 Oct 2005	12:04 – 12:19	71	86	36	76	48
	12:57 – 13:12	73	89	36	78	51
	13:52 – 14:07	72	89	37	77	48
Daytime 6 Nov 2005	10:16 – 10:31	67	83	43	72	50
	11:13 – 11:28	65	78	41	70	51
	12:18 – 12:33	66	81	45	70	53
Night-time 3-4 Oct 2005	23:34 – 23:49	67	90	23	64	28
	00:26 – 00:41	64	87	19	59	26
	01:20 – 01:35	63	89	22	56	25
Night-time 5-6 Nov 2005	23:50 – 00:05	60	77	34	63	38
	00:52 – 01:07	62	77	29	66	33
	01:47 – 02:02	62	79	30	65	36

Traffic movements on the R152 regional road dominated daytime noise levels at this monitoring location. Plant and process noise from the nearby cement factory facility was also audible at this location during lulls in the traffic. Noise levels during daytime periods were in the range 65 to 73dB  $L_{Aeq}$  and 48 to 53dB  $L_{A90}$ . These noise levels are typical of what would be expected adjacent to a moderately busy regional road.

Occasional traffic movements on the R152 regional road dominated night-time noise levels at this monitoring location. Noise levels during this period were in the range 60 to 67dB  $L_{Aeq}$  and 25 to 38  $L_{A90}$ .



No significant sources of vibration were observed.

#### EIS Location 4

Long term unattended noise monitoring was conducted at Location 4 during the weekday and weekend periods and the results are summarised in Appendix 8.1.

Noise measurements during the weekday period indicate that daytime noise levels were in the range of 61 to 70dB  $L_{Aeq}$  and 40 to 60dB  $L_{A90}$ . During night-time, noise levels were in the range of 48 to 67dB  $L_{Aeq}$  and 34 to 52dB  $L_{A90}$ .

Noise measurements during the weekend period indicate that daytime noise levels were in the range of 56 to 68dB  $L_{Aeq}$  and 36 to 57dB  $L_{A90}$ . During night-time, noise levels were in the range of 53 to 64dB  $L_{Aeq}$  and 31 to 46dB  $L_{A90}$ .

The results of the unattended noise monitoring show a larger range of measured noise levels when compared to the short-term attended survey. This is attributable to the larger time period over which the unattended noise monitoring was undertaken.

#### Construction Location N1

Full measurement results are presented in Appendix 8.2. A further discussion of these results is provided in Section 8.5.4.

#### Construction Location N2

Full measurement results are presented in Appendix 8.3. A further discussion of these results is provided in Section 8.5.4.

### **8.4 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT**

The proposed development comprises of the construction of a new waste management facility. The potential noise elements of the facility are process machinery and plant located internally and externally. The major noise sources include condensers, turbines furnaces, boilers and discharge stack.

No significant sources of vibration will be present during the operational phase.

## 8.5 POTENTIAL IMPACT OF THE PROPOSED DEVELOPMENT

### 8.5.1 Construction Noise Criteria

As part of the planning permission the following condition was attached relating to noise during the construction phase of the project.

Condition No. 18:

*“During the construction phase of the proposed development, noise level at the site when measured at noise sensitive locations shall not exceed 65dBA between the hours of 0700 hours and 1900 hours, Monday to Saturday inclusive, excluding bank and public holidays and Sundays and 45dBA at any other time.*

*Noise monitoring locations for the purposes of the construction phase shall be agreed in writing with the Planning Authority prior to commencement of any development on site. The locations shall be situated proximate to the nearest residential buildings.”*

Although the assessment parameter and reference time period has not been referenced specifically in the above condition, it is assumed that the limits are set in  $L_{Aeq,1hour}$ , which would be one typically used for the assessment and monitoring of construction noise impacts.

### 8.5.2 Operational Noise Criteria

Due consideration must be given to the nature of the primary noise sources when setting criteria. Criteria for noise from process and building services plant will be set in terms of  $L_{Aeq}$  the equivalent continuous sound level.

The Environmental Protection Agency Waste Licence that is applicable to the facility (Ref: 167.1) specifies the following noise limits at the façades of residential properties closest to the development:

Daytime (08:00hrs to 22:00hrs)	55dB $L_{Aeq,30min}$
Night-time (22:00hrs to 08:00hrs)	45dB $L_{Aeq,30min}$

Whilst the application of absolute noise limits to a development ensures that overall impact is kept within acceptable margins, it does not assist with the assignation of relative impacts. In order to do this, it is appropriate to consider the likely change in ambient noise level as a result of the scheme under consideration. Table 8.4 offers guidance as to the likely impact on the surrounding environment associated with a change in ambient noise level.

**Table 8.4** Significance criteria associated with change in noise level

Change in Ambient Noise Level (dB L <sub>Aeq</sub> )	Subjective Reaction	Impact
< 3	Imperceptible	Negligible
3 – 5	Perceptible	Slight
6 – 10	Up to a doubling of loudness	Moderate
11 – 15	Over a doubling of loudness	Significant
> 15		Profound

### 8.5.3 Vibration Guidelines

There are two varieties of criteria for vibration, the first relates to human comfort and the second relates to damage to buildings. In both instances, it is appropriate to consider the magnitude of vibration in terms of Peak Particle Velocity (PPV).

It is acknowledged that humans are particularly sensitive to vibration stimuli and that any perception of vibration may lead to concern. In the case of road traffic, vibration is perceptible at around 0.5mm/s and may become disturbing or annoying at higher magnitudes. However, higher levels of vibration are typically tolerated for single events or events of short duration. For example, blasting, piling and rock-breaking, some of the primary sources of vibration during construction, are typically tolerated at vibration levels up to 12mm/s, 5mm/s and 5mm/s respectively.

Guidance relevant to human response to vibration is contained within British Standard BS 6472 - *Evaluation of human exposure to vibration in buildings (1Hz to 80Hz)*.

BS 6472 provides advice on vibration due to blasting and recommends vibration magnitudes below which the probability of adverse comment from building occupants is low. The standard recommends vibration levels of less than 8.5mm/s for at least 90% of all blasts over the frequency range 8Hz and above. This vibration limit assumes that there are no more than three blasts occurring on any one day. No individual blast should give rise to vibration which exceeds the satisfactory magnitude by more than 50% i.e. 12mms<sup>-1</sup>. This criteria applies to vibration as measured in three mutually orthogonal directions about a fixed point.

Guidance relevant to acceptable *transient* vibration levels at the foundation of buildings is contained within British Standard BS 7385 - *Evaluation and measurement for vibration in buildings Part 2: Guide to damage levels from groundborne vibration*.

The potential damaging effects of ground vibration on buildings are greatest at low frequencies. For residential buildings, BS 7385 recommends that there should be no cosmetic (i.e. non-structural)

damage if transient vibration does not exceed 15mm/s at low frequencies rising to 20mm/s at 15Hz and 50mm/s at 40Hz and above.

Guidance relevant to acceptable *continuous* vibration levels at the foundation of buildings is contained within British Standard BS 5228 - *Noise Control on Construction and open sites Part 4: Code of Practice for noise and vibration control applicable to piling operations*.

For residential buildings, BS 5228 states that there should be no cosmetic (i.e. non-structural) damage if continuous vibration does not exceed 5mm/s over the frequency range 10Hz to 50Hz. Below these vibration magnitudes cosmetic damage is unlikely, although where there is existing damage these limits may be reduced by up to 50%.

This guidance is applicable to the daytime only; it is unreasonable to expect people to be tolerant of such activities during the night-time.

#### **8.5.4 Construction Phase Assessment**

AWN Consulting have been appointed to monitor on-site noise levels for the month prior to commencement of, and then for the duration of the construction phase. Construction activities commenced at the site on 1 September 2008.

Detailed analysis, assessments and conclusions are presented in the AWN Consulting construction noise monitoring reports ref. DM/08/4380NR01 (August 2008) to JM/08/4380NR11 (June 2009). Noise monitoring will continue for the duration of the construction phase. Full measurement results are presented in Appendices 8.2 and 8.2. A brief summary of conclusions is presented below.

##### Construction Location N1

###### *Baseline Study*

Measured noise levels during were in the range of 58 to 68dB  $L_{Aeq,1hour}$  during the day and 51 to 73dB  $L_{Aeq,1hour}$  during the evening and night-time. The noise climate at this location is dominated by road traffic on the R152 road, which runs in close proximity to the measurement location.

It is noted that existing noise sources in the area have the potential to generate ambient noise levels that are comparable, and in some instances that exceed, the noise criteria set out in Condition 18. This fact, along with the baseline noise data gathered as part of the baseline survey, should be taken into consideration when assessing noise levels associated with construction operations at this location during the construction program.

###### *Construction Phase*

The measured noise levels during the construction phase are generally of a similar order of magnitude to those monitored at this location during the baseline monitoring period prior to the commencement of construction activities. The noise climate at this location is dominated by road traffic on the R152 road, which runs in close proximity to the measurement location. Occasional short-term exceedances have been identified that are considered attributable to essential activities that have been required in close proximity to the monitoring location. Such activities have included ESB line works, laying of pavements, erecting of lighting, fencing and bund formation. However for the vast majority of the construction phase noise levels are considered to be within relevant construction limits. The resultant impacts are not considered to be significant.

### Construction Location N2

#### *Baseline Study*

Measured noise levels at were in the range of 41 to 60dB  $L_{Aeq,1hour}$  during the day and 34 to 58dB  $L_{Aeq,1hour}$  during the evening and night. The noise climate at this location is primarily influenced by distant road traffic; occasional train movements, occasional agricultural noise and leaf rustle in windier conditions. There is also noticeable birdsong in the early morning and evening.

#### *Construction Phase*

The measured noise levels during the construction phase are generally of a similar order of magnitude to those monitored at this location during the baseline monitoring period prior to the commencement of construction activities. Measured noise levels have only very occasionally exceeded the daytime criteria at this boundary location. It should also be noted that the nearest noise sensitive location to the measurement Location N2 is approximately 400m to the west of the site, and construction noise levels would be expected to be the order of 20dB lower at this location and would therefore be well within the noise criteria.

The measured noise levels often exceeded the evening/night-time criterion, however this was also the case during the baseline noise survey and no construction activities took place on site outside normal daytime operating hours. Furthermore, the nearest noise sensitive location to the measurement Location N2 is approximately 400m to the west of the site, and construction noise levels would be expected to be the order of 20dB lower at this location and would therefore be well within the daytime and night-time criteria.

The resultant construction noise impacts are therefore not considered to be significant.

## 8.5.5 Operational Phase Assessment

### Process and Building Services Plant

#### Preparation of the Noise Model

Proprietary noise calculation software was used for the purposes of this impact assessment. The selected software, Brüel & Kjær Type 7810 *Predictor*, calculates noise levels in accordance with ISO9613: *Acoustics – Attenuation of sound outdoors, Part 2: General method of calculation*, 1996.

#### Brüel & Kjær Type 7810 Predictor

Brüel & Kjær Type 7810 *Predictor* is a proprietary noise calculation package for computing noise levels in the vicinity of noise sources. *Predictor* predicts noise levels in different ways depending on the selected prediction standard. In general, however, the resultant noise level is calculated taking into account a range of factors affecting the propagation of sound, including:

- The magnitude of the noise source in terms of sound power;
- The distance between the source and receiver;  
The presence of obstacles such as screens or barriers in the propagation path;
- The presence of reflecting surfaces;  
The hardness of the ground between the source and receiver;  
Attenuation due to atmospheric absorption;  
Meteorological effects such as wind gradient, temperature gradient and humidity (these have significant impact at distances greater than approximately 400m).

#### Prediction Calculations

Prediction calculations have been performed using *Predictor* in accordance with ISO9613, assuming 10°C and 80% humidity. The degree of accuracy associated with this prediction method is shown in the Table 8.5.

**Table 8.5 Estimated accuracy for broadband noise of  $L_{AT}(DW)$**

Height, h	Distance, d	
	0 < d < 100m	100m < d < 1,000m
0 < h < 5m	±3dB	±3dB
5m < h < 30m	±1dB	±3dB

Where: h is the mean height of the source and receiver;  
d is the mean distance between the source and receiver.

Note: These estimates have been made from situations where there are no effects due to reflections or attenuation due to screening.

### Input Data

Sound power data for each item of plant considered in the noise model is given in Table 8.6. This data is typical of noise levels measured for similar items of plant at the Indaver facility at Beveren, Flanders, Belgium and the Project Management drawing Ref: PMG-Meath-Arc-Ske-000-1513 and associated email correspondence.

**Table 8.6 Equipment Sound Power Levels utilised in noise model**

Description	Octave Band Centre Frequency (Hz)								dB(A)
	63	125	250	500	1k	2k	4k	8k	
Chimney Stack	82	89	92	79	75	69	70	70	94
Turbine Cooling No. 1	64	69	72	83	80	77	72	64	86
Turbine Cooling No. 2	64	69	72	83	80	77	72	64	86
Grate Cooling No. 1	69	74	77	81	80	76	71	63	86
Grate Cooling No. 2	69	74	77	81	80	76	71	63	86
Pump House Louvres <sup>1</sup>	59	73	78	79	82	82	85	71	89
Generator Louvres <sup>2</sup>	50	65	81	90	94	95	97	83	101

Building layouts and heights have been taken from drawings supplied by White Young Green.

Ground topography, geographical features and location data for noise-sensitive locations have been taken from survey drawings supplied by White Young Green and Ordnance Survey maps.

### Output Data

*Predictor* calculates noise levels for a set of receiver locations specified by the user. The results include an overall level in dB(A) and a frequency spectrum for each of the noise sources contributing to noise build-up at the receiver point. The items in the list can be ranked in order of their contribution, and thus the noisiest items can be readily identified.

For the purposes of this assessment, we have predicted noise levels at the façade of the nearest noise-sensitive locations and at a variety of other locations along proposed boundaries.

<sup>1</sup> This spectrum and overall noise level has been calculated based on a sound pressure level of 85dB(A) at 1m from the emergency fire pumps, 3 pumps in operation, a pump house with a reverberation time of some 2 seconds, a volume of some 700m<sup>3</sup> and the presence of standard weather louvers in the building envelope with associated areas of 6m<sup>2</sup>.

<sup>2</sup> This spectrum and overall noise level has been calculated based on a sound pressure level of 95dB(A) at 1m from the generator unit, a generator house with a reverberation time of some 2 seconds, a volume of some 115m<sup>3</sup> and the presence of standard weather louvers in the building envelope with associated areas of 6m<sup>2</sup>.

### Results of the Noise Model

Noise levels have been predicted at a total of five noise sensitive residential locations as summarised in Table 8.7 and shown in Figure 8.1.

**Table 8.7 Details of Receiver Locations**

Receiver Ref.	Location	Description of Receiver Location
R1		Is located to the west of the proposed development site near a group of residential dwellings at the end of a private access road. The position was located at the façade of the closest residential dwelling to the development site. This receiver location is equivalent to survey Location 1.
R2		Is located at the residential dwellings near the north-east corner of the proposed development site. The position was located at the façade of the closest residential dwelling on the west side of the R152 regional road. This receiver location is in the vicinity of survey Location 2.
R3		Is located immediately adjacent to the proposed entrance of the development site near a pair of residential dwellings. The position was located at the façade of the closest residential dwelling on the east side of the R152 regional road.
R4		Is located to the south of the proposed development site near a single residential dwelling located on the west side of the R152, approximately 200 metres from the proposed site entrance.
R5		Is located to the south-east of the proposed development site near a single residential dwelling located on a private access road on the east side of the R152.

Table 8.8 compares predicted noise levels with the adopted criterion at the five noise sensitive locations under consideration.



**Table 8.8 Predicted Noise Levels at Noise Sensitive Locations**

Location	Daytime Predicted $L_{Aeq}$ (dB)	Daytime Criterion $L_{Aeq}$ (dB)	Complies	Night Time Predicted $L_{Aeq}$ (dB)	Night Time Criterion $L_{Aeq}$ (dB)	Complies
R1	28	55	Yes	28	45	Yes
R2	33		Yes	33		Yes
R3	28		Yes	28		Yes
R4	25		Yes	25		Yes
R5	22		Yes	22		Yes

Table 8.8 shows that the predicted noise levels at noise sensitive residential locations are within typical EPA Waste Licence daytime and night-time criteria of 55dB  $L_{Aeq,30min}$  and 45dB  $L_{Aeq,30min}$  respectively.

As previously stated previously, the application of an absolute noise limits to a development ensures that overall impact on the local community is kept within acceptable margins, it does not assist with the assignation of relative impacts. In order to do this, it is appropriate to consider the likely change in ambient noise level as a result of the scheme under consideration.

At this development, the residential dwellings located at receptor reference R1 currently experience the lowest daytime and night-time ambient noise levels due to their remote proximity to major roads. It is therefore appropriate to undertake an assessment of the cumulative effects of noise from the proposed development at this location.

Reference to Table 8.1 shows that the lowest measured daytime noise levels at Location 1 were of the order of 47dB  $L_{Aeq}$  during the week and 44dB  $L_{Aeq}$  during the weekend. The lower measured noise levels during the weekend can be attributed to the absence of noise from Platin Cement quarry and lower traffic volumes on major roads in the vicinity.

Reference to Table 8.1 also shows that the lowest measured night-time noise levels were 38dB  $L_{Aeq}$  during the week and 45dB  $L_{Aeq}$  during the weekend. The elevated measured level during the weekend period was due to wind-generated noise in trees and foliage adjacent to the survey position. However, we do not expect night-time ambient noise to differ significantly between the weekend and weekday and on that basis 38dB  $L_{Aeq}$  is representative of ambient noise level during the night period.

**Table 8.9 Predicted Noise Levels and Summary of Impacts at Receptor R1**

Period		Predicted/Measured Noise Levels, L <sub>Aeq</sub> (dB)				Impact
		Predicted noise level from site	Existing ambient level	Cumulative level	Change	
Daytime	Weekday	28	47	47	0	Negligible
	Weekend	28	44	44	0	Negligible
Night-time	Weekday	28	38	38	0	Negligible
	Weekend	28	38	38	0	Negligible

No change in ambient noise levels is predicted for the day period and night time periods. Reference to Table 8.4 indicates that subjectively, this is an imperceptible change in noise levels and the resulting impact on this resident is negligible.

We note the remaining assessment locations have significantly higher ambient noise levels due to their closer proximity to the R152 regional road. Undertaking a similar assessment of cumulative impacts results in negligible impact on these residential locations.

#### Comment on Emergency Fire Pumps and Generator

A number of fire pumps are proposed for the site. These units will be enclosed within a purpose built pump house and will operate in an emergency situation. There will however, be an ongoing requirement to run the units for brief testing periods, possibly on a weekly basis.

The same issues apply to an emergency diesel generator that is proposed for the site. Note that it would be envisaged that any testing of these units would occur during normal working hours.

In light of these issues an iteration of the noise model has been prepared that considers the overall noise emissions from site with these items of plant in operation. Table 8.10 reviews the predicted noise levels.

**Table 8.10 Predicted Noise Levels at Noise Sensitive Locations (with Emergency Fire Pumps and Generator in Operation)**

Location	Daytime Predicted $L_{Aeq}$ (dB)	Daytime Criterion $L_{Aeq}$ (dB)	Complies	Night Time Predicted $L_{Aeq}$ (dB)	Night Time Criterion $L_{Aeq}$ (dB)	Complies
R1	31	55	Yes	31	45	Yes
R2	38		Yes	38		Yes
R3	29		Yes	29		Yes
R4	25		Yes	25		Yes
R5	23		Yes	23		Yes

Table 8.10 shows that the predicted noise levels, with the emergency plant times in operation, at noise sensitive residential locations are within typical EPA Waste Licence daytime and night-time criteria of 55dB  $L_{Aeq,30min}$  and 45dB  $L_{Aeq,30min}$  respectively.

#### Vibration Impact on Indaver Site From Existing Sources

Blasting has been carried out at the Platin Quarry site over the last 30 years at a maximum frequency of two blasts per week. The IPC licence for the Platin site specifies a peak particle velocity limit of 12mm/s for ground-borne vibration at the nearest noise sensitive location. This location is a house situated south-east of the quarry at a distance of approximately 300 metres from the quarry face.

The proposed turbine hall and condensers at the Indaver site are located approximately 300 metres from the nearest face of the Platin quarry. Therefore, it anticipated that “worst-case” vibration levels at the foundation of the proposed buildings will be of the order of 12mm/s. This assumes that geological ground conditions are consistent between the quarry and receptor locations around the site.

With regards to possible damage to Indaver buildings due to blasting, reference to Section 8.5.3 shows that the potential damaging effects of ground vibration on buildings are greatest at low frequencies. There is typically no cosmetic (i.e. non-structural) damage if transient vibration does not exceed 15mm/s at low frequencies. In addition, the design of the waste-to-energy facility will include appropriate seismic design of the buildings foundations. On this basis, we do not anticipate any cosmetic or structural damage to buildings at the Indaver site due to “worst-case” vibration levels from the Platin site.

With regard to vibration sensitive equipment (i.e. laboratory equipment) to be installed at the Indaver site, we note that manufacturers of this type of equipment typically specify vibration limits. If equipment is to be installed where the manufacturers’ vibration limits are likely to be exceeded, then the manufacturer can specify suitable vibration isolating systems to be incorporated into the equipment installation. This is standard practice with regards to vibration sensitive equipment.

## 8.6 MITIGATION MEASURES

### 8.6.1 Construction Phase

With regard to construction activities, reference will be made to BS 5228 (2009) *Code of practice for noise and vibration control on construction and open sites* which offers detailed guidance on the control of noise from construction activities. In particular, it is proposed that various practices be adopted during construction, including:

- limiting the hours during which site activities likely to create high levels of noise or vibration are permitted;
- establishing channels of communication between the contractor/developer, Local Authority and residents;
- appointing a site representative responsible for matters relating to noise;
- monitoring typical levels of noise during critical periods and at sensitive locations

Furthermore, it is envisaged that a variety of practicable noise control measures will be employed. These may include:

- selection of plant with low inherent potential for generation of noise and/ or vibration;
- erection of barriers as necessary around noisy processes and items such as generators heavy mechanical plant or high duty compressors;
- placing of noisy / vibratory plant as far away from sensitive properties as permitted by site constraints.

### 8.6.2 Operational Phase

In order to sufficiently ameliorate the likely noise impact on the local community, a schedule of noise control measures has been formulated for the proposed development.

Noise predictions indicate that noise levels from the proposed development will be within typical EPA Waste Licence noise limits at noise sensitive locations beyond the southern and northern boundaries of the site and therefore should not impact on local residents.

Proven noise control techniques will be employed to ensure that the total noise emissions from new process equipment and building services plant is minimised. These include:

- selection of equipment with low inherent noise emission levels;
- where practicable, noisy equipment has been located inside process buildings;

- where noisy equipment must be located externally (i.e. air condensers), plant will be sited as far away from noise sensitive locations as is practicable and will be sited to gain maximum screening from process buildings;
- installation of duct mounted attenuators on the atmosphere side of all air moving plant;
- installation of splitter attenuators or acoustic louvres providing free ventilation to internal plant and process areas;
- installation of anti-vibration mounts on all plant with the potential to generate significant levels of vibration (i.e. reciprocating plant).

*For inspection purposes only.  
Consent of copyright owner required for any other use.*

## 8.7 PREDICTED IMPACTS OF THE PROPOSED DEVELOPMENT

### 8.7.1 Construction Phase

During the construction phase of the project there will be a potential impact on nearby residential properties due to noise emissions from site traffic and other activities. However, monitoring of noise levels along with the implementation of appropriate noise control measures will ensure that impacts are kept to a minimum and within appropriate limits.

### 8.7.2 Operational Phase

As outlined in Section 8.6.2, mitigation measures will be employed to ensure that activities on site will not give rise to noise levels off site which exceed typical EPA Waste Licence daytime and night-time criteria of 55dB and 45dB  $L_{Aeq}$  respectively. The resultant noise impact from the proposed development on the local community is therefore not deemed to be significant.

*For inspection purposes only.  
Consent of copyright owner required for any other use.*

Appendix 8.1  
Unattended Noise Monitoring results – Location 4

*For inspection purposes only.  
Consent of copyright owner required for any other use.*

**Day 1**  
Wednesday 12 October 2005

Start Time (hh:mm)	Measured Noise Levels (dB re. 2x10 <sup>-5</sup> Pa)					Start Time (hh:mm)	Measured Noise Levels (dB re. 2x10 <sup>-5</sup> Pa)				
	L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	L <sub>A10</sub>	L <sub>A90</sub>		L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	L <sub>A10</sub>	L <sub>A90</sub>
0:00	58	75	39	60	42	12:00	67	82	45	72	51
0:15	58	78	39	57	42	12:15	67	84	44	72	51
0:30	56	77	38	52	41	12:30	67	83	41	72	47
0:45	56	76	38	55	41	12:45	67	80	41	72	49
1:00	57	81	38	53	40	13:00	67	79	44	72	50
1:15	57	80	38	51	40	13:15	67	80	40	71	50
1:30	56	77	38	52	41	13:30	66	78	42	71	47
1:45	57	77	39	54	41	13:45	68	80	42	72	51
2:00	56	79	39	49	42	14:00	67	80	40	72	48
2:15	56	81	39	49	40	14:15	67	80	46	72	53
2:30	58	80	39	50	42	14:30	67	80	42	71	49
2:45	55	77	38	49	40	14:45	67	83	41	72	48
3:00	52	78	39	47	41	15:00	67	83	46	72	52
3:15	57	79	40	52	42	15:15	68	81	43	72	50
3:30	54	75	38	50	41	15:30	68	80	44	72	52
3:45	56	78	38	52	40	15:45	68	81	41	72	51
4:00	58	79	38	53	40	16:00	67	78	45	72	50
4:15	58	78	38	54	40	16:15	67	80	46	72	52
4:30	59	79	38	54	40	16:30	69	82	46	72	55
4:45	57	80	38	54	40	16:45	68	81	47	72	54
5:00	61	79	38	61	41	17:00	68	80	49	72	54
5:15	60	78	40	60	42	17:15	68	78	46	72	57
5:30	62	78	41	64	43	17:30	69	79	48	72	55
5:45	64	82	40	68	42	17:45	68	80	46	72	53
6:00	63	78	39	68	42	18:00	68	78	47	72	54
6:15	65	83	42	70	45	18:15	68	80	47	72	54
6:30	66	80	42	71	48	18:30	67	78	49	72	53
6:45	67	81	44	72	50	18:45	67	84	46	71	51
7:00	67	81	44	71	51	19:00	66	79	44	71	50
7:15	69	80	45	73	54	19:15	66	78	47	70	52
7:30	69	82	48	73	56	19:30	66	80	42	70	49
7:45	70	81	50	73	57	19:45	64	78	42	70	48
8:00	69	79	47	73	56	20:00	64	78	43	69	49
8:15	70	85	49	73	58	20:15	64	81	42	69	46
8:30	70	85	49	73	56	20:30	63	78	41	68	44
8:45	69	85	49	73	57	20:45	64	81	38	69	44
9:00	69	86	48	73	54	21:00	63	79	41	68	45
9:15	69	81	47	73	53	21:15	62	79	39	66	42
9:30	68	80	48	72	53	21:30	62	78	40	66	43
9:45	68	85	46	73	51	21:45	63	79	41	68	45
10:00	67	79	44	72	51	22:00	63	78	41	68	45
10:15	67	79	45	72	51	22:15	63	81	42	68	46
10:30	67	80	45	72	50	22:30	62	79	41	68	45
10:45	67	82	43	72	51	22:45	61	79	41	65	44
11:00	67	82	46	72	51	23:00	62	79	39	66	42
11:15	67	79	44	71	50	23:15	61	79	39	65	42
11:30	67	80	46	72	51	23:30	60	77	39	65	41
11:45	67	82	47	72	52	23:45	57	77	36	55	38



**Day 2**  
Thursday 13 October 2005

Start Time (hh:mm)	Measured Noise Levels (dB re. 2x10 <sup>-5</sup> Pa)					Start Time (hh:mm)	Measured Noise Levels (dB re. 2x10 <sup>-5</sup> Pa)				
	L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	L <sub>A10</sub>	L <sub>A90</sub>		L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	L <sub>A10</sub>	L <sub>A90</sub>
0:00	58	79	34	58	37	12:00	67	83	41	71	49
0:15	60	80	36	60	38	12:15	67	80	42	71	49
0:30	58	79	36	59	39	12:30	66	78	43	71	49
0:45	57	76	37	56	40	12:45	67	81	44	72	51
1:00	60	80	38	59	40	13:00	67	81	41	71	48
1:15	56	77	35	54	38	13:15	68	81	41	72	49
1:30	55	77	36	52	38	13:30	67	82	40	71	50
1:45	54	75	33	51	36	13:45	67	81	42	71	49
2:00	57	79	34	51	36	14:00	66	78	42	71	50
2:15	54	77	34	46	36	14:15	67	80	42	72	50
2:30	53	78	34	43	35	14:30	67	80	39	71	50
2:45	48	74	35	43	37	14:45	67	82	40	71	50
3:00	55	78	34	48	36	15:00	68	81	42	72	50
3:15	50	78	34	42	36	15:15	67	79	39	71	50
3:30	55	79	33	50	35	15:30	67	79	42	72	51
3:45	53	77	33	45	35	15:45	67	82	41	72	49
4:00	56	78	34	50	36	16:00	67	81	43	72	50
4:15	56	77	35	48	37	16:15	68	81	45	72	53
4:30	57	78	36	50	38	16:30	67	81	43	71	50
4:45	57	79	34	53	37	16:45	68	82	41	72	51
5:00	60	79	36	60	39	17:00	68	80	46	72	54
5:15	61	79	37	59	40	17:15	68	79	47	72	55
5:30	63	80	41	64	43	17:30	69	84	46	72	56
5:45	64	80	42	68	44	17:45	69	81	48	73	58
6:00	62	79	42	66	45	18:00	69	92	49	72	56
6:15	65	78	44	70	46	18:15	69	92	41	73	53
6:30	66	83	44	71	48	18:30	68	81	46	72	53
6:45	67	81	47	71	51	18:45	68	82	50	72	56
7:00	67	80	48	72	53	19:00	68	79	46	72	54
7:15	68	80	47	73	53	19:15	67	79	47	71	55
7:30	69	85	49	73	55	19:30	66	78	48	71	53
7:45	70	84	52	73	58	19:45	66	78	46	71	52
8:00	70	86	49	73	57	20:00	66	81	47	70	53
8:15	69	81	49	73	56	20:15	66	79	45	71	52
8:30	69	79	49	73	55	20:30	65	82	46	70	50
8:45	70	82	53	73	58	20:45	65	78	46	70	51
9:00	68	79	48	72	54	21:00	66	79	47	71	51
9:15	69	81	49	73	54	21:15	66	78	47	70	52
9:30	69	82	51	73	54	21:30	65	81	48	70	51
9:45	67	80	47	72	52	21:45	65	78	47	70	51
10:00	68	82	44	73	52	22:00	64	80	45	69	49
10:15	67	81	42	72	50	22:15	64	77	45	69	49
10:30	68	84	45	72	49	22:30	62	77	46	68	49
10:45	67	79	44	72	50	22:45	63	78	45	68	48
11:00	67	80	45	72	51	23:00	63	79	45	67	47
11:15	67	84	41	71	49	23:15	63	79	45	67	48
11:30	67	82	39	71	49	23:30	61	79	46	64	48
11:45	67	81	43	72	51	23:45	62	79	41	65	47

**Day 3**  
Friday 14 October 2005

Start Time (hh:mm)	Measured Noise Levels (dB re. 2x10 <sup>-5</sup> Pa)					Start Time (hh:mm)	Measured Noise Levels (dB re. 2x10 <sup>-5</sup> Pa)				
	L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	L <sub>A10</sub>	L <sub>A90</sub>		L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	L <sub>A10</sub>	L <sub>A90</sub>
0:00	60	78	41	63	44	12:00	67	85	40	71	48
0:15	59	75	43	61	46	12:15	66	82	40	71	47
0:30	59	79	41	58	43	12:30	67	80	41	71	48
0:45	60	79	43	60	46	12:45	68	89	42	72	51
1:00	58	79	42	57	44	13:00	67	80	40	71	50
1:15	57	75	42	54	44	13:15	67	82	42	72	47
1:30	59	79	41	60	44	13:30	68	80	44	72	51
1:45	57	78	44	55	46	13:45	68	79	47	72	52
2:00	58	79	41	54	44	14:00	67	80	42	71	51
2:15	56	78	42	52	44	14:15	68	79	42	72	51
2:30	56	78	38	54	42	14:30	66	80	43	71	49
2:45	56	76	39	51	40	14:45	67	79	43	72	50
3:00	58	79	38	56	40	15:00	68	81	46	72	52
3:15	59	80	41	58	43	15:15	69	81	44	72	53
3:30	54	77	41	49	42	15:30	68	80	47	72	52
3:45	58	80	40	53	42	15:45	69	80	46	72	54
4:00	57	79	41	54	43	16:00	69	81	46	73	53
4:15	56	78	41	52	43	16:15	67	78	42	70	53
4:30	59	78	40	58	43	16:30	68	82	49	72	55
4:45	60	79	39	58	41	16:45	68	80	45	72	55
5:00	61	80	41	61	43	17:00	69	78	47	72	55
5:15	62	80	42	63	44	17:15	69	83	45	73	56
5:30	63	81	41	66	46	17:30	69	79	47	72	57
5:45	63	79	41	66	45	17:45	69	81	47	72	55
6:00	63	79	43	68	47	18:00	68	79	45	72	54
6:15	66	79	45	71	50	18:15	67	80	43	72	51
6:30	66	80	40	71	49	18:30	67	79	40	71	52
6:45	67	79	43	72	52	18:45	67	81	45	71	52
7:00	68	89	50	72	55	19:00	66	90	44	71	52
7:15	68	83	48	72	56	19:15	66	78	42	71	51
7:30	70	83	53	74	59	19:30	66	82	43	70	50
7:45	70	81	48	73	60	19:45	65	77	41	70	50
8:00	70	86	54	74	59	20:00	65	81	39	70	46
8:15	70	83	50	74	59	20:15	65	90	37	69	48
8:30	70	85	51	74	57	20:30	65	83	38	70	46
8:45	69	79	48	73	55	20:45	64	77	42	69	49
9:00	69	80	44	73	52	21:00	65	77	40	70	47
9:15	68	81	43	72	50	21:15	64	80	38	69	46
9:30	68	84	42	72	49	21:30	65	81	39	69	46
9:45	67	79	39	71	49	21:45	64	80	40	69	46
10:00	68	84	44	72	49	22:00	64	80	39	69	49
10:15	67	81	43	72	51	22:15	62	81	39	67	47
10:30	67	81	43	71	50	22:30	63	79	38	68	43
10:45	68	79	44	72	52	22:45	63	82	36	67	40
11:00	67	89	36	72	48	23:00	61	78	34	65	38
11:15	68	80	44	72	51	23:15	61	79	32	66	38
11:30	67	79	43	72	49	23:30	60	79	35	64	39
11:45	67	83	42	72	50	23:45	59	76	31	63	34

**Day 4**  
Saturday 15 October 2005

Start Time (hh:mm)	Measured Noise Levels (dB re. 2x10 <sup>-5</sup> Pa)					Start Time (hh:mm)	Measured Noise Levels (dB re. 2x10 <sup>-5</sup> Pa)				
	L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	L <sub>A10</sub>	L <sub>A90</sub>		L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	L <sub>A10</sub>	L <sub>A90</sub>
0:00	59	80	29	62	31	12:00	67	82	48	71	54
0:15	57	75	28	59	31	12:15	67	89	51	72	57
0:30	60	78	30	62	34	12:30	68	78	50	72	56
0:45	58	76	30	60	35	12:45	67	80	50	71	55
1:00	60	77	33	63	37	13:00	67	80	50	71	55
1:15	59	80	30	59	32	13:15	66	80	48	71	53
1:30	59	78	32	62	37	13:30	67	77	45	71	53
1:45	58	78	33	59	36	13:45	67	82	45	71	52
2:00	60	77	35	63	39	14:00	67	78	43	71	50
2:15	56	75	32	56	35	14:15	67	78	46	71	53
2:30	54	74	32	52	34	14:30	67	82	46	71	52
2:45	57	75	33	56	37	14:45	67	77	49	72	55
3:00	58	78	38	59	41	15:00	67	78	51	71	57
3:15	56	76	38	55	41	15:15	67	83	49	71	54
3:30	59	78	34	58	38	15:30	66	84	44	71	52
3:45	57	77	37	56	39	15:45	67	79	47	71	52
4:00	57	79	32	53	36	16:00	67	81	46	71	52
4:15	55	73	37	54	40	16:15	66	81	46	71	51
4:30	57	77	42	55	44	16:30	67	84	46	71	53
4:45	57	75	34	57	38	16:45	67	77	46	71	53
5:00	58	79	32	56	35	17:00	66	77	44	71	49
5:15	60	78	39	59	42	17:15	66	79	44	71	51
5:30	58	78	33	55	39	17:30	66	78	43	71	51
5:45	59	77	30	60	32	17:45	66	80	42	71	51
6:00	60	78	33	62	36	18:00	67	77	45	71	51
6:15	63	80	40	67	40	18:15	66	77	43	71	51
6:30	62	78	37	66	42	18:30	66	80	42	71	51
6:45	64	79	38	68	43	18:45	65	79	42	70	48
7:00	65	82	39	69	46	19:00	65	79	43	70	49
7:15	65	80	42	70	48	19:15	65	76	43	70	49
7:30	65	79	39	70	48	19:30	65	80	41	70	46
7:45	65	78	41	70	48	19:45	65	80	40	69	47
8:00	66	80	38	70	45	20:00	64	76	40	70	46
8:15	65	79	42	70	49	20:15	65	80	41	69	47
8:30	66	81	40	71	49	20:30	64	76	38	69	44
8:45	67	83	41	71	49	20:45	64	79	36	69	44
9:00	66	85	40	71	46	21:00	63	75	37	69	44
9:15	66	80	43	71	49	21:15	63	78	40	68	44
9:30	67	80	43	71	51	21:30	62	76	37	68	45
9:45	67	80	42	71	49	21:45	62	80	34	68	43
10:00	66	79	43	70	49	22:00	62	79	36	67	43
10:15	67	81	40	71	48	22:15	61	75	34	66	39
10:30	66	79	42	71	50	22:30	62	77	35	67	41
10:45	66	78	44	71	51	22:45	62	77	34	67	39
11:00	67	88	43	71	52	23:00	61	76	35	66	39
11:15	66	81	45	71	52	23:15	63	78	34	68	41
11:30	66	83	47	71	52	23:30	61	77	32	66	36
11:45	67	80	49	71	54	23:45	60	77	32	64	36

**Day 5**  
Sunday 16 October 2005

Start Time (hh:mm)	Measured Noise Levels (dB re. 2x10 <sup>-5</sup> Pa)					Start Time (hh:mm)	Measured Noise Levels (dB re. 2x10 <sup>-5</sup> Pa)				
	L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	L <sub>A10</sub>	L <sub>A90</sub>		L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	L <sub>A10</sub>	L <sub>A90</sub>
0:00	60	77	34	64	38	12:00	66	91	39	70	49
0:15	61	78	36	64	41	12:15	65	78	41	70	49
0:30	60	77	37	64	40	12:30	65	76	42	70	49
0:45	60	76	35	65	40	12:45	65	79	41	70	49
1:00	58	79	36	58	39	13:00	66	90	44	70	50
1:15	60	76	35	63	37	13:15	66	77	41	70	49
1:30	59	79	35	61	37	13:30	66	78	42	71	50
1:45	60	79	34	63	37	13:45	67	79	43	71	51
2:00	59	79	33	59	36	14:00	66	77	41	71	50
2:15	59	76	33	61	35	14:15	66	77	43	71	51
2:30	56	74	33	56	36	14:30	66	79	40	70	49
2:45	56	76	34	55	36	14:45	66	78	42	71	48
3:00	57	76	34	54	36	15:00	66	77	40	71	52
3:15	60	76	36	63	38	15:15	66	78	43	71	50
3:30	59	77	35	60	37	15:30	66	76	45	71	51
3:45	60	77	35	64	38	15:45	66	76	43	71	50
4:00	59	80	34	61	36	16:00	66	83	43	70	50
4:15	57	75	34	58	36	16:15	66	76	40	71	51
4:30	58	77	33	58	36	16:30	66	76	43	71	50
4:45	55	74	33	51	35	16:45	66	87	40	70	48
5:00	56	74	35	55	36	17:00	65	75	41	70	50
5:15	55	76	34	51	36	17:15	66	76	41	70	47
5:30	53	72	33	49	36	17:30	66	80	41	70	48
5:45	53	76	33	45	35	17:45	66	76	43	70	49
6:00	54	74	33	51	35	18:00	66	75	41	70	49
6:15	58	77	35	59	38	18:15	65	75	44	70	48
6:30	59	85	35	56	38	18:30	65	79	42	70	49
6:45	59	78	33	60	36	18:45	66	89	44	70	48
7:00	56	77	34	53	36	19:00	65	76	43	70	49
7:15	59	77	36	62	38	19:15	65	78	42	69	47
7:30	61	77	36	65	40	19:30	64	76	45	69	49
7:45	62	77	38	66	42	19:45	64	75	44	69	48
8:00	62	77	38	66	44	20:00	64	80	42	69	47
8:15	59	76	36	62	41	20:15	64	79	43	69	48
8:30	60	76	36	63	42	20:30	63	77	43	68	46
8:45	61	77	35	65	41	20:45	63	77	43	68	46
9:00	60	78	32	62	36	21:00	63	77	42	69	46
9:15	60	77	33	64	37	21:15	62	78	40	67	44
9:30	62	77	34	67	40	21:30	63	79	41	68	45
9:45	62	75	35	67	41	21:45	62	79	36	67	41
10:00	62	76	34	68	41	22:00	60	81	34	65	37
10:15	64	78	37	69	43	22:15	61	79	37	66	42
10:30	64	81	36	69	43	22:30	60	75	34	65	39
10:45	64	82	35	69	44	22:45	61	75	35	66	38
11:00	64	76	38	69	45	23:00	60	78	35	63	37
11:15	65	90	35	69	44	23:15	60	79	33	62	36
11:30	65	78	37	70	45	23:30	59	76	35	61	38
11:45	65	79	39	70	46	23:45	60	77	32	64	36

Appendix 8.2  
Unattended Noise Monitoring results – Construction Monitoring  
Location N1 (6 August 2008 to 30 June 2009)

*For inspection purposes only.  
Consent of copyright owner required for any other use.*

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01-Aug	02-Aug	03-Aug	04-Aug	05-Aug	06-Aug	07-Aug	08-Aug	09-Aug	10-Aug	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug
	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri
00:00	-	-	-	-	-	-	54	55	56	58	54	55	56	56	57
01:00	-	-	-	-	-	-	52	55	56	57	53	53	52	54	53
02:00	-	-	-	-	-	-	52	55	56	56	53	52	52	54	55
03:00	-	-	-	-	-	-	53	54	55	58	55	54	54	54	55
04:00	-	-	-	-	-	-	56	57	54	54	56	57	58	57	59
05:00	-	-	-	-	-	-	62	62	58	55	63	62	63	63	64
06:00	-	-	-	-	-	-	64	65	61	57	66	65	65	66	66
07:00	-	-	-	-	-	-	66	65	62	59	66	66	66	66	66
08:00	-	-	-	-	-	-	65	64	63	59	65	65	64	65	65
09:00	-	-	-	-	-	-	64	63	63	60	64	64	64	64	64
10:00	-	-	-	-	-	-	64	63	63	61	64	64	63	64	64
11:00	-	-	-	-	-	-	64	63	63	62	64	63	63	64	64
12:00	-	-	-	-	-	-	64	64	63	62	64	63	63	64	65
13:00	-	-	-	-	-	-	64	64	64	63	64	64	64	64	65
14:00	-	-	-	-	-	-	63	64	63	63	65	64	64	63	65
15:00	-	-	-	-	-	-	64	65	63	63	65	65	64	64	65
16:00	-	-	-	-	-	-	65	64	63	63	66	66	65	64	65
17:00	-	-	-	-	-	64	65	64	63	63	65	66	65	64	65
18:00	-	-	-	-	-	63	64	63	62	63	64	64	64	63	64
19:00	-	-	-	-	-	62	63	62	62	63	62	63	63	63	63
20:00	-	-	-	-	-	61	62	62	61	61	60	61	61	62	61
21:00	-	-	-	-	-	59	59	61	60	60	59	60	60	60	60
22:00	-	-	-	-	-	58	58	59	59	58	57	59	59	59	59
23:00	-	-	-	-	-	57	56	57	59	56	55	56	57	57	57

Time	Noise Level, dB $L_{Aeq,1hour}$ On date															
	16-Aug	17-Aug	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug	27-Aug	28-Aug	29-Aug	30-Aug	31-Aug
	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
00:00	57	73	54	53	54	54	55	57	56	55	55	55	53	55	55	58
01:00	56	56	52	53	52	53	54	55	57	55	52	54	53	55	56	58
02:00	56	56	54	52	53	51	55	56	56	54	51	54	54	54	55	57
03:00	56	73	53	53	56	53	56	56	56	53	54	56	53	56	55	57
04:00	56	54	59	59	59	59	59	56	54	59	58	60	58	57	55	53
05:00	60	55	63	63	64	63	63	59	55	63	64	63	63	61	58	55
06:00	62	57	66	66	66	65	66	62	59	66	66	66	66	65	60	56
07:00	63	58	66	65	66	65	65	62	59	66	66	67	66	66	62	58
08:00	63	58	65	64	64	63	64	64	60	65	65	64	65	65	62	59
09:00	64	60	64	63	63	63	63	64	61	64	65	64	64	65	63	61
10:00	65	62	65	64	64	63	63	64	65	65	64	64	64	64	66	62
11:00	65	62	64	63	63	63	63	65	62	65	65	64	64	64	68	63
12:00	66	63	64	63	63	63	64	65	63	65	65	64	64	64	66	64
13:00	65	64	63	64	64	63	63	65	63	65	65	64	64	64	67	68
14:00	64	63	64	64	64	63	64	64	63	64	65	64	65	64	65	62
15:00	63	64	64	64	64	64	64	65	63	65	65	65	64	65	64	62
16:00	63	63	65	65	65	64	64	65	64	65	66	65	65	65	65	62
17:00	63	64	64	64	64	64	64	65	64	65	65	65	66	65	63	63
18:00	62	62	63	63	63	63	63	64	63	64	64	63	64	64	64	63
19:00	62	62	62	62	63	62	62	63	62	62	63	62	63	63	63	62
20:00	61	61	60	61	61	61	62	61	61	61	61	61	62	61	62	62
21:00	60	58	59	59	59	59	60	59	59	59	60	59	60	59	60	60
22:00	59	58	57	58	58	58	58	58	58	57	58	58	58	59	60	60
23:00	57	56	55	56	56	56	56	57	56	55	57	56	58	57	58	59

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01-Sept	02-Sept	03-Sept	04-Sept	05-Sept	06-Sept	07-Sept	08-Sept	09-Sept	10-Sept	11-Sept	12-Sept	13-Sept	14-Sept	15-Sept
	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon
00:00	55	55	56	55	58	59	57	57	55	55	58	55	54	55	53
01:00	55	53	54	54	56	59	57	54	52	53	54	54	53	54	53
02:00	55	55	52	50	55	58	57	52	51	52	53	53	53	54	52
03:00	54	53	53	53	54	57	58	53	48	48	52	51	54	54	51
04:00	57	56	57	57	55	56	56	51	49	48	54	53	52	53	51
05:00	62	62	63	61	57	54	53	56	54	55	57	55	52	51	53
06:00	66	66	67	65	61	58	56	62	59	60	61	59	56	51	59
07:00	67	68	68	66	65	61	56	65	62	63	65	63	59	54	62
08:00	66	66	68	67	67	63	58	67	64	64	66	64	60	56	64
09:00	65	65	68	64	66	63	58	66	64	64	65	64	61	57	63
10:00	66	64	66	61	66	64	62	64	63	63	64	63	61	59	62
11:00	67	65	65	64	67	64	61	64	63	62	63	63	62	60	62
12:00	64	64	64	69	67	64	62	64	66	63	63	63	61	60	62
13:00	64	64	68	63	67	65	62	62	64	64	64	67	61	61	69
14:00	64	64	72	63	66	65	63	63	64	63	63	65	61	61	66
15:00	65	64	66	64	66	64	63	63	65	64	63	66	61	62	63
16:00	66	64	66	64	66	64	62	63	64	65	64	65	61	62	67
17:00	66	65	65	65	67	64	62	64	65	66	64	68	61	61	68
18:00	64	64	64	65	66	64	63	63	65	65	63	62	61	61	66
19:00	63	63	63	64	65	63	63	63	64	64	62	61	61	60	62
20:00	62	61	61	63	63	62	62	62	63	63	61	60	60	59	59
21:00	60	60	60	62	62	61	61	60	61	62	60	59	59	58	58
22:00	60	59	59	60	61	60	59	57	59	61	59	57	57	56	57
23:00	57	57	57	59	61	58	58	57	57	59	57	56	56	56	56



Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	16-Sep	17-Sep	18-Sep	19-Sep	20-Sep	21-Sep	22-Sep	23-Sep	24-Sep	25-Sep	26-Sep	27-Sep	28-Sep	29-Sep	30-Sep
	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
00:00	55	58	58	59	57	58	57	56	56	57	57	58	57	56	56
01:00	51	54	55	55	56	57	55	56	56	55	56	56	56	55	54
02:00	51	50	54	54	56	57	53	52	55	54	53	57	56	53	52
03:00	48	51	51	54	56	57	54	51	54	52	52	57	57	54	51
04:00	51	52	55	54	54	58	54	55	53	53	54	56	57	53	53
05:00	54	56	57	56	54	54	56	57	57	57	58	55	54	55	56
06:00	59	62	62	62	57	56	61	62	62	62	62	59	55	61	61
07:00	63	65	66	65	61	56	65	66	65	65	65	60	56	65	65
08:00	64	67	68	67	63	59	67	67	67	67	66	62	58	67	66
09:00	70	67	66	66	63	58	66	65	66	65	69	62	58	66	67
10:00	70	64	65	64	65	60	64	64	64	64	63	63	60	64	65
11:00	69	64	63	64	64	61	66	62	67	63	63	64	61	64	65
12:00	68	65	63	64	64	62	63	63	62	62	62	63	62	62	65
13:00	66	62	62	65	64	62	61	62	62	62	62	63	62	62	64
14:00	66	64	64	64	64	63	66	62	62	62	62	64	62	62	64
15:00	67	64	65	65	63	63	64	63	64	62	63	64	62	63	64
16:00	67	64	64	65	64	64	63	64	69	64	64	63	62	66	65
17:00	66	66	67	65	64	63	65	65	66	65	66	63	62	66	67
18:00	66	66	66	65	64	63	65	66	65	65	65	63	63	65	65
19:00	65	65	65	64	64	63	64	64	64	64	64	63	63	64	64
20:00	64	63	63	63	62	62	62	63	63	63	62	62	61	62	63
21:00	61	62	61	62	62	60	60	61	61	61	62	60	60	60	61
22:00	61	60	61	61	60	59	59	60	60	61	61	59	59	59	60
23:00	59	59	60	60	59	58	58	59	59	58	60	58	58	57	59

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01-Oct	02-Oct	03-Oct	04-Oct	05-Oct	06-Oct	07-Oct	08-Oct	09-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	15-Oct
	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed
00:00	55	54	54	57	59	55	55	55	54	57	56	57	55	52	-
01:00	54	52	54	56	58	54	52	54	53	57	56	58	53	52	-
02:00	54	52	54	55	58	54	52	55	51	58	55	57	54	49	-
03:00	57	54	56	56	59	55	54	53	53	59	54	57	53	53	-
04:00	56	57	57	57	56	57	56	57	58	60	54	53	55	54	-
05:00	61	61	62	58	55	62	62	62	62	63	57	54	61	60	-
06:00	65	65	65	61	57	66	64	65	65	65	61	55	64	64	-
07:00	67	67	67	63	59	67	68	68	67	67	62	59	66	65	-
08:00	67	66	67	64	60	66	67	66	66	66	63	58	65	68	-
09:00	65	67	65	64	62	65	65	66	65	65	63	60	64	66	-
10:00	70	66	65	65	63	63	62	64	63	63	63	61	63	-	-
11:00	68	67	65	65	64	63	62	63	65	63	64	63	63	-	-
12:00	64	65	64	65	64	63	64	63	64	62	64	62	66	-	-
13:00	64	64	64	65	64	63	66	67	65	64	63	63	68	-	-
14:00	64	66	63	65	64	63	64	70	64	64	63	63	61	-	-
15:00	65	66	65	65	64	65	61	66	67	64	63	63	63	-	-
16:00	66	66	65	65	64	67	65	65	67	65	63	63	64	-	-
17:00	65	65	65	65	65	67	66	66	67	65	63	63	64	-	-
18:00	64	64	65	64	64	65	65	64	65	63	63	62	63	-	-
19:00	63	63	63	62	63	63	63	63	63	62	62	61	61	-	-
20:00	62	61	62	61	62	61	63	61	63	61	61	59	60	-	-
21:00	61	61	61	61	60	60	61	61	61	60	59	59	59	-	-
22:00	59	58	60	60	58	58	59	58	58	60	59	57	58	-	-
23:00	56	57	59	58	58	57	57	56	58	58	58	56	56	-	-

Time	Noise Level, dB $L_{Aeq,1hour}$ on date															
	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct
	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri
00:00	-	-	-	-	-	-	-	58	55	-	-	-	55	55	56	56
01:00	-	-	-	-	-	-	-	56	55	-	-	-	52	53	54	54
02:00	-	-	-	-	-	-	-	56	51	-	-	-	51	52	53	53
03:00	-	-	-	-	-	-	-	57	54	-	-	-	51	51	54	54
04:00	-	-	-	-	-	-	-	59	55	-	-	-	51	53	54	54
05:00	-	-	-	-	-	-	-	61	58	-	-	-	53	55	57	57
06:00	-	-	-	-	-	-	-	63	62	-	-	-	59	60	62	62
07:00	-	-	-	-	-	-	-	66	64	-	-	-	63	64	65	65
08:00	-	-	-	-	-	-	-	67	65	-	-	58	65	66	67	67
09:00	-	-	-	-	-	-	-	66	65	-	-	58	64	65	66	66
10:00	-	-	-	-	-	-	-	65	62	-	-	59	63	64	65	65
11:00	-	-	-	-	-	-	-	65	64	-	-	60	63	64	65	65
12:00	-	-	-	-	-	-	-	64	62	-	-	60	63	65	65	65
13:00	-	-	-	-	-	-	-	64	61	-	-	61	62	66	65	65
14:00	-	-	-	-	-	-	-	66	62	-	-	61	62	65	65	65
15:00	-	-	-	-	-	-	-	66	63	-	-	62	63	65	64	64
16:00	-	-	-	-	-	-	-	66	66	-	-	62	63	64	65	65
17:00	-	-	-	-	-	-	-	64	65	-	-	62	65	64	65	65
18:00	-	-	-	-	-	-	-	64	64	-	-	61	63	64	64	64
19:00	-	-	-	-	-	-	-	62	63	-	-	61	62	63	64	64
20:00	-	-	-	-	-	-	-	61	61	-	-	59	60	61	63	63
21:00	-	-	-	-	-	-	-	61	61	-	-	59	59	59	61	61
22:00	-	-	-	-	-	-	-	59	59	-	-	57	58	59	60	60
23:00	-	-	-	-	-	-	-	60	57	-	-	55	57	57	59	59

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01-Nov	02-Nov	03-Nov	04-Nov	05-Nov	06-Nov	07-Nov	08-Nov	09-Nov	10-Nov	11-Nov	12-Nov	13-Nov	14-Nov	15-Nov
	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
00:00	57	55	56	56	54	58	57	-	-	56	-	56	55	-	-
01:00	55	55	54	52	54	57	58	-	-	53	-	56	54	-	-
02:00	55	54	52	53	55	54	58	-	-	54	-	53	52	-	-
03:00	55	53	52	51	57	54	60	-	-	53	-	52	52	-	-
04:00	56	55	53	53	59	56	57	-	-	55	-	54	51	-	-
05:00	54	51	54	55	61	58	56	-	-	55	-	53	53	-	-
06:00	55	53	60	61	64	62	56	62	-	58	-	58	57	-	-
07:00	59	54	64	64	67	64	58	62	-	63	-	62	62	-	-
08:00	62	57	66	66	67	65	59	61	-	66	-	65	65	-	-
09:00	62	58	66	65	66	63	62	60	-	67	-	66	66	-	-
10:00	62	59	64	64	66	63	64	60	-	64	-	65	64	-	-
11:00	63	60	63	64	67	64	65	58	-	-	-	63	63	-	-
12:00	63	61	63	64	63	65	66	58	-	-	-	63	-	-	-
13:00	63	62	64	65	62	66	63	57	-	-	-	63	-	-	-
14:00	63	62	63	68	63	66	61	55	-	-	-	63	-	-	-
15:00	63	64	64	65	65	67	63	56	-	64	-	62	-	-	-
16:00	63	66	64	65	66	64	63	55	-	-	-	63	-	-	-
17:00	63	63	65	65	66	63	63	54	-	-	-	64	-	-	-
18:00	62	62	64	64	66	63	63	-	-	62	-	64	-	-	-
19:00	61	61	63	64	62	62	62	-	-	62	64	63	-	-	-
20:00	60	61	62	62	61	62	62	-	-	61	63	62	-	-	-
21:00	59	59	60	62	60	62	62	-	-	60	-	60	-	-	-
22:00	57	58	59	57	60	61	61	-	-	59	-	60	-	-	-
23:00	57	56	58	56	60	57	57	-	-	58	-	59	-	-	-

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	16-Nov	17-Nov	18-Nov	19-Nov	20-Nov	21-Nov	22-Nov	23-Nov	24-Nov	25-Nov	26-Nov	27-Nov	28-Nov	29-Nov	30-Nov
	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun
00:00	-	56	-	-	-	-	-	-	-	-	-	-	51	55	53
01:00	-	57	-	-	-	-	-	-	-	-	-	-	50	54	52
02:00	-	56	-	-	-	-	-	-	-	-	-	-	49	52	52
03:00	-	53	-	-	-	-	-	-	-	-	-	-	47	52	53
04:00	-	53	-	-	-	-	-	-	-	-	-	-	50	50	52
05:00	-	54	-	-	-	-	-	-	-	-	-	-	50	51	49
06:00	-	57	-	-	-	-	-	-	-	-	-	-	56	52	48
07:00	-	62	-	-	-	-	-	-	-	-	-	-	58	56	49
08:00	-	65	-	-	-	-	-	-	-	-	-	-	60	58	54
09:00	-	65	-	-	-	-	-	-	-	-	-	-	64	60	54
10:00	-	64	-	-	-	-	-	-	-	-	-	-	60	60	57
11:00	-	63	-	-	-	-	-	-	-	-	-	-	70	61	58
12:00	-	63	-	-	-	-	-	-	-	-	-	-	71	61	60
13:00	-	63	-	-	-	-	-	-	-	-	-	-	66	62	60
14:00	-	63	-	-	-	-	-	-	-	-	-	-	65	61	61
15:00	-	63	-	-	-	-	-	-	-	-	-	-	69	61	60
16:00	-	-	-	-	-	-	-	-	-	-	-	-	63	61	60
17:00	-	-	-	-	-	-	-	-	-	-	-	60	63	60	61
18:00	-	-	-	-	-	-	-	-	-	-	-	59	62	60	60
19:00	-	-	-	-	-	-	-	-	-	-	-	57	61	58	59
20:00	-	-	-	-	-	-	-	-	-	-	-	56	60	58	58
21:00	-	-	-	-	-	-	-	-	-	-	-	55	58	57	56
22:00	-	-	-	-	-	-	-	-	-	-	-	54	57	55	55
23:00	-	-	-	-	-	-	-	-	-	-	-	53	55	54	53

For inspection purposes only. Consent of copyright owner required for any other use.

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01-Dec	02-Dec	03-Dec	04-Dec	05-Dec	06-Dec	07-Dec	08-Dec	09-Dec	10-Dec	11-Dec	12-Dec	13-Dec	14-Dec	15-Dec
	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon
00:00	53	53	55	60	55	56	54	55	55	55	53	56	56	56	55
01:00	52	50	51	57	55	56	53	54	54	54	52	56	56	56	55
02:00	51	50	53	56	53	55	51	54	51	52	50	54	55	54	54
03:00	52	49	51	53	51	55	54	55	50	50	47	53	54	55	53
04:00	51	52	52	54	54	54	54	55	49	51	50	55	54	55	54
05:00	53	56	52	54	53	54	53	56	52	52	51	55	54	55	55
06:00	58	59	57	59	56	54	49	59	57	58	57	58	56	53	57
07:00	61	62	60	62	60	56	51	63	61	61	61	61	56	54	61
08:00	62	63	62	64	62	59	52	64	62	63	63	63	59	56	63
09:00	63	68	66	65	64	62	54	65	65	64	65	66	62	56	64
10:00	61	66	67	64	63	62	54	66	66	64	65	67	63	57	65
11:00	62	77	65	63	63	61	57	64	64	63	64	77	62	59	63
12:00	63	71	67	63	64	62	59	64	67	64	66	71	64	60	64
13:00	65	77	67	63	63	62	61	64	64	64	66	67	64	60	65
14:00	63	71	64	63	63	62	62	64	63	66	64	68	64	61	63
15:00	63	77	67	62	62	61	62	65	63	66	65	68	61	62	62
16:00	64	67	67	62	62	62	61	65	64	65	67	67	61	61	63
17:00	67	66	67	66	63	62	61	65	64	63	66	66	61	61	64
18:00	62	67	64	62	63	61	61	63	63	62	65	64	60	60	62
19:00	61	61	61	62	61	61	61	61	62	60	62	63	60	60	62
20:00	58	60	61	61	60	60	60	60	61	58	62	62	60	59	60
21:00	57	59	61	59	59	58	58	59	59	57	60	60	59	59	60
22:00	56	57	61	59	59	55	58	58	58	56	60	58	57	58	58
23:00	54	56	61	57	57	55	57	57	57	56	58	58	56	57	57

Time	Noise Level, dB $L_{Aeq,1hour}$ on date															
	16-Dec	17-Dec	18-Dec	19-Dec	20-Dec	21-Dec	22-Dec	23-Dec	24-Dec	25-Dec	26-Dec	27-Dec	28-Dec	29-Dec	30-Dec	31-Dec
	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed
00:00	55	54	56	56	57	58	56	56	57	54	55	56	55	57	56	55
01:00	55	54	56	55	57	58	56	56	55	53	54	56	55	55	55	55
02:00	52	51	55	53	56	57	53	54	55	53	50	57	55	56	54	53
03:00	50	51	54	52	55	56	52	53	53	46	48	55	54	55	52	51
04:00	52	52	55	54	56	57	53	55	55	47	45	55	55	54	52	53
05:00	53	54	56	55	55	56	54	54	52	42	48	54	53	53	50	52
06:00	58	58	60	58	55	54	58	57	55	45	50	54	53	56	55	55
07:00	62	61	63	61	57	57	61	60	57	50	51	54	55	57	56	57
08:00	64	63	65	64	60	59	63	62	59	50	51	55	54	59	58	58
09:00	65	64	65	65	61	58	64	63	60	53	54	56	54	61	61	61
10:00	64	63	65	65	62	59	64	63	61	55	57	58	57	60	61	60
11:00	64	64	64	66	63	61	63	62	61	58	58	60	59	61	60	61
12:00	64	64	65	66	63	62	63	63	62	59	60	61	60	61	62	62
13:00	64	64	66	66	63	62	63	63	62	59	61	62	61	62	62	63
14:00	63	64	65	67	64	63	63	60	62	60	61	63	62	63	62	63
15:00	63	65	64	66	63	63	64	62	62	61	61	63	62	63	63	63
16:00	63	66	64	67	63	62	63	63	62	59	61	63	62	62	63	63
17:00	62	64	63	67	62	62	63	63	62	57	60	62	62	62	62	63
18:00	62	63	62	67	61	60	63	62	61	58	59	61	61	61	62	62
19:00	61	63	62	64	62	60	62	61	60	57	59	60	61	61	61	61
20:00	61	62	61	63	62	60	61	60	59	58	60	60	60	60	60	60
21:00	60	61	60	61	60	59	61	60	58	56	59	59	59	59	59	60
22:00	58	58	60	59	59	58	60	59	57	56	58	58	59	58	58	59
23:00	56	59	58	58	58	57	58	58	57	55	56	56	57	57	57	59

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01-Jan	02-Jan	03-Jan	04-Jan	05-Jan	06-Jan	07-Jan	08-Jan	09-Jan	10-Jan	11-Jan	12-Jan	13-Jan	14-Jan	15-Jan
	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs
00:00	56	55	57	55	54	56	54	56	55	57	58	55	54	54	61
01:00	62	54	56	54	52	54	52	54	53	54	59	52	54	52	59
02:00	55	53	56	54	51	52	50	51	52	55	60	53	52	51	55
03:00	56	51	55	54	51	51	50	50	51	52	60	53	49	49	61
04:00	55	54	56	54	51	53	51	51	52	55	62	52	51	50	61
05:00	54	52	55	49	51	52	52	51	53	54	60	52	50	52	61
06:00	53	55	56	49	58	57	57	57	56	56	58	57	57	56	60
07:00	53	57	56	52	61	61	60	61	61	61	60	61	61	61	64
08:00	53	59	58	54	64	63	63	63	63	63	59	61	63	62	63
09:00	54	61	60	54	65	64	64	64	64	64	67	60	64	63	67
10:00	55	62	60	56	64	63	64	64	64	64	70	61	63	63	66
11:00	57	62	61	57	64	62	62	63	62	62	70	61	62	70	64
12:00	59	62	61	59	65	61	62	62	63	75	62	63	64	68	65
13:00	61	62	62	60	64	60	62	64	62	64	63	63	72	66	65
14:00	61	63	62	61	64	61	61	64	63	64	63	62	71	69	65
15:00	62	63	62	63	64	61	62	67	64	63	64	63	64	66	65
16:00	61	63	62	62	64	61	62	62	63	63	65	64	63	67	64
17:00	61	63	62	62	64	63	63	63	64	62	64	63	63	67	65
18:00	60	63	61	62	64	63	63	63	63	62	63	62	62	66	64
19:00	60	62	61	60	63	62	62	62	62	61	63	61	62	64	64
20:00	59	61	60	59	61	60	61	61	61	61	61	59	60	64	62
21:00	59	60	59	58	59	58	59	59	60	60	61	59	59	63	61
22:00	58	60	57	56	58	57	56	59	59	59	62	57	58	62	60
23:00	57	59	57	55	57	55	57	58	58	58	60	56	57	60	59



Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date															
	16-Jan	17-Jan	18-Jan	19-Jan	20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan	27-Jan	28-Jan	29-Jan	30-Jan	31-Jan
	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
00:00	58	56	57	57	56	56	57	56	55	59	57	57	57	57	61	58
01:00	56	55	57	57	55	54	56	55	54	57	55	55	55	56	58	56
02:00	55	55	57	57	54	53	55	54	54	56	55	55	54	55	57	55
03:00	55	54	56	55	53	53	53	53	54	57	54	53	54	54	57	55
04:00	55	54	56	55	54	53	55	54	54	58	55	54	54	54	59	54
05:00	55	56	55	55	55	53	57	54	54	56	54	54	54	54	57	54
06:00	59	54	53	57	58	56	57	56	53	58	56	58	57	57	59	54
07:00	62	55	54	60	61	60	60	59	55	59	61	61	60	62	63	55
08:00	65	57	55	62	63	62	63	61	57	58	63	63	64	65	65	57
09:00	67	60	55	63	64	63	64	62	58	59	64	64	65	66	67	59
10:00	67	59	58	62	63	62	63	61	59	61	67	63	66	65	64	59
11:00	67	61	61	62	63	61	62	61	61	61	63	63	66	64	62	60
12:00	67	64	63	62	62	62	64	62	61	62	62	63	63	64	62	60
13:00	66	70	64	62	63	63	65	62	62	63	62	63	63	64	63	60
14:00	63	65	64	63	62	63	66	62	62	64	62	63	63	64	63	60
15:00	62	68	63	62	62	64	70	62	62	63	63	63	62	64	62	61
16:00	63	68	63	62	63	65	63	63	64	63	63	63	63	65	64	60
17:00	62	64	63	63	63	65	63	63	63	62	64	63	63	65	63	60
18:00	61	64	62	63	63	65	63	63	63	62	64	63	63	66	63	59
19:00	60	63	62	62	62	63	63	62	62	61	63	63	63	65	63	59
20:00	59	63	61	60	60	61	61	60	62	61	61	61	62	64	61	58
21:00	58	60	60	59	59	59	60	59	62	60	59	60	61	63	60	58
22:00	58	60	59	58	58	59	59	58	62	59	59	59	60	63	59	56
23:00	57	58	58	57	57	59	58	57	62	58	59	58	59	62	58	56

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01-Feb	02-Feb	03-Feb	04-Feb	05-Feb	06-Feb	07-Feb	08-Feb	09-Feb	10-Feb	11-Feb	12-Feb	13-Feb	14-Feb	15-Feb
	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
00:00	56	55	53	56	54	53	53	54	53	54	53	57	56	55	54
01:00	55	54	52	55	52	52	53	53	54	53	52	55	55	54	54
02:00	55	54	52	54	52	52	53	52	52	52	52	54	54	54	55
03:00	55	53	52	52	52	52	52	53	52	52	51	53	54	54	55
04:00	56	53	52	53	52	52	52	53	52	52	52	54	55	54	54
05:00	54	53	53	53	52	52	52	52	52	52	52	54	57	54	52
06:00	53	55	53	55	54	54	52	51	53	54	53	56	60	56	53
07:00	54	58	57	58	56	55	52	52	55	57	57	60	63	59	55
08:00	56	61	59	60	58	57	54	53	57	60	59	63	64	60	55
09:00	56	62	61	61	60	58	55	54	58	61	61	64	63	60	56
10:00	56	57	61	61	60	58	55	54	58	60	60	64	63	61	57
11:00	58	56	61	60	59	58	56	53	60	59	59	62	62	62	59
12:00	59	58	61	60	60	58	57	55	60	59	59	62	63	61	59
13:00	59	59	60	60	60	62	57	56	59	59	59	62	63	60	60
14:00	60	57	60	59	60	60	58	56	59	59	60	62	63	60	60
15:00	60	58	60	59	60	59	58	58	58	59	59	63	61	60	59
16:00	61	58	60	60	60	59	57	58	58	60	61	63	62	61	59
17:00	60	58	61	60	61	59	57	57	59	60	63	63	62	61	59
18:00	60	58	61	60	60	59	57	58	59	59	63	62	61	60	59
19:00	59	56	60	59	59	58	56	57	58	59	62	61	60	59	58
20:00	59	54	59	58	58	57	56	56	57	57	61	60	59	58	57
21:00	58	54	58	56	56	55	55	55	56	56	59	60	58	57	57
22:00	58	53	57	55	56	55	55	54	55	55	59	59	58	58	56
23:00	56	54	57	55	55	54	54	53	55	55	59	58	57	56	54

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date													
	16-Feb	17-Feb	18-Feb	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb	24-Feb	25-Feb	26-Feb	27-Feb	28-Feb	
	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	
00:00	54	54	54	54	54	56	55	55	55	55	56	56	57	
01:00	53	53	53	53	55	55	54	52	53	53	53	54	55	
02:00	53	53	53	52	54	55	55	53	54	53	53	54	55	
03:00	53	54	53	53	54	54	55	54	53	53	53	54	55	
04:00	54	55	53	53	55	55	55	53	53	53	54	54	55	
05:00	56	56	55	55	57	54	54	55	55	55	55	55	54	
06:00	59	60	59	58	60	55	54	58	59	59	59	58	55	
07:00	62	62	61	62	62	57	55	62	63	63	62	62	58	
08:00	63	63	63	63	63	59	57	64	64	64	63	64	60	
09:00	61	62	61	62	62	60	56	63	63	63	63	63	61	
10:00	60	61	60	62	61	60	59	62	62	62	62	62	62	
11:00	61	61	60	61	61	60	59	61	62	61	62	62	62	
12:00	62	61	61	62	62	61	59	61	62	62	62	62	62	
13:00	62	61	61	63	62	61	60	63	62	61	62	62	63	
14:00	61	62	60	63	62	61	61	62	64	62	62	62	63	
15:00	62	62	61	61	62	61	61	62	63	62	62	62	63	
16:00	62	63	61	62	62	61	59	62	63	62	62	62	62	
17:00	63	63	61	62	64	61	60	63	63	62	62	63	62	
18:00	61	61	61	61	62	61	60	63	62	63	62	63	62	
19:00	60	59	60	60	61	60	61	61	61	61	61	62	60	
20:00	59	59	58	60	60	59	59	59	59	60	60	61	60	
21:00	58	57	58	60	60	58	58	58	59	59	59	60	59	
22:00	57	56	57	58	58	57	57	57	58	58	58	59	58	
23:00	55	55	55	56	57	56	55	56	57	56	57	57	55	

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01-Mar	02-Mar	03-Mar	04-Mar	05-Mar	06-Mar	07-Mar	08-Mar	09-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar	15-Mar
	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
00:00	55	54	56	55	55	56	56	57	56	55	55	57	57	57	56
01:00	56	53	54	54	53	54	56	56	55	54	54	55	56	57	55
02:00	55	54	53	53	54	53	55	57	53	52	53	53	54	56	55
03:00	56	53	54	54	54	54	55	56	54	56	54	53	54	56	55
04:00	53	54	54	53	54	54	55	57	54	53	54	54	53	54	55
05:00	53	58	57	55	56	56	54	54	57	56	57	54	54	54	54
06:00	54	62	61	59	60	60	56	55	60	60	60	56	56	54	52
07:00	56	64	64	63	63	63	59	56	64	63	64	60	60	55	54
08:00	56	64	66	64	65	64	61	57	65	65	65	63	64	58	55
09:00	61	63	65	63	64	64	62	58	64	64	64	64	65	59	57
10:00	60	62	64	61	62	63	63	61	63	62	54	63	64	61	58
11:00	60	62	63	62	61	63	63	60	62	62	63	62	63	61	59
12:00	61	62	64	62	61	67	63	61	63	62	62	62	64	62	58
13:00	60	63	65	62	62	66	64	61	62	62	62	62	64	62	59
14:00	62	62	64	62	62	65	63	63	62	62	62	62	64	62	60
15:00	61	62	64	62	62	64	63	63	64	62	62	62	64	62	60
16:00	61	62	63	63	62	63	63	63	64	62	63	62	64	62	60
17:00	61	63	63	64	62	63	62	62	64	63	63	62	65	61	60
18:00	60	63	64	64	62	63	62	62	63	63	63	62	65	61	60
19:00	59	61	62	62	60	62	61	61	62	62	63	62	65	60	61
20:00	59	60	60	61	60	61	62	60	61	60	62	61	63	59	60
21:00	58	59	59	59	59	59	61	59	60	58	60	61	62	58	60
22:00	56	58	59	59	58	59	59	58	59	58	59	60	62	57	59
23:00	55	57	58	57	58	58	56	56	57	56	58	59	60	56	57

Time	Noise Level, dB $L_{Aeq,1hour}$ on date															
	16-Mar	17-Mar	18-Mar	19-Mar	20-Mar	21-Mar	22-Mar	23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar	29-Mar	30-Mar	31-Mar
	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tue
00:00	57	57	56	55	57	57	56	55	56	60	57	58	58	57	55	55
01:00	55	55	55	54	55	55	56	54	54	59	55	56	57	56	53	53
02:00	54	55	55	53	54	54	56	53	53	58	54	55	57	54	53	53
03:00	53	55	55	53	54	54	55	54	53	57	54	54	58	55	53	52
04:00	54	55	54	53	55	54	54	53	53	56	53	54	56	54	53	52
05:00	53	56	53	54	54	53	54	54	53	56	54	55	56	54	52	53
06:00	54	54	55	55	56	53	53	56	56	55	54	54	57	54	55	56
07:00	58	57	60	59	61	56	55	60	60	58	57	57	60	58	60	61
08:00	61	57	63	62	64	58	55	63	63	61	61	61	58	55	62	62
09:00	62	58	64	64	64	59	57	64	64	63	64	63	60	57	62	63
10:00	63	58	64	63	66	62	57	63	63	64	64	63	61	59	62	62
11:00	63	59	61	62	63	62	59	63	62	63	64	63	62	59	61	62
12:00	62	60	62	63	63	61	60	63	62	63	63	62	61	61	62	62
13:00	62	60	61	63	63	62	61	64	62	63	66	62	61	61	62	60
14:00	62	60	62	63	62	62	61	63	63	63	66	63	61	61	63	61
15:00	62	62	61	63	63	61	61	63	63	63	63	64	61	62	63	61
16:00	62	61	61	63	62	61	61	62	63	63	65	63	61	61	63	62
17:00	62	61	61	63	62	61	61	62	63	62	63	63	60	62	62	62
18:00	62	61	62	64	63	61	61	63	63	62	63	63	61	64	62	62
19:00	62	61	63	64	63	60	61	63	63	62	63	64	61	61	61	62
20:00	61	60	62	61	62	59	60	61	63	61	63	63	60	60	60	60
21:00	60	59	59	60	60	59	59	59	61	59	61	61	59	59	58	59
22:00	59	59	58	58	59	58	58	58	59	58	60	60	58	57	58	59
23:00	58	57	57	59	58	58	57	57	59	57	59	58	57	56	57	57

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01-Apr	02-Apr	03-Apr	04-Apr	05-Apr	06-Apr	07-Apr	08-Apr	09-Apr	10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr
	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed
00:00	55	55	55	56	55	56	55	60	55	55	53	55	56	53	55
01:00	54	55	54	55	55	53	53	60	54	54	52	54	57	53	54
02:00	53	54	54	55	54	54	52	60	54	54	53	55	56	54	55
03:00	53	55	54	55	55	53	53	56	55	53	54	53	54	55	56
04:00	54	55	54	54	54	55	54	55	54	57	55	53	55	62	60
05:00	57	57	56	54	52	56	57	56	58	59	57	54	56	63	64
06:00	63	62	62	57	55	62	62	61	63	61	58	55	57	64	65
07:00	63	64	63	60	56	64	64	63	65	61	59	56	57	65	65
08:00	64	64	64	59	57	66	65	64	65	62	59	56	58	64	64
09:00	63	63	65	61	58	65	64	62	65	62	60	58	60	63	64
10:00	63	62	63	62	59	64	62	61	65	61	61	59	62	65	64
11:00	63	63	62	62	62	64	63	62	65	61	60	59	62	63	64
12:00	63	63	62	62	60	66	62	62	65	61	60	60	64	64	65
13:00	63	62	62	62	63	67	62	61	66	61	61	60	66	71	65
14:00	63	61	62	62	62	68	62	61	67	60	61	60	65	62	66
15:00	63	62	65	61	62	68	64	61	66	61	61	60	63	62	67
16:00	62	62	68	60	61	66	65	62	66	61	60	60	63	63	67
17:00	63	62	65	61	61	67	65	61	65	61	60	60	63	62	64
18:00	62	62	64	60	63	64	65	62	64	61	60	60	61	61	63
19:00	61	61	62	61	61	63	64	62	61	60	58	60	60	58	61
20:00	60	60	60	60	61	60	63	61	60	58	58	57	58	57	61
21:00	59	59	58	59	58	59	62	60	59	56	57	58	56	56	59
22:00	58	58	57	57	58	57	61	60	57	55	56	56	55	56	57
23:00	57	57	56	56	56	56	62	57	56	54	54	55	54	54	56

Time	Noise Level, dB $L_{Aeq,1hour}$ on date														
	16-Apr	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr	26-Apr	27-Apr	28-Apr	29-Apr	30-Apr
	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tue	Wed	Thurs
00:00	56	54	55	56	53	53	54	53	54	56	55	53	53	54	54
01:00	55	54	54	56	53	53	53	53	54	55	54	53	53	54	53
02:00	56	55	55	56	53	54	54	54	56	56	55	54	54	54	54
03:00	57	55	53	54	54	55	55	55	55	54	52	56	56	55	55
04:00	61	60	59	55	59	61	59	59	59	56	55	59	59	59	58
05:00	64	62	57	55	61	62	63	62	62	59	55	63	63	63	61
06:00	65	64	59	56	63	64	64	63	64	60	56	64	64	64	62
07:00	65	64	61	59	63	65	64	63	63	62	57	64	64	64	62
08:00	63	62	60	58	62	63	62	62	61	62	58	63	62	62	61
09:00	62	62	61	61	62	63	63	62	62	63	61	62	62	62	62
10:00	63	63	61	61	63	63	63	62	61	62	61	62	62	62	62
11:00	63	63	61	61	62	61	63	62	62	62	60	61	62	62	61
12:00	63	62	61	60	62	61	62	61	61	61	61	61	62	61	61
13:00	62	62	62	61	62	62	63	61	62	62	61	61	61	62	61
14:00	62	63	62	61	62	63	64	62	63	61	62	61	63	62	62
15:00	64	63	61	60	62	62	63	63	63	61	61	62	63	62	62
16:00	63	63	61	61	62	62	64	63	63	61	63	62	62	63	63
17:00	62	62	61	60	61	61	62	62	62	61	62	61	62	61	62
18:00	61	61	60	60	60	62	61	60	61	60	61	60	59	60	60
19:00	60	60	59	59	59	60	60	59	59	60	60	60	59	60	59
20:00	59	58	60	58	57	59	59	58	59	58	59	59	58	58	58
21:00	58	57	58	56	56	58	57	57	57	57	57	58	56	57	57
22:00	56	57	57	55	55	56	56	55	56	55	55	55	55	55	55
23:00	55	56	56	54	54	54	54	54	55	55	54	54	54	54	54

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01-May	02-May	03-May	04-May	05-May	06-May	07-May	08-May	09-May	10-May	11-May	12-May	13-May	14-May	15-May
	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri
00:00	55	55	55	55	53	53	55	58	55	55	55	55	54	54	55
01:00	54	55	55	55	53	53	54	56	56	54	55	53	53	54	56
02:00	54	55	55	56	54	53	54	58	55	56	54	54	54	54	56
03:00	55	54	55	54	55	53	55	58	55	55	55	55	53	55	54
04:00	55	54	55	58	56	57	57	59	56	54	58	63	57	57	57
05:00	58	55	54	55	59	59	61	62	56	54	61	60	60	60	60
06:00	58	58	55	56	62	62	64	64	58	56	63	64	63	63	63
07:00	59	59	56	57	63	64	64	64	61	56	65	65	64	64	64
08:00	60	60	58	57	63	63	63	62	62	58	64	65	63	64	64
09:00	60	60	58	58	62	62	62	62	62	58	62	63	62	63	63
10:00	61	60	58	59	61	62	62	63	63	60	62	63	62	62	62
11:00	62	60	60	60	62	62	62	65	61	61	62	63	62	63	63
12:00	62	60	60	61	62	63	63	63	61	61	62	63	62	63	63
13:00	62	61	60	60	62	62	63	64	61	60	63	62	62	63	62
14:00	62	60	59	60	62	62	63	64	59	60	63	62	62	63	62
15:00	62	60	61	60	62	62	63	63	59	60	63	63	63	63	63
16:00	62	60	60	60	63	63	64	63	60	60	64	64	63	63	63
17:00	62	60	59	61	63	63	64	63	60	60	64	63	63	64	63
18:00	61	61	60	60	62	62	63	61	60	60	62	61	62	63	62
19:00	60	59	59	59	60	61	61	60	58	60	60	60	60	61	61
20:00	59	59	58	58	59	60	61	60	58	59	61	60	60	60	60
21:00	58	57	57	57	57	59	60	58	57	58	59	58	58	59	59
22:00	56	56	56	55	56	58	59	57	57	56	57	56	56	57	57
23:00	56	56	55	54	54	56	57	56	56	55	55	55	56	56	57



Time	Noise Level, dB $L_{Aeq,1hour}$ on date															
	16-May	17-May	18-May	19-May	20-May	21-May	22-May	23-May	24-May	25-May	26-May	27-May	28-May	29-May	30-May	31-May
	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
00:00	56	57	54	54	54	55	54	55	55	54	54	53	54	54	55	56
01:00	56	56	54	54	53	54	53	56	56	53	53	53	53	54	54	55
02:00	54	56	53	53	54	54	54	55	55	53	53	53	53	54	54	55
03:00	56	56	53	55	53	55	56	55	58	63	56	52	53	54	57	55
04:00	60	57	60	58	56	58	57	66	58	58	58	58	55	55	56	54
05:00	56	54	60	60	59	59	59	56	55	58	59	61	59	59	56	55
06:00	59	57	62	63	62	62	62	59	55	61	62	63	61	62	58	56
07:00	61	59	63	64	63	63	63	60	57	62	63	63	62	63	58	56
08:00	61	58	63	63	63	62	63	61	56	62	63	63	61	62	60	57
09:00	62	59	61	62	61	61	62	62	58	61	61	61	61	61	61	59
10:00	62	61	62	62	62	61	62	62	58	62	61	61	60	61	61	60
11:00	63	64	61	62	62	62	61	62	60	61	60	61	60	62	61	61
12:00	65	65	61	62	64	62	62	62	60	61	61	61	61	62	61	61
13:00	64	63	62	64	63	61	63	61	60	61	60	61	61	62	62	61
14:00	65	62	62	63	62	61	63	60	61	62	62	61	61	62	61	61
15:00	64	63	63	63	62	62	63	60	60	61	63	61	61	62	61	61
16:00	64	62	64	65	64	64	63	59	60	62	62	62	61	62	61	61
17:00	65	62	63	64	63	62	63	59	59	62	62	62	61	63	60	60
18:00	63	62	62	62	61	61	62	59	59	61	62	61	61	61	61	60
19:00	62	60	61	60	60	60	61	59	59	60	60	59	60	61	59	59
20:00	62	60	60	59	60	59	60	58	59	58	59	58	59	60	58	58
21:00	60	58	58	58	58	58	59	58	58	57	58	57	59	59	58	57
22:00	58	57	56	57	57	57	58	56	56	56	57	56	58	57	57	57
23:00	57	56	55	55	56	55	55	56	55	55	56	55	56	56	56	56

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01/06/2009	02-Jun	03-Jun	04-Jun	05-Jun	06-Jun	07-Jun	08-Jun	09-Jun	10-Jun	11-Jun	12-Jun	13-Jun	14-Jun	15-Jun
	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon
00:00	55	53	53	54	53	55	56	54	49	53	54	54	54	55	54
01:00	54	53	52	54	54	55	56	54	51	53	53	54	54	54	54
02:00	55	54	53	54	54	54	56	54	54	53	54	54	54	54	56
03:00	53	56	55	56	54	55	54	55	55	56	55	55	54	54	57
04:00	55	59	58	60	59	56	55	59	59	58	59	58	55	54	59
05:00	56	62	62	62	61	58	55	62	62	61	61	62	57	55	61
06:00	56	63	63	64	62	59	56	63	63	63	62	63	57	55	63
07:00	57	62	62	62	61	60	56	63	62	62	62	63	59	55	62
08:00	58	61	62	61	60	61	58	60	61	61	60	62	60	56	61
09:00	60	62	62	61	60	61	59	61	61	61	60	61	60	58	62
10:00	61	62	62	62	59	62	61	61	61	61	63	61	60	59	62
11:00	61	62	62	61	60	63	62	61	61	61	66	62	60	60	62
12:00	61	61	62	61	61	63	61	62	62	61	64	61	60	60	62
13:00	60	62	62	61	61	63	61	62	61	61	61	61	61	60	61
14:00	60	62	62	61	62	63	61	62	61	61	61	62	61	61	62
15:00	60	62	62	62	63	63	62	62	62	62	63	63	61	60	62
16:00	61	62	63	62	62	63	60	62	62	63	63	62	60	61	63
17:00	60	61	61	61	61	62	62	61	61	61	61	61	59	60	61
18:00	59	60	60	59	61	60	60	59	60	60	60	60	59	59	60
19:00	59	60	60	59	60	60	59	58	59	59	59	59	58	59	59
20:00	58	59	58	59	58	58	58	58	58	58	58	59	57	58	58
21:00	56	56	57	57	56	57	56	56	56	57	57	56	56	56	57
22:00	55	55	56	56	56	56	55	54	55	55	56	55	56	55	55
23:00	53	54	54	54	55	56	54	52	53	54	54	55	55	54	55

Time	Noise Level, dB $L_{Aeq,1hour}$ on date														
	16-Jun	17-Jun	18-Jun	19-Jun	20-Jun	21-Jun	22-Jun	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun
	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
00:00	52	54	50	52	55	56	50	51	54	54	54	55	55	51	53
01:00	52	54	50	53	55	56	48	47	53	53	53	54	55	52	53
02:00	54	54	51	54	54	55	50	52	55	54	55	54	55	53	54
03:00	55	57	55	55	54	54	52	53	55	55	55	55	54	54	54
04:00	59	60	59	58	55	54	57	57	58	59	58	55	54	57	58
05:00	61	63	62	60	57	55	60	60	61	62	61	57	55	61	60
06:00	62	65	63	62	59	56	61	62	62	63	63	58	56	62	62
07:00	62	64	63	62	59	55	61	62	62	62	62	59	55	61	61
08:00	60	62	62	61	60	56	61	62	62	61	62	59	56	60	61
09:00	61	62	62	61	60	58	61	62	61	62	62	61	57	61	61
10:00	61	61	61	61	60	59	61	61	61	62	62	60	59	62	61
11:00	61	61	61	61	60	58	61	61	62	62	62	61	60	61	60
12:00	61	61	61	61	65	59	61	61	61	62	62	61	60	61	61
13:00	61	61	62	61	68	60	60	66	61	62	62	66	60	61	62
14:00	61	61	62	61	60	60	61	67	61	69	61	60	61	61	60
15:00	62	62	63	61	60	60	62	62	62	63	61	60	60	62	62
16:00	63	63	62	62	60	59	61	62	62	63	62	60	60	62	61
17:00	62	61	61	61	60	58	60	61	61	62	67	60	60	61	60
18:00	60	60	60	60	59	58	58	59	60	62	60	59	59	60	60
19:00	60	59	59	60	58	57	57	59	60	61	59	59	58	59	58
20:00	58	58	58	59	57	55	56	58	59	59	58	58	58	57	56
21:00	56	57	56	57	57	54	54	57	58	57	57	57	55	56	54
22:00	55	55	55	56	56	52	53	56	56	56	56	56	54	54	53
23:00	54	53	53	55	56	50	51	54	54	55	55	56	53	53	51

Appendix 8.3  
Unattended Noise Monitoring results – Construction Monitoring Location  
N2 (6 August 2008 to 30 June 2009)

*For inspection purposes only.  
Consent of copyright owner required for any other use.*

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01-Aug	02-Aug	03-Aug	04-Aug	05-Aug	06-Aug	07-Aug	08-Aug	09-Aug	10-Aug	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug
	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri
00:00	-	-	-	-	-	-	39	43	45	42	41	48	41	41	43
01:00	-	-	-	-	-	-	36	40	45	42	41	49	40	39	42
02:00	-	-	-	-	-	-	34	41	42	42	39	41	36	40	38
03:00	-	-	-	-	-	-	34	40	43	43	45	37	38	39	39
04:00	-	-	-	-	-	-	34	39	44	42	42	38	41	39	43
05:00	-	-	-	-	-	-	40	44	52	43	47	42	48	46	47
06:00	-	-	-	-	-	-	46	48	49	46	50	47	50	52	50
07:00	-	-	-	-	-	-	46	55	51	48	52	47	47	52	50
08:00	-	-	-	-	-	-	49	56	49	50	52	47	47	50	50
09:00	-	-	-	-	-	-	46	46	49	48	50	46	49	54	53
10:00	-	-	-	-	-	-	49	42	48	51	51	57	56	47	49
11:00	-	-	-	-	-	-	47	50	47	50	53	45	55	47	50
12:00	-	-	-	-	-	-	49	57	45	49	52	44	43	46	49
13:00	-	-	-	-	-	-	47	53	47	49	53	45	45	46	58
14:00	-	-	-	-	-	-	49	45	46	50	52	55	44	45	50
15:00	-	-	-	-	-	-	53	41	46	47	52	52	45	46	51
16:00	-	-	-	-	-	-	50	42	45	49	53	52	49	47	51
17:00	-	-	-	-	-	51	50	53	46	49	53	51	55	46	52
18:00	-	-	-	-	-	48	49	52	49	47	50	51	53	53	51
19:00	-	-	-	-	-	48	51	56	50	48	51	47	51	56	51
20:00	-	-	-	-	-	49	49	55	50	48	47	49	49	56	51
21:00	-	-	-	-	-	48	47	50	46	58	50	46	47	56	52
22:00	-	-	-	-	-	46	45	47	43	47	49	43	43	47	47
23:00	-	-	-	-	-	43	44	51	43	44	51	42	42	45	46

Time	Noise Level, dB $L_{Aeq,1hour}$ on date															
	16-Aug	17-Aug	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug	27-Aug	28-Aug	29-Aug	30-Aug	31-Aug
	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
00:00	46	46	47	43	-	-	-	-	-	-	-	-	-	35	43	43
01:00	46	46	45	41	-	-	-	-	-	-	-	-	-	36	39	42
02:00	48	44	41	-	-	-	-	-	-	-	-	-	-	34	37	40
03:00	49	41	39	-	-	-	-	-	-	-	-	-	-	36	38	41
04:00	52	36	41	-	-	-	-	-	-	-	-	-	-	37	42	38
05:00	53	43	49	-	-	-	-	-	-	-	-	-	-	50	48	50
06:00	55	44	54	-	-	-	-	-	-	-	-	-	-	53	52	52
07:00	55	52	55	-	-	-	-	-	-	-	-	-	-	54	55	52
08:00	55	56	55	-	-	-	-	-	-	-	-	-	-	60	51	53
09:00	57	45	56	-	-	-	-	-	-	-	-	-	-	54	53	55
10:00	58	46	56	-	-	-	-	-	-	-	-	-	-	50	52	53
11:00	58	47	58	-	-	-	-	-	-	-	-	-	-	54	51	55
12:00	59	49	56	-	-	-	-	-	-	-	-	-	-	54	54	49
13:00	59	49	55	-	-	-	-	-	-	-	-	-	-	54	54	40
14:00	58	50	55	-	-	-	-	-	-	-	-	-	-	53	54	42
15:00	50	51	55	-	-	-	-	-	-	-	-	-	47	50	52	40
16:00	48	52	55	-	-	-	-	-	-	-	-	-	45	50	50	50
17:00	46	52	57	-	-	-	-	-	-	-	-	-	52	50	47	49
18:00	52	53	54	-	-	-	-	-	-	-	-	-	54	54	50	53
19:00	48	53	51	-	-	-	-	-	-	-	-	-	51	50	50	51
20:00	48	52	49	-	-	-	-	-	-	-	-	-	51	50	46	53
21:00	54	51	49	-	-	-	-	-	-	-	-	-	39	44	43	49
22:00	48	50	49	-	-	-	-	-	-	-	-	-	42	45	44	46
23:00	47	53	46	-	-	-	-	-	-	-	-	-	42	40	44	44

For inspection purposes only. Consent of copyright owner required for any other use.

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01-Sept	02-Sept	03-Sept	04-Sept	05-Sept	06-Sept	07-Sept	08-Sept	09-Sept	10-Sept	11-Sept	12-Sept	13-Sept	14-Sept	15-Sept
	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon
00:00	44	42	42	42	46	56	45	44	42	47	50	41	41	-	-
01:00	40	41	40	39	44	56	44	41	41	46	49	40	41	-	-
02:00	41	42	38	36	42	54	43	39	38	44	51	35	42	-	-
03:00	45	41	39	35	42	52	43	37	41	36	49	36	42	-	-
04:00	44	43	40	35	47	50	43	38	44	39	51	37	41	-	-
05:00	44	45	46	41	49	53	45	42	51	46	52	41	48	-	-
06:00	50	52	54	50	54	57	48	50	54	51	52	49	51	-	-
07:00	51	55	54	52	56	57	54	50	56	52	54	49	50	-	-
08:00	52	56	57	56	57	57	54	54	56	54	54	52	62	-	-
09:00	53	56	57	52	59	57	58	58	56	54	54	53	61	-	-
10:00	52	53	56	49	59	59	54	52	55	54	53	57	60	-	-
11:00	55	51	53	47	60	57	48	54	56	55	53	47	61	-	-
12:00	50	49	55	45	61	57	45	49	54	53	52	49	63	-	-
13:00	48	47	50	46	62	57	42	47	57	53	50	53	62	-	-
14:00	53	48	50	44	61	58	42	49	56	54	51	51	68	-	-
15:00	51	65	50	48	57	56	52	51	55	55	52	56	65	-	-
16:00	51	66	48	49	57	55	48	53	56	54	50	54	65	-	-
17:00	50	63	50	50	57	55	50	52	56	55	50	53	63	-	-
18:00	52	64	57	51	56	55	51	52	53	54	49	47	62	-	-
19:00	50	53	53	53	56	51	50	52	54	51	51	47	57	-	-
20:00	52	45	53	54	60	53	57	54	57	53	53	56	56	-	-
21:00	49	57	50	50	58	49	48	50	53	54	46	44	-	-	-
22:00	46	42	42	49	57	48	46	47	51	54	44	41	-	-	-
23:00	45	42	45	48	57	46	43	46	49	52	42	43	-	-	-

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	16-Sep	17-Sep	18-Sep	19-Sep	20-Sep	21-Sep	22-Sep	23-Sep	24-Sep	25-Sep	26-Sep	27-Sep	28-Sep	29-Sep	30-Sep
	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
00:00	-	48	43	42	41	45	-	-	-	49	46	44	43	43	-
01:00	-	43	41	39	41	45	-	-	-	47	43	44	43	40	-
02:00	-	40	36	42	40	46	-	-	-	48	41	44	42	38	-
03:00	-	40	39	49	40	46	-	-	-	50	46	44	42	40	-
04:00	-	39	41	41	37	46	-	-	-	50	46	42	42	42	-
05:00	-	41	46	45	40	43	-	-	-	53	49	44	43	43	-
06:00	-	55	54	57	53	56	-	-	-	57	55	54	56	57	-
07:00	-	50	53	52	56	49	-	-	-	58	53	51	57	52	-
08:00	-	53	55	55	57	56	-	-	-	60	55	49	56	54	-
09:00	-	48	54	67	55	55	-	-	-	71	56	48	54	52	-
10:00	-	47	52	57	54	56	-	-	-	66	53	48	51	50	-
11:00	-	49	55	59	51	54	-	-	-	61	70	46	44	53	-
12:00	-	51	52	60	49	48	-	-	-	64	72	44	46	57	-
13:00	-	48	48	60	48	49	-	-	56	60	52	47	43	68	-
14:00	-	49	60	66	52	45	-	-	70	63	65	47	43	60	-
15:00	-	58	50	63	48	50	-	-	59	61	68	46	53	53	-
16:00	-	56	58	55	50	52	-	-	67	59	57	55	54	72	-
17:00	63	60	59	54	54	52	-	-	72	54	54	54	58	52	-
18:00	64	55	56	54	55	53	-	-	66	51	57	54	56	52	-
19:00	52	49	55	48	58	55	-	-	64	58	59	61	57	58	-
20:00	60	58	48	59	60	58	-	-	52	51	49	45	41	51	-
21:00	45	46	45	45	50	52	-	-	50	49	48	41	42	-	-
22:00	45	45	45	43	48	-	-	-	50	48	48	44	42	-	-
23:00	45	43	43	43	47	-	-	-	50	45	45	44	44	-	-



Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01-Oct	02-Oct	03-Oct	04-Oct	05-Oct	06-Oct	07-Oct	08-Oct	09-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	15-Oct
	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed
00:00	-	-	-	43	46	41	44	39	40	50	38	41	38	39	38
01:00	-	-	-	42	44	39	41	37	39	53	39	43	37	36	36
02:00	-	-	-	39	45	37	38	37	39	53	40	42	38	35	35
03:00	-	-	-	41	45	39	37	37	44	54	38	41	38	37	36
04:00	-	-	-	44	45	40	37	37	40	54	38	37	40	38	37
05:00	-	-	-	45	44	45	42	41	45	53	41	40	46	41	40
06:00	-	-	-	49	46	52	48	48	51	52	45	49	55	47	46
07:00	-	-	-	51	49	53	59	50	51	53	52	48	51	50	48
08:00	-	-	-	52	50	52	52	52	54	54	52	45	54	55	52
09:00	-	-	-	52	49	55	51	53	57	54	51	46	52	56	52
10:00	-	-	-	54	47	52	52	48	54	55	50	48	52	56	53
11:00	-	-	-	53	50	51	47	47	55	54	48	48	53	53	54
12:00	-	-	-	53	51	54	50	47	52	52	47	47	51	54	54
13:00	-	-	49	51	47	48	47	49	55	53	47	48	49	51	51
14:00	-	-	51	50	44	52	47	46	55	53	47	47	50	53	51
15:00	-	-	56	48	47	51	51	49	56	51	47	47	50	50	52
16:00	-	-	54	51	47	53	48	48	54	48	49	47	50	47	53
17:00	-	-	55	52	50	53	46	46	52	47	50	48	48	45	51
18:00	-	-	47	46	48	51	47	50	52	47	52	51	51	51	47
19:00	-	-	52	43	53	51	52	54	51	42	47	44	47	45	46
20:00	-	-	47	49	48	47	44	46	51	43	44	43	47	45	44
21:00	-	-	45	48	44	47	43	44	49	44	42	45	45	44	43
22:00	-	-	45	47	42	47	42	43	48	44	43	42	46	43	42
23:00	-	-	43	45	44	46	41	42	50	40	40	39	43	41	41

Time	Noise Level, dB $L_{Aeq,1hour}$ on date															
	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct
	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri
00:00	40	40	41	42	51	38	42	49	41	44	48	41	42	40	45	46
01:00	37	40	40	43	54	38	40	51	41	42	49	39	37	37	45	46
02:00	36	40	41	43	55	38	44	52	39	42	46	40	38	36	48	46
03:00	38	39	42	45	56	42	40	54	41	46	46	40	36	35	57	45
04:00	39	42	40	40	53	44	42	54	41	47	40	41	39	37	55	46
05:00	43	45	42	41	55	44	45	55	45	47	41	40	39	40	58	45
06:00	48	50	44	45	53	46	48	55	50	53	41	39	42	47	58	48
07:00	51	51	47	47	54	50	51	56	50	54	41	43	47	49	59	51
08:00	57	53	50	52	55	60	53	57	54	57	50	47	48	52	58	53
09:00	56	54	49	52	57	55	52	58	53	58	49	49	50	54	58	53
10:00	54	51	49	54	58	50	54	62	52	59	48	46	53	54	57	55
11:00	57	51	49	55	59	52	59	60	54	59	55	47	58	53	57	52
12:00	55	52	51	56	56	52	65	58	53	57	53	51	58	56	57	54
13:00	52	48	50	56	55	56	73	59	52	56	52	51	56	58	57	54
14:00	52	49	47	56	56	52	63	60	53	54	51	46	54	54	55	55
15:00	55	49	52	55	57	52	64	60	56	53	54	47	55	50	57	53
16:00	55	61	45	54	55	52	53	59	53	52	51	48	55	51	57	54
17:00	50	51	49	53	55	51	51	55	51	51	47	44	54	49	57	51
18:00	52	47	50	51	50	48	51	56	51	49	46	45	47	49	52	51
19:00	45	47	45	50	47	47	50	52	48	47	45	43	48	48	51	50
20:00	43	46	44	48	44	46	48	49	48	47	44	44	46	45	51	49
21:00	43	44	43	47	48	45	47	46	47	47	45	44	44	44	50	49
22:00	43	44	43	46	43	44	48	44	46	47	41	42	44	46	48	48
23:00	43	43	43	47	41	45	47	44	45	51	40	41	42	47	48	46

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01-Nov	02-Nov	03-Nov	04-Nov	05-Nov	06-Nov	07-Nov	08-Nov	09-Nov	10-Nov	11-Nov	12-Nov	13-Nov	14-Nov	15-Nov
	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
00:00	46	43	46	47	42	44	51	45	46	50	46	40	42	41	44
01:00	45	42	46	44	41	40	52	44	46	50	48	41	42	41	44
02:00	47	41	46	44	38	39	44	43	51	50	49	39	41	41	44
03:00	45	40	46	43	39	38	39	44	48	45	50	39	40	40	42
04:00	44	41	46	44	40	39	41	43	47	47	46	40	44	44	40
05:00	45	42	47	44	42	44	46	42	44	49	48	41	45	45	40
06:00	46	44	51	49	48	49	51	44	43	51	52	50	53	49	40
07:00	48	46	52	50	49	50	54	48	45	52	51	48	50	50	43
08:00	52	48	55	52	52	52	54	49	48	55	53	54	52	52	49
09:00	55	48	58	57	52	54	55	50	47	53	58	54	53	52	49
10:00	52	48	54	54	51	51	54	48	48	53	52	54	51	51	49
11:00	53	46	54	57	50	54	54	51	50	53	51	55	60	52	44
12:00	66	43	72	60	53	53	54	51	51	53	52	58	62	54	43
13:00	72	47	68	64	54	52	54	52	50	53	53	54	60	55	44
14:00	48	46	53	56	52	53	53	52	50	55	53	58	56	59	44
15:00	48	50	57	56	52	53	52	53	49	55	52	61	61	53	49
16:00	49	48	58	56	54	54	52	57	51	54	50	54	50	52	47
17:00	49	47	57	56	54	55	52	50	45	53	48	52	48	52	45
18:00	46	48	48	51	52	53	51	49	47	53	46	50	48	50	44
19:00	46	48	52	51	50	52	50	50	48	53	48	50	52	49	45
20:00	46	50	52	51	49	51	49	50	48	50	45	55	48	48	43
21:00	44	49	52	48	48	51	48	49	50	48	48	46	46	48	43
22:00	43	48	50	48	49	51	48	49	51	49	47	45	45	48	40
23:00	43	45	51	47	48	51	46	47	49	46	48	45	44	45	38

Time	Noise Level, dB $L_{Aeq,1hour}$ on date														
	16-Nov	17-Nov	18-Nov	19-Nov	20-Nov	21-Nov	22-Nov	23-Nov	24-Nov	25-Nov	26-Nov	27-Nov	28-Nov	29-Nov	30-Nov
	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun
00:00	38	41	43	41	38	42	39	41	44	46	38	42	43	42	42
01:00	37	43	41	38	37	43	39	40	48	45	36	44	41	41	42
02:00	37	41	39	39	37	43	46	41	49	45	35	42	39	40	40
03:00	37	38	37	45	39	44	41	41	50	45	34	41	39	39	40
04:00	37	38	37	43	42	43	42	41	47	45	35	43	40	37	40
05:00	39	41	40	42	39	43	41	44	47	46	36	45	40	36	37
06:00	42	50	46	46	47	44	41	48	47	47	36	45	43	38	39
07:00	43	49	47	48	43	45	42	49	52	51	48	53	50	39	40
08:00	48	53	52	53	51	48	44	45	51	49	43	47	50	41	43
09:00	50	54	54	57	50	51	49	46	54	51	51	51	53	47	47
10:00	48	52	51	51	49	48	48	48	53	53	48	54	52	49	49
11:00	49	51	48	66	48	50	46	46	53	62	55	50	51	48	48
12:00	47	52	50	51	52	50	47	47	53	47	54	48	47	50	48
13:00	46	51	49	47	48	49	46	48	53	48	51	49	51	50	50
14:00	49	51	50	49	50	50	45	48	52	51	55	47	49	49	49
15:00	52	51	55	51	50	51	49	47	53	51	58	49	52	44	50
16:00	52	52	52	50	52	52	48	45	55	55	57	53	51	43	50
17:00	51	54	48	47	49	50	44	48	51	50	49	49	49	42	45
18:00	51	52	48	44	44	46	42	46	50	44	47	49	46	43	45
19:00	48	45	47	49	47	47	42	44	52	47	47	50	47	44	46
20:00	48	44	44	44	44	46	41	45	49	44	44	47	45	42	45
21:00	47	47	42	40	43	44	41	45	48	41	43	47	43	43	45
22:00	46	48	43	44	43	43	40	47	47	41	43	45	46	43	44
23:00	46	46	45	44	45	40	41	43	49	40	43	45	44	41	43

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01-Dec	02-Dec	03-Dec	04-Dec	05-Dec	06-Dec	07-Dec	08-Dec	09-Dec	10-Dec	11-Dec	12-Dec	13-Dec	14-Dec	15-Dec
	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon
00:00	43	40	-	-	-	-	-	-	-	-	-	-	44	44	45
01:00	44	45	-	-	-	-	-	-	-	-	-	-	42	44	45
02:00	41	37	-	-	-	-	-	-	-	-	-	-	42	43	45
03:00	43	38	-	-	-	-	-	-	-	-	-	-	42	45	43
04:00	44	39	-	-	-	-	-	-	-	-	-	-	41	42	42
05:00	44	38	-	-	-	-	-	-	-	-	-	-	42	44	42
06:00	46	41	-	-	-	-	-	-	-	-	-	-	41	42	49
07:00	53	47	-	-	-	-	-	-	-	-	-	-	43	45	50
08:00	50	48	-	-	-	-	-	-	-	-	-	-	45	44	52
09:00	53	54	-	-	-	-	-	-	-	-	-	-	48	48	58
10:00	55	51	-	-	-	-	-	-	-	-	-	-	52	44	56
11:00	51	49	-	-	-	-	-	-	-	-	-	-	49	46	58
12:00	57	-	-	-	-	-	-	-	-	-	-	59	46	45	58
13:00	55	-	-	-	-	-	-	-	-	-	-	58	46	44	56
14:00	58	-	-	-	-	-	-	-	-	-	-	59	45	46	57
15:00	54	-	-	-	-	-	-	-	-	-	-	55	48	49	58
16:00	57	-	-	-	-	-	-	-	-	-	-	54	44	49	61
17:00	52	-	-	-	-	-	-	-	-	-	-	53	43	47	58
18:00	48	-	-	-	-	-	-	-	-	-	-	51	43	47	49
19:00	48	-	-	-	-	-	-	-	-	-	-	50	46	47	49
20:00	47	-	-	-	-	-	-	-	-	-	-	48	43	48	50
21:00	48	-	-	-	-	-	-	-	-	-	-	45	45	46	46
22:00	42	-	-	-	-	-	-	-	-	-	-	45	43	47	45
23:00	41	-	-	-	-	-	-	-	-	-	-	43	43	45	45

For inspection purposes only.  
Consent of copyright owner required for any other use.

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date															
	16-Dec	17-Dec	18-Dec	19-Dec	20-Dec	21-Dec	22-Dec	23-Dec	24-Dec	25-Dec	26-Dec	27-Dec	28-Dec	29-Dec	30-Dec	31-Dec
	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed
00:00	42	42	43	41	42	44	42	43	46	47	46	46	48	47	44	46
01:00	44	41	43	41	41	44	40	43	45	46	45	45	48	46	42	45
02:00	39	40	42	41	41	44	37	41	42	46	42	46	48	46	43	44
03:00	39	39	42	42	42	45	36	41	43	40	41	45	47	46	43	42
04:00	40	42	42	41	42	44	38	42	42	39	38	44	46	45	42	41
05:00	43	43	45	44	40	44	41	43	40	36	38	44	45	44	40	41
06:00	49	49	50	50	40	45	44	47	38	36	40	44	44	44	42	43
07:00	50	50	51	51	42	48	50	50	44	40	41	44	45	45	44	46
08:00	58	56	52	53	43	46	50	50	44	42	41	45	46	48	45	47
09:00	60	56	55	55	49	48	55	53	47	43	42	47	48	50	49	49
10:00	55	54	52	53	50	48	54	51	51	51	48	49	48	52	49	51
11:00	56	56	52	55	53	49	52	52	50	54	51	48	50	50	50	52
12:00	57	53	56	56	54	49	54	54	54	51	48	49	51	48	49	52
13:00	53	54	54	56	51	49	53	54	46	49	49	50	51	49	48	51
14:00	53	54	50	56	49	50	55	55	45	47	49	51	50	49	49	52
15:00	49	55	50	57	49	50	53	53	50	49	48	52	51	50	54	52
16:00	52	55	54	57	49	47	54	51	52	48	49	52	51	50	53	52
17:00	49	52	49	57	47	46	53	51	49	47	48	53	51	49	53	52
18:00	50	50	47	57	48	45	50	51	48	48	48	51	50	49	52	51
19:00	49	50	50	56	48	45	51	51	47	47	48	51	50	49	52	50
20:00	50	50	50	51	48	45	50	49	47	49	48	50	49	48	51	49
21:00	45	46	46	47	47	44	49	48	48	47	47	50	48	47	49	48
22:00	44	46	45	44	45	43	47	48	47	46	47	49	48	46	49	50
23:00	45	45	48	41	44	42	45	47	49	46	48	48	48	44	48	46

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01-Jan	02-Jan	03-Jan	04-Jan	05-Jan	06-Jan	07-Jan	08-Jan	09-Jan	10-Jan	11-Jan	12-Jan	13-Jan	14-Jan	15-Jan
	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs
00:00	49	45	47	43	39	46	39	47	49	48	46	43	48	47	48
01:00	54	44	45	40	40	44	39	51	48	47	45	43	47	46	49
02:00	44	42	43	36	39	42	38	44	49	45	42	43	45	43	48
03:00	44	41	44	40	42	40	36	46	47	45	45	44	45	42	47
04:00	44	43	43	40	43	40	39	47	48	44	44	46	44	44	49
05:00	43	42	42	38	44	41	46	47	48	45	44	47	46	48	51
06:00	41	43	41	36	48	43	47	48	49	45	45	50	48	50	52
07:00	42	44	42	37	51	46	51	49	51	46	46	52	50	53	56
08:00	42	46	45	37	55	51	53	49	53	49	45	55	53	55	65
09:00	42	50	47	37	54	52	51	49	56	50	46	52	53	53	64
10:00	44	51	49	45	55	51	52	50	57	51	49	54	53	54	66
11:00	46	51	49	41	54	48	52	50	54	51	48	54	51	52	65
12:00	47	51	48	43	55	49	52	51	54	50	48	54	52	52	63
13:00	49	51	49	41	54	47	51	56	54	51	48	53	50	52	65
14:00	49	51	49	42	53	46	53	56	56	51	49	53	51	53	64
15:00	50	52	47	45	54	47	52	55	56	52	50	54	50	53	60
16:00	50	53	48	47	54	47	49	57	57	50	52	53	51	51	60
17:00	49	53	49	45	54	47	50	57	57	50	49	53	51	51	58
18:00	48	52	48	48	54	47	50	55	56	49	51	52	51	51	54
19:00	48	52	47	47	53	46	50	53	55	49	50	52	50	50	51
20:00	47	51	45	43	51	44	49	53	55	47	49	51	49	49	49
21:00	47	50	43	43	49	43	47	52	53	46	48	50	48	48	48
22:00	46	49	43	43	49	42	46	51	52	46	48	50	47	48	47
23:00	46	48	44	41	46	41	47	50	50	46	45	48	46	47	47

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date															
	16-Jan	17-Jan	18-Jan	19-Jan	20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan	27-Jan	28-Jan	29-Jan	30-Jan	31-Jan
	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
00:00	45	44	45	43	47	48	46	43	45	47	46	46	38	46	56	50
01:00	42	43	44	43	48	47	46	43	43	46	46	46	38	47	59	49
02:00	42	43	43	42	45	45	45	42	45	45	44	44	37	45	63	47
03:00	41	43	45	41	45	44	43	42	44	46	45	43	36	47	60	46
04:00	41	42	44	42	45	46	43	42	42	45	46	44	41	50	59	45
05:00	41	42	44	43	47	47	44	44	44	44	46	45	48	52	61	47
06:00	44	42	44	48	51	49	46	48	41	44	50	46	49	55	60	48
07:00	47	44	46	55	53	52	49	50	47	46	60	47	53	55	63	50
08:00	51	46	45	57	66	54	53	52	46	46	59	54	54	55	62	53
09:00	58	49	47	60	67	55	54	56	46	48	62	52	52	55	59	53
10:00	63	51	47	60	65	56	57	57	52	48	63	54	52	55	57	52
11:00	62	51	47	60	65	56	57	57	51	49	62	53	52	54	58	53
12:00	63	50	47	60	66	56	56	58	51	49	65	51	52	54	57	53
13:00	63	49	47	59	64	53	56	58	53	49	63	48	51	54	57	54
14:00	64	48	49	60	65	54	64	59	52	49	65	54	54	56	61	54
15:00	65	50	50	60	62	55	63	60	50	51	63	48	51	56	60	56
16:00	65	47	49	61	63	56	54	60	50	50	65	50	50	61	61	52
17:00	65	47	48	59	62	54	51	59	53	49	62	51	51	64	62	52
18:00	64	47	48	56	63	53	49	59	48	49	58	48	51	64	61	49
19:00	55	48	48	56	62	49	49	55	48	49	58	46	49	61	58	50
20:00	53	46	48	50	52	48	49	52	47	48	52	45	48	62	58	49
21:00	50	46	46	48	50	47	47	49	47	47	51	43	46	61	55	49
22:00	48	45	46	47	49	47	46	46	46	47	48	42	45	61	54	48
23:00	46	45	44	46	49	47	45	44	46	46	47	39	49	58	52	48



Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01-Feb	02-Feb	03-Feb	04-Feb	05-Feb	06-Feb	07-Feb	08-Feb	09-Feb	10-Feb	11-Feb	12-Feb	13-Feb	14-Feb	15-Feb
	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
00:00	50	47	49	55	45	41	42	43	39	41	39	43	54	50	50
01:00	49	47	50	53	45	41	39	45	39	42	38	42	54	49	51
02:00	49	47	48	47	45	39	39	43	38	40	37	40	53	49	51
03:00	49	46	50	47	44	39	41	41	40	38	38	42	48	49	51
04:00	49	49	49	48	44	41	43	38	40	37	42	45	46	49	56
05:00	50	50	51	50	45	43	41	39	46	46	49	50	53	51	59
06:00	53	53	53	53	49	49	43	39	51	45	50	53	54	52	60
07:00	55	53	54	55	49	50	48	46	51	51	51	50	55	54	60
08:00	54	54	56	56	54	53	47	46	50	53	51	46	56	55	55
09:00	54	50	55	56	52	54	47	47	48	54	52	45	57	53	51
10:00	54	52	54	56	50	49	46	48	45	39	50	30	53	53	52
11:00	55	53	54	53	51	51	53	49	49	55	46	50	52	53	52
12:00	54	53	55	52	52	55	47	48	48	54	26	54	54	53	52
13:00	54	52	55	53	50	56	59	49	45	56	52	53	55	53	52
14:00	56	53	54	53	53	61	58	49	43	56	53	58	55	52	54
15:00	55	54	55	53	51	48	53	48	53	53	54	56	55	54	52
16:00	57	52	56	54	51	47	48	50	50	52	54	56	55	54	52
17:00	53	52	56	52	52	44	43	49	46	52	52	55	52	53	53
18:00	54	51	59	52	48	48	43	48	49	52	54	54	52	52	59
19:00	54	51	57	50	47	43	44	47	47	47	52	53	53	51	52
20:00	55	50	58	49	46	42	44	46	51	46	50	50	54	51	52
21:00	53	51	57	49	44	43	41	45	46	45	52	50	51	51	53
22:00	53	51	57	49	43	40	42	43	46	48	52	55	52	50	52
23:00	49	50	56	47	42	41	40	42	50	41	47	54	54	50	50

Time	Noise Level, dB $L_{Aeq,1hour}$ on date													
	16-Feb	17-Feb	18-Feb	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb	24-Feb	25-Feb	26-Feb	27-Feb	28-Feb	
	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	
00:00	49	50	49	50	52	49	49	49	50	55	27	51	51	
01:00	52	51	49	50	51	49	49	48	50	53	23	51	51	
02:00	51	52	49	49	50	49	49	48	50	50	29	51	52	
03:00	48	53	49	49	52	49	49	48	50	49	28	50	58	
04:00	41	53	51	49	53	48	49	48	51	50	33	50	57	
05:00	27	52	51	50	54	49	49	49	53	52	32	51	57	
06:00	21	49	54	53	53	49	49	53	51	53	43	54	57	
07:00	30	53	54	53	54	52	51	53	52	53	53	55	58	
08:00	31	51	55	55	57	53	51	53	53	53	53	55	57	
09:00	57	54	55	54	52	53	53	53	51	52	53	58	57	
10:00	54	53	55	54	52	52	52	52	51	53	53	54	55	
11:00	55	54	55	55	52	52	50	52	52	51	57	54	54	
12:00	53	55	53	54	50	51	51	53	53	52	53	53	55	
13:00	54	53	53	53	52	51	49	52	51	52	54	53	55	
14:00	54	54	54	51	51	52	51	53	52	56	54	53	55	
15:00	53	54	53	53	51	53	50	56	53	53	54	54	54	
16:00	53	55	53	51	53	54	53	53	53	49	54	55	54	
17:00	52	52	53	50	51	53	53	52	52	45	54	55	54	
18:00	52	51	52	52	51	51	53	54	52	38	54	53	54	
19:00	51	50	51	51	48	51	52	50	51	21	54	53	53	
20:00	51	49	54	51	53	50	50	47	50	23	54	53	52	
21:00	52	49	54	52	51	49	50	49	51	28	52	53	50	
22:00	51	49	50	53	50	49	49	52	50	35	52	52	50	
23:00	51	49	50	51	49	49	49	47	53	29	51	52	51	

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01-Mar	02-Mar	03-Mar	04-Mar	05-Mar	06-Mar	07-Mar	08-Mar	09-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar	15-Mar
	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
00:00	52	38	48	48	50	49	49	52	51	49	49	50	47	50	39
01:00	50	36	48	48	49	49	49	50	49	49	49	50	50	50	41
02:00	50	35	48	48	49	49	49	51	50	49	49	49	50	50	40
03:00	50	36	48	47	49	49	49	49	49	49	48	49	52	50	40
04:00	49	39	48	47	49	49	50	43	46	49	49	49	52	50	40
05:00	48	48	52	48	51	51	51	41	45	52	50	50	51	50	40
06:00	52	48	54	49	53	54	53	43	49	51	55	53	52	51	47
07:00	52	49	56	50	54	54	52	50	52	52	54	52	54	56	50
08:00	52	46	56	49	55	54	52	52	54	56	53	54	54	56	48
09:00	52	47	55	50	55	56	53	52	55	53	56	52	54	53	46
10:00	54	54	53	51	52	53	62	52	53	52	53	52	53	57	48
11:00	52	53	54	52	59	56	63	56	54	51	53	53	53	58	49
12:00	51	54	53	52	56	53	62	56	54	51	50	53	54	58	49
13:00	50	57	53	52	56	54	65	56	53	51	52	52	53	65	49
14:00	52	57	54	54	53	52	67	53	55	52	52	52	54	52	50
15:00	47	57	52	53	53	55	53	56	55	53	55	53	56	60	53
16:00	46	54	51	54	53	52	53	52	55	51	54	52	54	55	51
17:00	46	54	50	54	54	51	52	53	55	53	53	54	54	50	49
18:00	47	51	52	52	53	51	52	53	53	54	53	53	54	48	49
19:00	46	51	50	51	51	50	54	53	51	52	52	51	52	44	49
20:00	44	52	49	51	51	50	56	53	50	50	51	51	52	43	47
21:00	42	52	50	50	50	50	52	51	50	50	50	50	51	43	48
22:00	41	50	50	51	50	50	52	50	51	49	50	52	51	42	47
23:00	39	49	46	50	50	49	54	51	50	49	50	50	50	42	45

Time	Noise Level, dB $L_{Aeq,1hour}$ on date															
	16-Mar	17-Mar	18-Mar	19-Mar	20-Mar	21-Mar	22-Mar	23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar	29-Mar	30-Mar	31-Mar
	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tue
00:00	44	50	48	49	49	50	50	48	41	51	43	43	51	42	36	39
01:00	44	51	48	49	49	50	47	53	40	51	45	44	53	42	38	38
02:00	43	50	47	49	49	48	49	52	41	48	45	44	54	41	35	37
03:00	44	52	48	49	50	49	51	58	40	48	45	43	54	41	34	38
04:00	44	52	49	48	50	46	51	62	40	43	47	43	55	42	36	41
05:00	44	52	48	49	50	50	51	62	42	46	47	43	52	44	48	50
06:00	50	52	54	52	54	50	51	62	49	53	49	51	51	48	50	50
07:00	54	51	57	53	54	50	50	60	51	48	52	50	52	48	50	51
08:00	52	52	57	55	56	50	51	59	52	51	53	50	54	47	51	48
09:00	53	51	51	54	57	52	58	61	53	54	52	52	56	46	50	49
10:00	53	52	50	54	54	49	50	56	55	53	54	51	57	47	50	47
11:00	53	55	48	55	57	52	50	57	53	54	54	51	56	48	53	50
12:00	55	52	49	56	60	52	50	57	52	53	57	52	52	55	54	48
13:00	54	52	49	56	55	52	54	56	53	51	54	50	51	51	49	47
14:00	49	52	47	57	59	51	53	59	50	54	55	51	50	49	49	50
15:00	50	53	52	57	62	54	56	56	54	54	52	52	50	50	49	49
16:00	48	54	54	56	54	52	52	58	52	49	53	51	49	49	48	51
17:00	47	51	53	54	54	51	54	61	50	50	52	52	49	50	48	50
18:00	50	51	52	53	52	52	51	57	52	49	50	49	45	49	48	53
19:00	54	53	53	52	54	51	45	47	51	45	49	49	43	47	48	51
20:00	51	51	51	51	53	50	49	46	50	45	45	45	42	44	46	48
21:00	51	52	50	51	51	50	45	44	48	44	44	47	38	43	44	44
22:00	50	52	50	54	50	50	54	44	53	45	43	47	44	41	43	43
23:00	50	49	49	50	50	50	49	42	50	42	42	46	44	39	41	40

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01-Apr	02-Apr	03-Apr	04-Apr	05-Apr	06-Apr	07-Apr	08-Apr	09-Apr	10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr
	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed
00:00	39	43	43	46	43	43	42	59	54	47	43	45	47	44	47
01:00	38	43	44	46	43	42	40	57	53	43	41	43	48	42	46
02:00	36	45	43	40	43	42	40	50	46	40	42	45	48	42	46
03:00	38	45	45	40	44	43	40	49	42	41	43	42	46	41	46
04:00	43	46	47	42	40	45	42	46	45	46	46	45	46	47	49
05:00	51	52	52	46	45	51	50	55	51	52	51	51	50	52	53
06:00	53	52	57	48	47	54	51	69	51	52	51	49	50	51	52
07:00	68	53	61	58	47	55	53	65	54	53	50	48	50	54	55
08:00	52	52	53	62	47	55	51	68	53	51	50	47	52	55	54
09:00	51	49	52	50	48	55	51	60	57	48	50	48	52	55	54
10:00	50	48	51	64	48	56	50	65	58	50	51	48	54	55	55
11:00	51	48	65	62	49	55	50	67	57	50	52	50	54	56	55
12:00	49	50	53	50	54	55	50	51	56	56	51	51	55	55	55
13:00	52	51	51	48	49	55	52	50	57	51	52	51	55	55	55
14:00	50	51	65	50	50	55	52	51	57	50	52	50	55	55	57
15:00	49	52	58	46	49	53	52	49	56	50	53	51	55	56	56
16:00	49	52	62	46	51	53	54	49	57	51	54	54	55	56	56
17:00	49	52	68	46	51	51	53	51	56	51	52	53	55	55	56
18:00	51	51	64	46	50	52	53	51	54	51	49	52	54	52	55
19:00	51	49	59	48	49	49	54	51	53	50	51	52	52	49	54
20:00	48	48	47	45	46	47	55	48	51	49	47	51	50	47	53
21:00	45	48	50	44	46	46	54	49	50	47	46	49	49	48	52
22:00	44	48	44	43	46	45	62	46	49	45	47	48	47	49	51
23:00	43	44	44	43	45	42	58	45	47	45	45	47	46	47	53

Time	Noise Level, dB $L_{Aeq,1hour}$ on date														
	16-Apr	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr	26-Apr	27-Apr	28-Apr	29-Apr	30-Apr
	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tue	Wed	Thurs
00:00	53	47	48	46	39	41	43	40	42	47	44	43	46	46	41
01:00	53	46	47	46	40	40	42	41	41	44	44	38	45	45	43
02:00	52	47	47	46	39	41	41	41	43	45	45	38	45	46	44
03:00	48	48	46	46	41	42	40	40	44	46	40	39	46	46	42
04:00	50	50	49	50	47	49	46	46	49	50	46	49	50	51	53
05:00	55	54	51	51	54	53	51	51	52	51	49	51	54	53	52
06:00	54	54	52	51	52	51	51	50	54	51	48	52	53	53	54
07:00	56	56	52	51	51	55	54	52	55	53	49	52	55	58	54
08:00	56	56	53	51	51	54	55	53	53	54	48	52	54	53	54
09:00	56	55	53	50	50	51	53	51	52	54	50	51	53	52	53
10:00	56	56	52	50	53	52	55	54	51	54	50	52	55	54	53
11:00	56	57	53	51	53	53	54	54	51	54	50	56	55	53	53
12:00	55	56	54	52	53	51	54	53	48	51	51	51	52	53	53
13:00	56	55	54	52	56	51	54	53	49	50	51	52	53	54	53
14:00	54	55	54	52	55	53	55	53	51	51	50	56	53	58	52
15:00	55	54	52	52	54	52	53	52	52	49	50	55	55	54	53
16:00	55	53	52	52	52	49	53	51	49	50	50	51	53	54	56
17:00	54	54	51	52	52	50	52	52	50	50	51	52	51	56	56
18:00	53	53	51	51	51	48	51	52	48	50	51	50	51	53	58
19:00	52	52	52	51	50	49	51	47	47	49	50	50	49	53	55
20:00	50	49	48	47	46	48	48	43	43	46	47	47	44	52	52
21:00	50	48	48	44	44	48	45	45	44	44	46	44	45	49	50
22:00	48	47	48	45	43	46	44	44	46	43	44	46	46	45	47
23:00	47	47	45	42	41	45	42	42	46	42	41	46	46	42	45

Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01-May	02-May	03-May	04-May	05-May	06-May	07-May	08-May	09-May	10-May	11-May	12-May	13-May	14-May	15-May
	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri
00:00	43	43	38	40	35	41	39	49	43	41	48	50	46	47	47
01:00	43	41	39	41	35	42	39	48	42	41	46	52	45	43	49
02:00	43	40	37	41	40	41	40	50	42	45	45	54	45	44	47
03:00	46	45	45	43	45	46	48	53	49	50	51	55	53	50	49
04:00	54	50	50	51	53	53	54	57	53	56	57	61	57	55	56
05:00	56	51	51	52	52	52	54	55	52	54	56	61	58	55	54
06:00	58	53	51	53	54	53	55	55	53	56	56	59	63	56	59
07:00	60	52	51	53	53	54	54	60	53	51	56	58	60	55	57
08:00	60	52	52	52	54	54	53	53	55	55	55	58	58	56	56
09:00	60	52	50	51	53	54	53	54	54	57	56	56	59	54	54
10:00	62	51	52	53	54	54	53	54	53	53	55	57	58	56	55
11:00	62	50	52	52	55	54	54	51	54	52	58	59	59	56	54
12:00	53	52	50	53	55	54	54	53	52	52	58	57	60	63	52
13:00	54	53	52	53	55	54	53	57	53	52	55	55	58	64	53
14:00	54	50	50	52	55	55	54	57	49	51	55	54	57	55	53
15:00	52	51	51	51	55	55	55	55	52	51	56	55	56	56	52
16:00	51	51	50	51	55	54	55	53	52	57	59	56	62	60	51
17:00	52	51	50	53	54	53	57	55	52	56	60	56	55	54	53
18:00	51	50	52	52	54	52	56	52	55	53	58	54	54	53	53
19:00	50	50	50	50	53	54	52	49	50	51	56	54	52	53	50
20:00	45	45	48	43	48	47	50	47	42	49	52	52	50	49	46
21:00	43	44	43	39	45	44	49	45	45	46	50	49	48	48	45
22:00	43	39	41	36	44	43	48	45	43	46	48	49	46	50	45
23:00	43	38	40	40	41	44	50	42	43	48	47	46	47	48	43

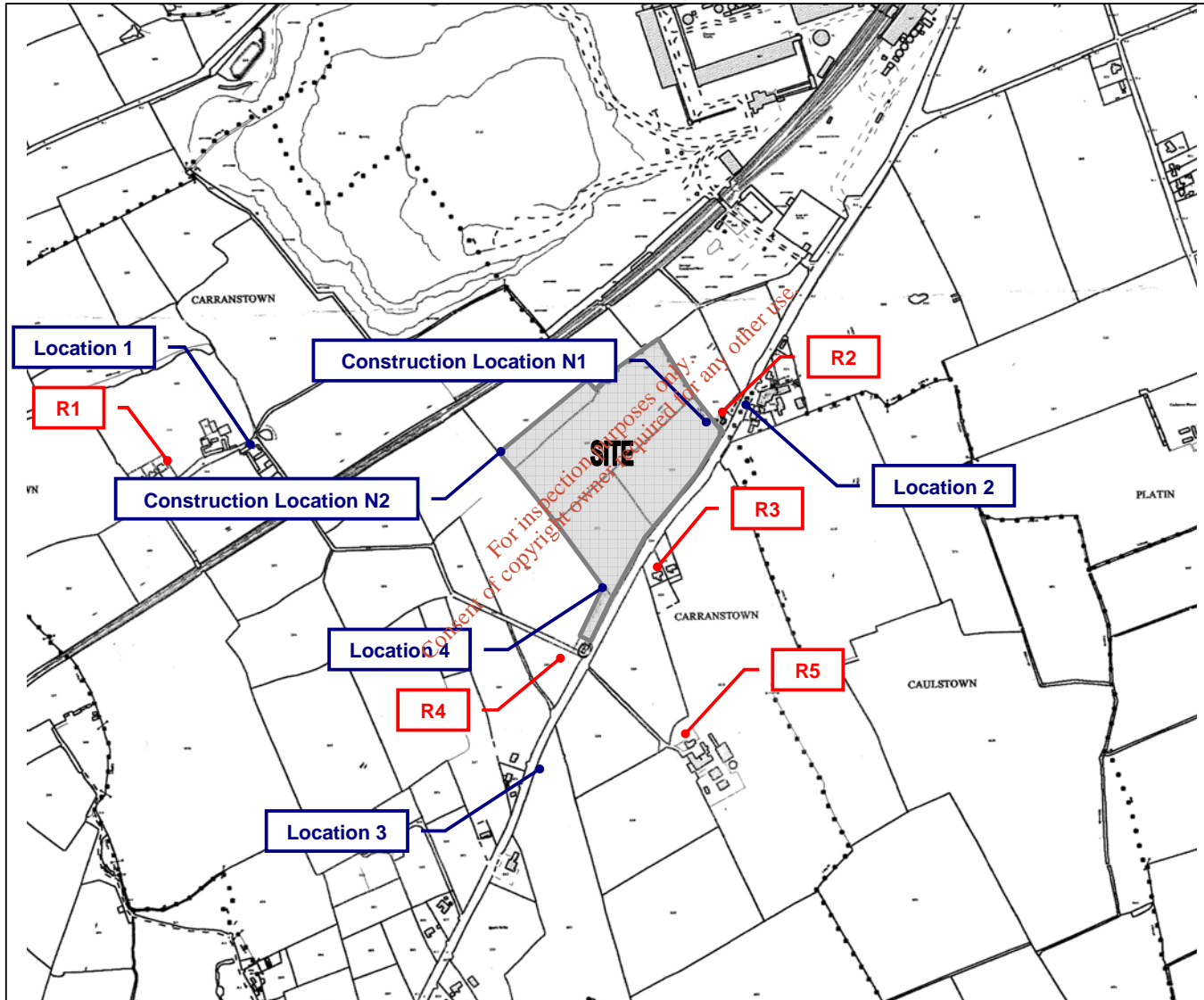
Time	Noise Level, dB $L_{Aeq,1hour}$ on date															
	16-May	17-May	18-May	19-May	20-May	21-May	22-May	23-May	24-May	25-May	26-May	27-May	28-May	29-May	30-May	31-May
	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
00:00	45	48	45	44	43	43	41	46	45	42	40	39	38	43	47	48
01:00	43	47	40	41	42	42	41	44	46	41	39	41	38	41	46	48
02:00	51	48	43	44	41	44	44	43	47	41	41	39	40	43	45	47
03:00	54	53	51	52	53	52	53	53	53	52	52	49	49	48	50	50
04:00	56	55	58	55	52	55	55	53	53	50	51	50	49	47	49	50
05:00	54	57	56	55	53	54	54	54	51	51	53	51	51	50	50	49
06:00	58	57	60	55	54	59	54	54	50	49	52	55	51	50	51	47
07:00	57	60	57	55	54	58	55	55	49	50	51	52	52	50	52	48
08:00	58	55	54	53	52	58	54	57	53	50	53	50	52	51	54	47
09:00	60	54	53	53	52	53	54	54	51	50	55	51	50	52	53	47
10:00	58	54	53	55	52	52	55	54	51	53	49	51	49	51	53	48
11:00	59	56	54	56	54	54	53	53	51	54	51	50	48	52	52	48
12:00	57	57	55	54	53	50	55	51	51	53	49	49	47	50	54	49
13:00	57	57	54	55	53	51	50	51	51	50	51	49	47	51	54	48
14:00	57	57	54	56	55	52	55	53	50	53	49	48	48	50	53	47
15:00	58	56	55	56	56	51	57	54	51	54	51	48	50	54	54	48
16:00	56	52	55	55	57	57	55	56	51	50	49	48	50	55	53	48
17:00	56	54	55	56	56	57	58	57	53	51	51	49	49	52	53	48
18:00	56	50	54	53	57	53	53	53	52	49	50	48	51	52	52	49
19:00	54	50	53	52	54	52	50	51	51	46	49	46	50	50	50	50
20:00	55	49	52	52	49	47	49	49	44	45	47	45	48	49	48	49
21:00	53	44	47	49	44	48	50	47	45	45	44	43	47	48	45	49
22:00	49	47	47	48	48	56	48	45	44	44	42	41	45	44	47	48
23:00	48	45	44	44	45	45	44	45	44	41	40	41	43	45	48	45



Time	Noise Level, dB L <sub>Aeq,1hour</sub> on date														
	01/06/2009	02-Jun	03-Jun	04-Jun	05-Jun	06-Jun	07-Jun	08-Jun	09-Jun	10-Jun	11-Jun	12-Jun	13-Jun	14-Jun	15-Jun
	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon
00:00	44	44	40	45	38	44	46	46	45	43	42	42	43	43	41
01:00	42	42	39	43	39	44	46	45	44	43	41	44	41	42	41
02:00	43	46	41	43	39	43	46	47	45	45	41	45	43	42	42
03:00	49	49	49	49	49	49	49	51	50	51	44	48	47	45	46
04:00	47	50	48	51	47	51	49	51	50	52	47	49	45	43	46
05:00	48	51	49	50	50	50	50	52	52	53	49	51	45	43	53
06:00	46	48	49	49	49	51	52	54	51	49	49	51	47	43	45
07:00	48	46	50	49	49	51	51	57	52	51	51	52	57	44	46
08:00	47	45	51	52	49	54	52	55	53	51	52	52	49	45	45
09:00	47	47	55	57	48	53	51	52	51	51	48	51	48	47	46
10:00	48	45	50	50	50	53	51	52	51	50	59	53	45	46	46
11:00	47	47	51	46	47	56	50	54	51	50	45	52	46	48	49
12:00	48	45	50	52	46	60	51	52	50	52	46	52	45	46	48
13:00	46	48	51	51	52	58	52	52	50	52	50	52	50	49	45
14:00	46	46	50	48	51	57	52	53	49	45	43	53	48	52	44
15:00	47	51	50	50	52	55	52	51	49	50	51	53	49	52	45
16:00	47	51	53	52	51	55	53	51	52	56	52	52	49	49	48
17:00	47	52	50	52	51	52	53	51	53	49	49	51	49	48	48
18:00	48	52	50	52	48	52	58	51	51	50	50	51	46	47	47
19:00	50	52	49	50	48	50	52	49	49	45	49	49	44	46	44
20:00	48	49	46	47	44	49	48	50	48	45	49	47	43	47	45
21:00	47	50	47	44	45	46	46	47	49	44	49	46	43	44	48
22:00	47	42	47	42	43	46	46	47	47	47	44	42	42	43	44
23:00	45	44	46	44	43	46	46	46	43	43	44	41	42	42	41

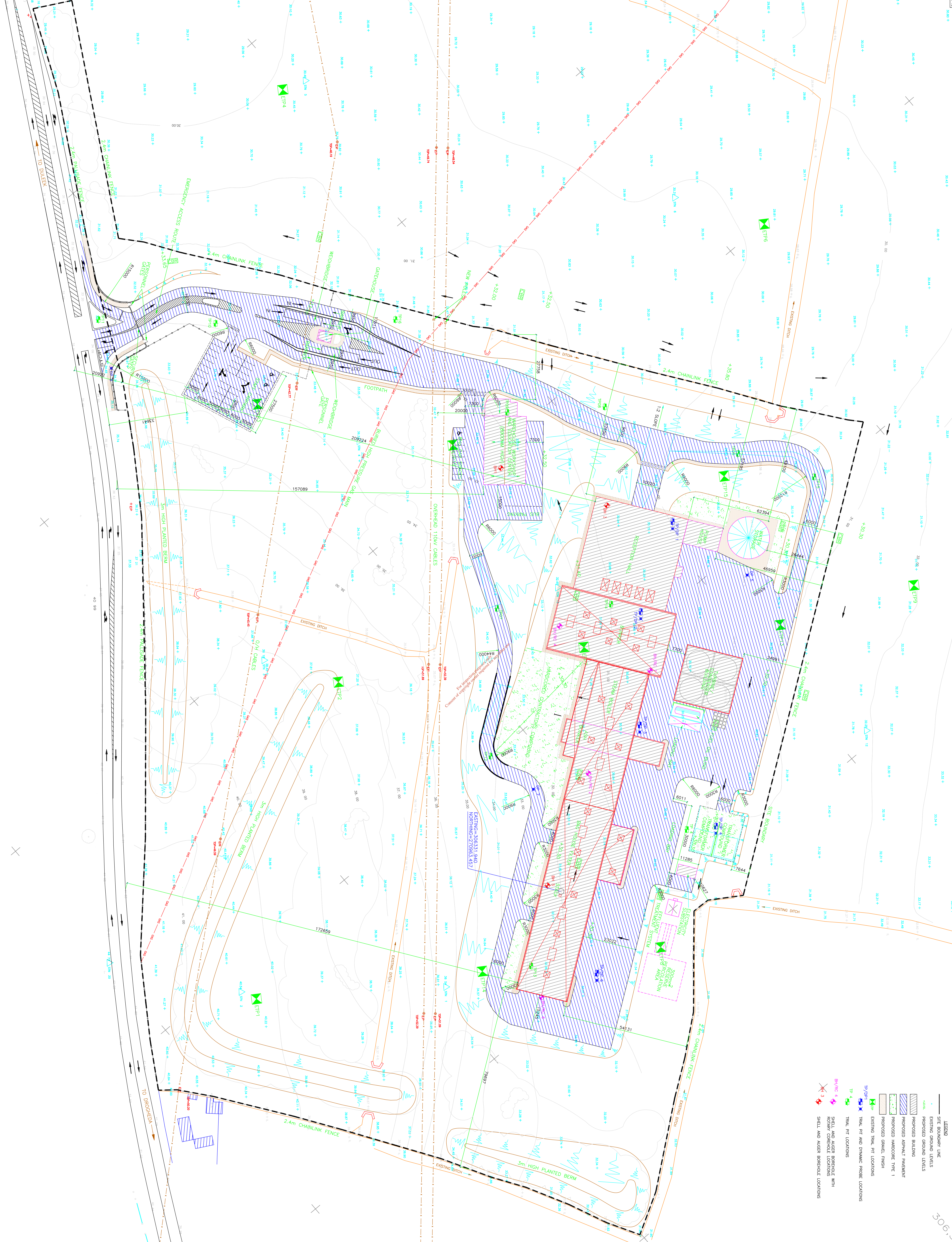
Time	Noise Level, dB $L_{Aeq,1hour}$ on date														
	16-Jun	17-Jun	18-Jun	19-Jun	20-Jun	21-Jun	22-Jun	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun
	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
00:00	40	43	38	39	39	41	34	43	45	45	44	41	44	45	38
01:00	38	45	38	37	38	38	35	43	44	41	42	42	42	43	40
02:00	42	48	41	41	38	39	36	43	44	43	43	42	42	42	41
03:00	45	48	44	43	44	46	47	47	48	48	49	46	47	46	44
04:00	45	51	46	44	41	44	46	49	47	47	48	44	44	48	44
05:00	45	54	52	47	49	41	48	49	48	50	49	42	44	49	48
06:00	44	55	51	49	45	42	44	48	48	51	51	42	43	48	47
07:00	45	55	52	48	51	41	44	49	51	51	51	40	44	48	50
08:00	45	52	50	48	46	41	46	48	50	52	51	40	43	46	48
09:00	45	48	49	48	47	40	47	48	49	51	50	42	45	46	52
10:00	46	45	50	49	49	48	43	47	50	51	49	44	43	49	49
11:00	50	48	51	45	45	41	42	46	49	51	50	46	45	46	49
12:00	49	45	51	46	45	41	51	46	50	50	49	48	44	46	48
13:00	52	49	52	47	45	41	44	47	49	51	47	47	46	46	51
14:00	59	50	53	50	45	40	48	49	50	51	49	48	46	47	53
15:00	60	47	54	47	44	39	45	46	49	52	48	47	52	45	49
16:00	52	49	50	46	44	40	47	47	49	50	47	47	47	48	51
17:00	50	48	49	44	42	48	49	49	50	51	47	48	48	48	52
18:00	49	48	46	49	52	48	49	50	52	51	49	50	49	50	49
19:00	49	49	50	42	48	54	49	48	49	51	46	48	48	50	49
20:00	48	44	46	41	41	42	43	46	49	49	46	46	48	51	47
21:00	50	46	44	49	40	45	43	47	47	48	45	46	46	48	47
22:00	45	45	45	40	41	36	44	47	47	47	43	45	45	42	43
23:00	42	41	40	39	39	34	43	45	45	45	41	44	46	40	41

**FIGURE 8.1**  
Site Layout Showing Noise Survey Locations and Noise Sensitive Locations Assessed



**Appendix 9.1.2**  
**Geotechnical Data Byrne Looby 2007**

For inspection purposes only.  
Consent of copyright owner required for any other use.



- LEGEND**
- SITE BOUNDARY LINE
  - EXISTING GROUND LEVELS
  - PROPOSED GROUND LEVELS
  - ▨ PROPOSED BUILDING
  - ▨ PROPOSED ASPHALT PAVEMENT
  - ▨ PROPOSED HARDCORE TYPE 1
  - ▨ PROPOSED GRAVEL FINISH
  - ▨ EXISTING TRAIL PIT LOCATIONS
  - TP/PT/PTP TRAIL PIT AND DYNAMIC PROBE LOCATIONS
  - TP/PT/PTP TRAIL PIT LOCATIONS
  - TP/PT/PTP TRAIL PIT LOCATIONS WITH SHELL AND AUGER RESPONSE WITH ROTARY CORRELATE LOCATIONS
  - TP/PT/PTP TRAIL PIT LOCATIONS WITH SHELL AND AUGER BORING LOCATIONS

**GENERAL NOTES:**

DATE	BY	REVISION
11/10/20	ML	1
11/10/20	ML	2
11/10/20	ML	3
11/10/20	ML	4
11/10/20	ML	5
11/10/20	ML	6
11/10/20	ML	7
11/10/20	ML	8
11/10/20	ML	9
11/10/20	ML	10
11/10/20	ML	11
11/10/20	ML	12
11/10/20	ML	13
11/10/20	ML	14
11/10/20	ML	15
11/10/20	ML	16
11/10/20	ML	17
11/10/20	ML	18
11/10/20	ML	19
11/10/20	ML	20
11/10/20	ML	21
11/10/20	ML	22
11/10/20	ML	23
11/10/20	ML	24
11/10/20	ML	25
11/10/20	ML	26
11/10/20	ML	27
11/10/20	ML	28
11/10/20	ML	29
11/10/20	ML	30
11/10/20	ML	31
11/10/20	ML	32
11/10/20	ML	33
11/10/20	ML	34
11/10/20	ML	35
11/10/20	ML	36
11/10/20	ML	37
11/10/20	ML	38
11/10/20	ML	39
11/10/20	ML	40
11/10/20	ML	41
11/10/20	ML	42
11/10/20	ML	43
11/10/20	ML	44
11/10/20	ML	45
11/10/20	ML	46
11/10/20	ML	47
11/10/20	ML	48
11/10/20	ML	49
11/10/20	ML	50

**CLIENT:** MC EROY ASSOCIATES

**PROJECT:** BIRNIE LOOBY PARTNERS

**PRODUCT:** SPECIALIST ENGINEERS

**CLIENT ADDRESS:** 145 Cambridge Road, Northcote, VIC 3070

**PROJECT ADDRESS:** 145 Cambridge Road, Northcote, VIC 3070

**CONTACT:** 03 9488 4200

**STATUS:** FOR CONSTRUCTION

**PROJECT NO:** 8580

**DATE:** 01

**SCALE:** 1:500

**DATE:** 01

**SCALE:** 1:500

**DATE:** 01

**SCALE:** 1:500

**Project Name: Carranstown**

**Hole ID: BH 1**

Client:  
 Consultant: BLP  
 Location: Co. Meath  
 Start date: 07/03/2007  
 Type of drilling: CP

Co-ordinates: 0.00  
 Elevation: 0.00  
 Project no. 1440-02-07  
 Drilled by: K.Kolesniak  
 Logged by: F.McNamara

End date: 08/03/2007  
 Hole diameter: 200 mm

Strata Description	Legend	Depth	Level (mOD)	Samples / tests		Water Depth	Date
				Type	Depth		
Stiff grey - brown slightly sandy gravelly CLAY/SILT				SPT-C B	0.50 0.50	N=15	
Stiff grey - brown slightly sandy gravelly CLAY with some cobbles		1.00	-1.00	SPT-C B	1.50 1.50	N=17	
		2		SPT-C B	2.50 2.50	N=18	
		3		SPT-C B	3.50 3.50	N=21	
OBSTRUCTION - Presumed rock End of Borehole at 4.10 m		4.00 4.10	-4.00 -4.10				
		5					
		6					
		7					
		8					
		9					

For inspection purposes only.  
 Consent of copyright owner required for any other use.

Remarks:  
 Chiselling 4.00-4.10 45mins

**KEY**  
 B Bulk disturbed sample.  
 D Small disturbed sample  
 U Undisturbed sample  
 SPT-S Standard Penetration Test, split spoon.  
 SPT-C Standard Penetration Test, solid cone.  
 ▼ Groundwater strike  
 ▲ Water level 20mins after strike.



**Project Name: Carranstown**

**Hole ID: BH 2**

Client:  
 Consultant: BLP  
 Location: Co. Meath  
 Start date: 13/03/2007  
 Type of drilling: CP

End date: 13/03/2007  
 Hole diameter: 200 mm

Co-ordinates: 0.00  
 Elevation: 0.00  
 Project no. 1440-02-07  
 Drilled by: K.Kolesniak  
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests		Water Depth	Date
				Type	Depth		
Stiff grey - brown slightly sandy gravelly CLAY/SILT with occasional cobbles		1	0.50	SPT-C B	0.50	N=16	
		2	1.50	SPT-C B	1.50	N=16	
		3	2.50	SPT-C B	2.50	N=19	
		4	3.50	SPT-C B	3.50	N=19	
End of Borehole at 4.50 m		4.50	-4.50				
		5					
		6					
		7					
		8					
		9					

For inspection purposes only.  
 Consent of copyright owner required for any other use.

**Remarks:**  
 No groundwater encountered

**KEY**  
 B Bulk disturbed sample.  
 D Small disturbed sample  
 U Undisturbed sample  
 SPT-S Standard Penetration Test, split spoon.  
 SPT-C Standard Penetration Test, solid cone.  
 Groundwater strike  
 Water level 20mins after strike.



**Project Name: Carranstown**

**Hole ID: BH 3**

Client:  
 Consultant: BLP  
 Location: Co. Meath  
 Start date: 08/03/2007      End date: 09/03/2007  
 Type of drilling: CP      Hole diameter: 200 mm

Co-ordinates: 0.00  
 Elevation: 0.00  
 Project no. 1440-02-07  
 Drilled by: K.Kolesniak  
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests		Water Depth	Date
				Type	Depth		
Soft CLAY TOPSOIL							
Stiff grey - brown slightly sandy gravelly CLAY/SILT		0.50	-0.50	SPT-C B	0.50 0.50	N=14	
		1.50		SPT-C B	1.50 1.50	N=17	
		2.50		SPT-C B	2.50 2.50	N=18	
Stiff grey - brown slightly sandy gravelly CLAY/SILT with angular cobbles		3.50	-3.00	SPT-C B	3.50 3.50	N=20	
		4.50	-4.50	SPT-C	4.50	50/5mm	
OBSTRUCTION- Presumed rock End of Borehole at 4.50 m		4.40 4.50	-4.40 -4.50	SPT-C	4.50	50/5mm	

Consent of copyright owner required for any other use.  
 For inspection purposes only.

**Remarks:**  
 No groundwater encountered  
 Chiselling 4.40-4.50 45mins,  
 standpipe installed to 4.50mBGL with pea gravel surround, bentonite seal and cover.

**KEY**  
 B Bulk disturbed sample.  
 D Small disturbed sample  
 U Undisturbed sample  
 SPT-S Standard Penetration Test, split spoon.  
 SPT-C Standard Penetration Test, solid cone.  
 Groundwater strike  
 Water level 20mins after strike.





**Project Name: Carranstown**

**Hole ID: BH 4**

Client:  
 Consultant: BLP  
 Location: Co. Meath  
 Start date: 06/03/2007      End date: 06/03/2007  
 Type of drilling: CP      Hole diameter: 200 mm

Co-ordinates: 0.00  
 Elevation: 0.00  
 Project no. 1440-02-07  
 Drilled by: K.Kolesniak  
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests		Water Depth	Date
				Type	Depth		
Stiff grey-brown slightly sandy gravelly CLAY		0.50	0.50	SPT-C B	0.50	N=21	
Stiff grey-brown sandy slightly gravelly CLAY/SILT		1.50	1.50	SPT-C B	1.50	N=17	
OBSTRUCTION - possible rock End of Borehole at 3.10 m		2.50	2.50	SPT-C B	2.50	N=18	
		3.00	3.10				

For inspection purposes only.  
 Consent of copyright owner required for any other use.

**Remarks:**  
 No groundwater encountered  
 Chiselling 3.00-3.10 45mins,  
 move and set up on BH 4A

**KEY**  
 B Bulk disturbed sample.  
 D Small disturbed sample  
 U Undisturbed sample  
 SPT-S Standard Penetration Test, split spoon.  
 SPT-C Standard Penetration Test, solid cone.  
 Groundwater strike  
 Water level 20mins after strike.



**Project Name: Carranstown**

**Hole ID: BH 4A**

Client:  
 Consultant: BLP  
 Location: Co. Meath  
 Start date: 06/03/2007      End date: 07/03/2007  
 Type of drilling: CP      Hole diameter: 200 mm

Co-ordinates: 0.00  
 Elevation: 0.00  
 Project no. 1440-02-07  
 Drilled by: K.Kolesniak  
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests		Water Depth	Date
				Type	Depth		
Stiff grey - brown slightly sandy gravelly CLAY with occasional cobbles		1		SPT-C B	0.50 0.50	N=23	
		2		SPT-C B	1.50 1.50	N=18	
		3		SPT-C B	2.50 2.50	N=19	
		4		SPT-C B	3.50 3.50	N=21	
OBSTRUCTION - presumed rock		4.40	-4.40				
End of Borehole at 4.50 m		4.50	-4.50				
		5					
		6					
		7					
		8					
		9					

For inspection purposes only.  
 Consent of copyright owner required for any other use.

**Remarks:**  
 Chiselling 4.40-4.50 45mins,  
 Standpipe installed to 4.50mBGL with pea gravel surround,  
 bentonite seal and cover

**KEY**  
 B Bulk disturbed sample.  
 D Small disturbed sample  
 U Undisturbed sample  
 SPT-S Standard Penetration Test, split spoon.  
 SPT-C Standard Penetration Test, solid cone.  
 Groundwater strike  
 Water level 20mins after strike.



**Project Name: Carranstown**

**Hole ID: BH 5**

Client:  
 Consultant: BLP  
 Location: Co. Meath  
 Start date: 02/03/2007      End date: 05/03/2007  
 Type of drilling: CP      Hole diameter: 200 mm

Co-ordinates: 0.00  
 Elevation: 0.00  
 Project no. 1440-02-07  
 Drilled by: K.Kolesniak  
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests		Water Depth	Date
				Type	Depth		
Firm grey-brown slightly sandy gravelly CLAY/SILT with occasional cobbles		0.50		SPT-C B	0.50	N=12	
Stiff grey- brown slightly sandy gravelly CLAY with some cobbles		1.50	-1.50	SPT-C B	1.50	N=17	
		2.50		SPT-C B	2.50	N=19	
		3.50		SPT-C B	3.50	N=18	
		4.50		SPT-C	4.50	N=20	
End of Borehole at 5.00 m		5.00	-5.00				

For inspection purposes only. Consent of copyright owner required for any other use.

**Remarks:**  
 Chiselling 5.00-5.10 1hr,  
 No groundwater encountered

**KEY**  
 B Bulk disturbed sample.  
 D Small disturbed sample  
 U Undisturbed sample  
 SPT-S Standard Penetration Test, split spoon.  
 SPT-C Standard Penetration Test, solid cone.  
 Groundwater strike  
 Water level 20mins after strike.



**Project Name: Carranstown**

**Hole ID: BH 6**

Client:  
 Consultant: BLP  
 Location: Co. Meath  
 Start date: 01/03/2007  
 Type of drilling: CP

Co-ordinates: 0.00  
 Elevation: 0.00  
 Project no. 1440-02-07  
 Drilled by: K.Kolesniak  
 Logged by: F.McNamara

End date: 01/03/2007  
 Hole diameter: 200 mm

Strata Description	Legend	Depth	Level (mOD)	Samples / tests		Water Depth	Date
				Type	Depth		
Soft gravelly TOPSOIL							
Firm to stiff grey -brown slightly sandy gravelly CLAY/SILT		0.50	-0.50	SPT-C B	0.50 0.50	N=12	
Stiff grey-brown slightly sandy gravelly CLAY with occasional cobbles		1.50	-1.50	SPT-C B	1.50 1.50	N=14	
				SPT-C B	2.50 2.50	N=18	
				SPT-C B	3.50 3.50	N=18	
				SPT-C	4.50 4.50	N=17	
OBSTRUCTION -presumed rock		5.40	-5.40	SPT-C	5.50	50/6mm	
End of Borehole at 5.50 m		5.50	-5.50				

For inspection purposes only. Consent of copyright owner required for any other use.

**Remarks:**  
 Chiselling 5.40-5.50 1hr,  
 No groundwater encountered  
 Stabdpipe installed to 5.50mBGL with pea gravel surround, bentonite seal and cover

**KEY**  
 B Bulk disturbed sample.  
 D Small disturbed sample  
 U Undisturbed sample  
 SPT-S Standard Penetration Test, split spoon.  
 SPT-C Standard Penetration Test, solid cone.  
 Groundwater strike  
 Water level 20mins after strike.



**Project Name: Carranstown**

**Hole ID: BH 7**

Client:  
 Consultant: BLP  
 Location: Co. Meath  
 Start date: 09/03/2007      End date: 12/03/2007  
 Type of drilling: CP      Hole diameter: 200 mm

Co-ordinates: 0.00  
 Elevation: 0.00  
 Project no. 1440-02-07  
 Drilled by: K.Kolesniak  
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests		Water Depth	Date
				Type	Depth		
Soft clay TOPSOIL							
Stiff grey-brown slightly sandy gravelly CLAY/SILT with occasional cobbles		0.50	-0.50	SPT-C B	0.50 0.50	N=14	
		1					
		2		SPT-C B	1.50 1.50	N=16	
		3		SPT-C B	2.50 2.50	N=19	
OBSTRUCTION - presumed rock End of Borehole at 4.50 m		4.40	-4.40				
		4.50	-4.50				
		5					
		6					
		7					
		8					
		9					

For inspection purposes only.  
 Consent of copyright owner required for any other use.

**Remarks:**  
 Chiselling 4.40-4.50 1hr,  
 No groundwater encountered

- KEY**
- B Bulk disturbed sample.
  - D Small disturbed sample
  - U Undisturbed sample
  - SPT-S Standard Penetration Test, split spoon.
  - SPT-C Standard Penetration Test, solid cone.
  - ↕ Groundwater strike
  - ▼ Water level 20mins after strike.





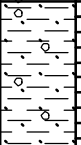

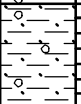
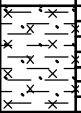

## CARRANSTOWN

<b>RC 2</b>	0.0 – 10.2	Boulder Clay
	10.2 – 14.2	Strong grey LIMESTONE rock
<b>RC 4</b>	0.0 - 5.1	Boulder Clay
	5.1 - 7.6	Gravel with cobbles and boulders
	7.6 – 12.6	Strong grey LIMESTONE with fractured zones
<b>RC 6</b>	0.0 - 12.2	Boulder Clay
	12.2 -14.2	Strong grey LIMESTONE rock
<b>RC 7</b>	0.0 - 8.2	Boulder Clay
	8.2 - 8.5	Strong grey LIMESTONE rock
	8.5 - 9.9	Cavity
	9.9 - 11.2	Strong grey fractured LIMESTONE rock
	11.2 - 14.0	Strong grey LIMESTONE rock

Consent of copyright owner required for any other use.  
For inspection purposes only.

**TRIAL PIT LOG**

Project INDAVER				TRIAL PIT No	
Job No B590 INDAVER	Date 27/02/2007	Ground Level (m)	Co-Ordinates	01	
Contractor				Sheet 1 of 1	

SAMPLES & TESTS			STRATA					Instrument / Backfill
Depth	Type	Test Result /REF	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
1.00	B					0.35	TOPSOIL.	
						(0.55) 0.90	Soft to Firm brown slightly gravelly CLAY.	
2.50	B					(1.00) 1.90	Soft to Firm brown silty slightly sandy slightly gravelly CLAY.	
						(1.00) 2.90	Firm grey/brown gravelly very sandy CLAY with many cobbles and some boulders.	
						(0.70) 3.60	Firm grey/brown very sandy gravelly CLAY with some cobbles.	
						(0.70) 4.30	Firm light brown silty sandy CLAY.	
							Assumed BEDROCK.	

Consent of copyright owner required for any other use.

Water Observations			GENERAL REMARKS
Date	Comments	Depth	
			TP ends @ 4.3m gbl. TP dry but sides unstable. Parcial callapse.

All dimensions in metres Scale 1:50	Client Mc ELROY ASSOCIATES	Method/ Plant Used	Logged By JM/LT
--	-------------------------------	-----------------------	--------------------

AGS3 UK BH B580 TP LOGS.GPJ AGS3 ALL.GDT 29/3/07

**TRIAL PIT LOG**

Project <b>INDAVER</b>				TRIAL PIT No	
Job No <b>B590 INDAVER</b>	Date 27/02/2007	Ground Level (m)	Co-Ordinates	<b>02</b>	
Contractor				Sheet 1 of 1	

SAMPLES & TESTS			STRATA					Instrument / Backfill
Depth	Type	Test Result / REF	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
1.00	B					0.30	TOPSOIL.	
						(0.60)	Firm to Soft brown slightly gravelly CLAY.	
						0.90	Firm to Soft light brown silty CLAY.	
						1.20	Firm to Soft light grey silty CLAY.	
						1.40	Firm to Soft brown slightly gravelly CLAY.	
2.00	B					(0.70)	Firm to Soft brown slightly gravelly CLAY.	
						2.10	Firm to Soft slightly gravelly very sandy CLAY becoming very gravelly with some cobbles.	
						(2.40)		
						4.50		

For inspection purposes only.  
Consent of copyright owner required for any other use.

Water Observations			GENERAL REMARKS
Date	Comments	Depth	
			TP ends @ 4.5m gbl. TP sides unstable. Water ingress @ 3.5m gbl.




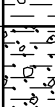
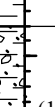
All dimensions in metres Scale 1:50	Client <b>Mc ELROY ASSOCIATES</b>	Method/ Plant Used	Logged By <b>JM/LT</b>
--	--------------------------------------	-----------------------	---------------------------

AGS3 UK BH B580 TP LOGS.GPJ AGS3 ALL.GDT 29/3/07



**TRIAL PIT LOG**

Project <b>INDAVER</b>				TRIAL PIT No	
Job No <b>B590 INDAVER</b>	Date 27/02/2007	Ground Level (m)	Co-Ordinates	<b>03</b>	
Contractor				Sheet 1 of 1	

SAMPLES & TESTS			Water	STRATA				Instrument / Backfill
Depth	Type	Test Result / REF		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
1.20	B				(0.40) 0.40	TOPSOIL.		
					(0.70) 1.10	Soft to Firm brown slightly gravelly CLAY.		
2.50	B				(0.70) 1.80	Soft to Firm brown gravelly CLAY.		
					(1.10) 2.90	Soft to Firm brown/grey mottled light brown in places sandy gravelly CLAY with lots of broken stone and some boulders.		
					(1.00) 3.90	Firm to Stiff brown sandy very gravelly CLAY.		
						TP ends due to continual collapse of sides.		

For inspection purposes only. Consent of copyright owner required for all other use.













Water Observations			GENERAL REMARKS
Date	Comments	Depth	
			TP ends @ 3.9m bgl. Water ingress @ 2.5m bgl.

All dimensions in metres Scale 1:50	Client <b>Mc ELROY ASSOCIATES</b>	Method/ Plant Used	Logged By <b>JM/LT</b>
--	--------------------------------------	-----------------------	---------------------------

AGS3 UK BH B580 TP LOGS.GPJ AGS3 ALL.GDT 29/3/07

**TRIAL PIT LOG**

Project <b>INDAVER</b>				TRIAL PIT No	
Job No <b>B590 INDAVER</b>	Date 27/02/2007	Ground Level (m)	Co-Ordinates	<b>04</b>	
Contractor				Sheet 1 of 1	

SAMPLES & TESTS			STRATA					Instrument / Backfill
Depth	Type	Test Result / REF	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
1.00	B					0.30	TOPSOIL.	
						(0.40) 0.70	Soft to Firm brown slightly gravelly CLAY.	
					(0.80)	Firm to Stiff brown gravelly CLAY with lots of broken stone and cobbles.		
					1.50	Firm brown gravelly CLAY with lots of broken stone and cobbles.		
2.00	B				(0.70)	Firm light brown gravelly sandy silty CLAY with broken stone.		
					2.20	Firm light brown gravelly sandy silty CLAY with lots of broken stone.		
					(0.80)	Firm light brown gravelly sandy silty CLAY with lots of broken stone.		
					3.00	Firm light brown gravelly sandy silty CLAY with lots of broken stone.		
4.20	B				(1.00)	Medium Dense light brown/brown /grey clayey slightly gravelly SAND.		
					4.00	Medium Dense light brown/brown /grey clayey slightly gravelly SAND.		
					(0.60)	Medium Dense light brown/brown /grey clayey slightly gravelly SAND.		
					4.60	TP Ends.		

Consent of copyright owner required for any other use.

Water Observations			GENERAL REMARKS
Date	Comments	Depth	
			TP ends @ 4.6m bgl. due to hard digging. Possible bedrock @ 4.7m bgl. Sides unstable. Water ingress @ 1.9m bgl.

All dimensions in metres Scale 1:50	Client <b>Mc ELROY ASSOCIATES</b>	Method/ Plant Used	Logged By <b>JM/LT</b>
--	--------------------------------------	-----------------------	---------------------------

AGS3 UK BH B580 TP LOGS.GPJ AGS3 ALL.GDT 29/3/07

**TRIAL PIT LOG**

Project INDAVER				TRIAL PIT No	
Job No B590 INDAVER	Date 27/02/2007	Ground Level (m)	Co-Ordinates	05	
Contractor				Sheet 1 of 1	

SAMPLES & TESTS			STRATA					Instrument / Backfill
Depth	Type	Test Result / REF	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
1.10	B					0.35	TOPSOIL.	
						(0.55)	Firm brown slightly gravelly CLAY.	
						0.90	Soft to Firm grey brown very sandy CLAY.	
						1.10	Loose dark brown/grey clayey SAND becoming gravelly @ 2.7m bgl. with cobbles. (Collapse of this layer).	
						(2.50)		
						3.60	Assumed BEDROCK	

For inspection purposes only.  
Consent of copyright owner required for any other use.





Water Observations			GENERAL REMARKS
Date	Comments	Depth	
			TP ends @ 3.6m bgl. TP sides unstable. TP dry.

All dimensions in metres Scale 1:50	Client Mc ELROY ASSOCIATES	Method/ Plant Used	Logged By <b>JM/LT</b>
--	-------------------------------	-----------------------	---------------------------

AGS3 UK BH B580 TP LOGS.GPJ AGS3 ALL.GDT 29/3/07

### TRIAL PIT LOG

Project <b>INDAVER</b>				TRIAL PIT No	
Job No <b>B590 INDAVER</b>	Date 27/02/2007	Ground Level (m)	Co-Ordinates	<b>06</b>	
Contractor				Sheet 1 of 1	

SAMPLES & TESTS			STRATA					Instrument / Backfill
Depth	Type	Test Result / REF	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
1.10	B					0.30	TOPSOIL.	
						(0.40) 0.70	Soft to Firm brown slightly gravelly silty CLAY.	
						(2.40)	Soft to Firm brown slightly gravelly very sandy CLAY.	
2.90	B					3.10 (0.40) 3.50	Running SAND.	

For inspection purposes only.  
Consent of copyright owner required for any other use.

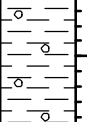
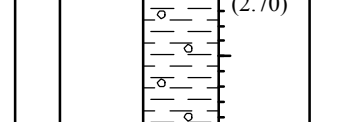
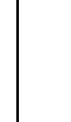

Water Observations			GENERAL REMARKS
Date	Comments	Depth	
			TP ends @ 3.5m bgl. Minor water ingress @ 3.1m bgl. TP sides unstable.

All dimensions in metres Scale 1:50	Client <b>Mc ELROY ASSOCIATES</b>	Method/ Plant Used	Logged By <b>JM/LT</b>
--	--------------------------------------	-----------------------	---------------------------

AGS3 UK BH B580 TP LOGS.GPJ AGS3 ALL.GDT 29/3/07

**TRIAL PIT LOG**

Project INDAVER				TRIAL PIT No	
Job No B590 INDAVER	Date 27/02/2007	Ground Level (m)	Co-Ordinates	07	
Contractor				Sheet 1 of 1	

SAMPLES & TESTS			STRATA					Instrument / Backfill
Depth	Type	Test Result /REF	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
2.00	B					0.30	TOPSOIL.	
						(2.70)	Firm brown sandy very gravelly CLAY becoming firm to stiff @ 2.0m bgl. with many cobbles and broken stone.	
3.70	B					3.00	Stiff to very stiff brown sandy very gravelly CLAY with many cobbles and broken stone.	
						(0.70)		3.70

For inspection purposes only. No other use.  
Consent of copyright owner required for any other use.



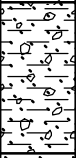
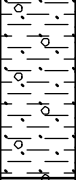


Water Observations			GENERAL REMARKS
Date	Comments	Depth	
			TP ends @ 3.7m bgl. TP dry. TP stable.

All dimensions in metres Scale 1:50	Client Mc ELROY ASSOCIATES	Method/ Plant Used	Logged By <b>JM/LT</b>
--	-------------------------------	-----------------------	---------------------------

AGS3 UK BH B580 TP LOGS.GPJ AGS3 ALL.GDT 29/3/07

**TRIAL PIT LOG**

Project INDAVER				TRIAL PIT No	
Job No B590 INDAVER	Date 27/02/2007	Ground Level (m)	Co-Ordinates	08	
Contractor				Sheet 1 of 1	

SAMPLES & TESTS			STRATA					Instrument / Backfill
Depth	Type	Test Result / REF	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
0.80	B					0.30	TOPSOIL.	
						(1.20)	Soft to Firm brown sandy gravelly CLAY.	
						1.50	Firm brown sandy gravelly CLAY.	
						(1.00)	Firm to Stiff sandy very gravelly CLAY with cobbles becoming Stiff with cobbles and occasional boulders @ 32.4m bgl.	
						2.50	TP ends due to hard digging.	
						3.70	TP ends due to hard digging.	

For inspection purposes only. Consent of copyright owner required for any other use.

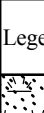





Water Observations			GENERAL REMARKS
Date	Comments	Depth	
			TP ends @ 3.7m bgl. TP dry. TP stable.

All dimensions in metres Scale 1:50	Client Mc ELROY ASSOCIATES	Method/ Plant Used	Logged By JM/LT
--	-------------------------------	-----------------------	--------------------

AGS3 UK BH B580 TP LOGS.GPJ AGS3 ALL.GDT 29/3/07

**TRIAL PIT LOG**

Project <b>INDAVER</b>				TRIAL PIT No	
Job No <b>B590 INDAVER</b>	Date 27/02/2007	Ground Level (m)	Co-Ordinates	<b>09</b>	
Contractor				Sheet 1 of 1	

SAMPLES & TESTS			STRATA					Instrument / Backfill
Depth	Type	Test Result / REF	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
1.00	B					0.30	TOPSOIL.	
						(0.60)	Soft to Firm brown sandy gravelly CLAY.	
						0.90	Firm brown sandy gravelly CLAY.	
						(1.10)	Firm light brown sandy silty very gravelly CLAY.	
						2.00	Medium Dense slightly clayey very sandy GRAVEL with cobbles.	
						(1.00)	Medium Dense slightly clayey very sandy GRAVEL with cobbles.	
						3.00		
						(0.60)		
						3.60		

For inspection purposes only. Consent of copyright owner required for any other use.







Water Observations			GENERAL REMARKS
Date	Comments	Depth	
			TP ends @ 3.6m bgl. TP dry. TP stable.

All dimensions in metres Scale 1:50	Client <b>Mc ELROY ASSOCIATES</b>	Method/ Plant Used	Logged By <b>JM/LT</b>
--	--------------------------------------	-----------------------	---------------------------

AGS3 UK BH B580 TP LOGS.GPJ AGS3 ALL.GDT 29/3/07

**TRIAL PIT LOG**

Project INDAVER				TRIAL PIT No	
Job No B590 INDAVER	Date 27/02/2007	Ground Level (m)	Co-Ordinates	10	
Contractor				Sheet 1 of 1	

SAMPLES & TESTS			STRATA					Instrument / Backfill
Depth	Type	Test Result / REF	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
1.00	B					0.25	TOPSOIL.	
						(0.75)	Soft to Firm brown sandy gravelly CLAY.	
						1.00	Firm brown grey sandy very gravelly CLAY with some cobbles.	
						2.20	Medium Dense clayey sandy GRAVEL with cobbles and occasional boulders.	
						(1.30)		
						3.50		

For inspection purposes only.  
Consent of copyright owner required for any other use.

Water Observations			GENERAL REMARKS
Date	Comments	Depth	
			TP ends @ 3.5m bgl. TP dry. TP stable.





All dimensions in metres Scale 1:50	Client Mc ELROY ASSOCIATES	Method/ Plant Used	Logged By JM/LT
--	-------------------------------	-----------------------	--------------------

AGS3 UK BH B580 TP LOGS.GPJ AGS3 ALL.GDT 29/3/07



**TRIAL PIT LOG**

Project INDAVER				TRIAL PIT No	
Job No B590 INDAVER	Date 27/02/2007	Ground Level (m)	Co-Ordinates	11	
Contractor				Sheet 1 of 1	

SAMPLES & TESTS			STRATA					Instrument / Backfill
Depth	Type	Test Result / REF	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
0.50	B					0.30	TOPSOIL.	
						(0.40) 0.70	Soft to Firm brown sandy gravelly CLAY.	
						(1.50) 2.20	Firm brown sandy very gravelly CLAY with cobbles and occasional boulders.	
						(1.10) 3.30	Firm to Stiff sandy very gravelly CLAY with many cobbles and boulders becoming Stiff @ 2.5m bgl. with large boulders >500mm.	

For inspection purposes only.  
Consent of copyright owner required for any other use.





Water Observations			GENERAL REMARKS
Date	Comments	Depth	
			TP ends @ 3.3m bgl. TP dry. TP stable.

All dimensions in metres Scale 1:50	Client Mc ELROY ASSOCIATES	Method/ Plant Used	Logged By <b>JM/LT</b>
--	-------------------------------	-----------------------	---------------------------

AGS3 UK BH B580 TP LOGS.GPJ AGS3 ALL.GDT 29/3/07

**TRIAL PIT LOG**

Project <b>INDAVER</b>				TRIAL PIT No	
Job No <b>B590 INDAVER</b>	Date 27/02/2007	Ground Level (m)	Co-Ordinates	12	
Contractor				Sheet 1 of 1	

SAMPLES & TESTS			STRATA					Instrument / Backfill
Depth	Type	Test Result / REF	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
1.50	B					0.25	TOPSOIL.	
						(1.05)	Firm grey brown sandy gravelly CLAY.	
						1.30	Firm brown sandy very gravelly CLAY becoming stiff @ 2.5m bgl. with broken stone and many cobbles.	
		3.50	Stiff to very stiff brown sandy very gravelly CLAY.					
3.50	B					3.60		

For inspection purposes only.  
Consent of copyright owner required for any other use.






Water Observations			GENERAL REMARKS
Date	Comments	Depth	
			TP ends @ 3.6m bgl. TP dry. TP stable.

All dimensions in metres Scale 1:50	Client <b>Mc ELROY ASSOCIATES</b>	Method/ Plant Used	Logged By <b>JM/LT</b>
--	--------------------------------------	-----------------------	---------------------------

AGS3 UK BH B580 TP LOGS.GPJ AGS3 ALL.GDT 29/3/07

**TRIAL PIT LOG**

Project INDAVER				TRIAL PIT No	
Job No B590 INDAVER	Date 27/02/2007	Ground Level (m)	Co-Ordinates	13	
Contractor				Sheet 1 of 1	

SAMPLES & TESTS			STRATA					Instrument / Backfill
Depth	Type	Test Result / REF	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
						0.30	TOPSOIL.	
						(0.60)	Firm brown slightly gravelly CLAY.	
						0.90	Firm brown very sandy very gravelly CLAY with cobbles and occasional boulders.	
						(0.90)	Firm to Stiff clayey SILT	
						1.80		
						(2.20)		
						4.00		

Consent of copyright owner required for any other use.  
For inspection purposes only.

Water Observations			GENERAL REMARKS
Date	Comments	Depth	
			TP ends @ 4.0m bgl. TP dry. TP unstable.

All dimensions in metres Scale 1:50	Client Mc ELROY ASSOCIATES	Method/ Plant Used	Logged By JM/LT
--	-------------------------------	-----------------------	--------------------

AGS3 UK BH B580 TP LOGS.GPJ AGS3 ALL.GDT 29/3/07

**TRIAL PIT LOG**

Project INDAVER				TRIAL PIT No	
Job No B590 INDAVER	Date 27/02/2007	Ground Level (m)	Co-Ordinates	14	
Contractor				Sheet 1 of 1	

SAMPLES & TESTS			STRATA					Instrument / Backfill
Depth	Type	Test Result /REF	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
						0.25	TOPSOIL.	
						(0.65)	Firm brown sandy silty CLAY.	
						0.90	Firm dark brown gravelly CLAY.	
						(0.60)	Firm dark brown gravelly CLAY.	
						1.50	Firm dark brown gravelly CLAY.	
						(0.50)	Loose grey brown slightly clayey sandy GRAVEL with some cobbles.	
						2.00	Loose grey brown slightly clayey sandy GRAVEL with some cobbles.	
						(2.00)	Medium dense grey brown sandy GRAVEL becoming more course with many cobbles and some boulders.	
						4.00	Medium dense grey brown sandy GRAVEL becoming more course with many cobbles and some boulders.	

For inspection purposes only.  
Consent of copyright owner required for any other use.

Water Observations			GENERAL REMARKS
Date	Comments	Depth	
			TP ends @ 4.0m bgl. TP dry. TP unstable.

All dimensions in metres Scale 1:50	Client Mc ELROY ASSOCIATES	Method/ Plant Used	Logged By JM/LT
--	-------------------------------	-----------------------	--------------------

AGS3 UK BH B580 TP LOGS.GPJ AGS3 ALL.GDT 29/3/07

### TRIAL PIT LOG

Project INDAVER				TRIAL PIT No	
Job No B590 INDAVER	Date 27/02/2007	Ground Level (m)	Co-Ordinates	15	
Contractor				Sheet 1 of 1	

SAMPLES & TESTS			Water	STRATA				Instrument / Backfill
Depth	Type	Test Result / REF		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
						(0.40) 0.40	TOPSOIL.	
						(0.80) 1.20	Firm brown sandy gravelly CLAY.	
						(1.80) 3.00	Firm to Stiff brown grey mottled sandy silty CLAY.	
						(0.80) 3.80	Stiff grey clayey sandy SILT.	

For inspection purposes only. Consent of copyright owner required for any other use.



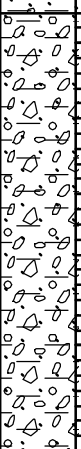
Water Observations			GENERAL REMARKS
Date	Comments	Depth	
			TP ends @ 3.8m bgl. Minor water ingress @ 2.8m bgl.

All dimensions in metres Scale 1:50	Client Mc ELROY ASSOCIATES	Method/ Plant Used	Logged By JM/LT
--	-------------------------------	-----------------------	--------------------

AGS3 UK BH B580 TP LOGS.GPJ AGS3 ALL.GDT 29/3/07

**TRIAL PIT LOG**

Project INDAVER				TRIAL PIT No
Job No B590 INDAVER	Date 27/02/2007	Ground Level (m)	Co-Ordinates	16
Contractor				Sheet 1 of 1

SAMPLES & TESTS			STRATA				Instrument / Backfill
Depth	Type	Test Result / REF	Water	Reduced Level	Legend	Depth (Thickness)	
0.50	B					0.30	TOPSOIL.
						(0.50) 0.80	Soft to Firm brown slightly sandy gravelly CLAY.
						(2.90) 3.70	Medium Dense grey/brown very sandy slightly clayey GRAVEL with some cobbles becoming with many cobbles @ 3.6m bgl.

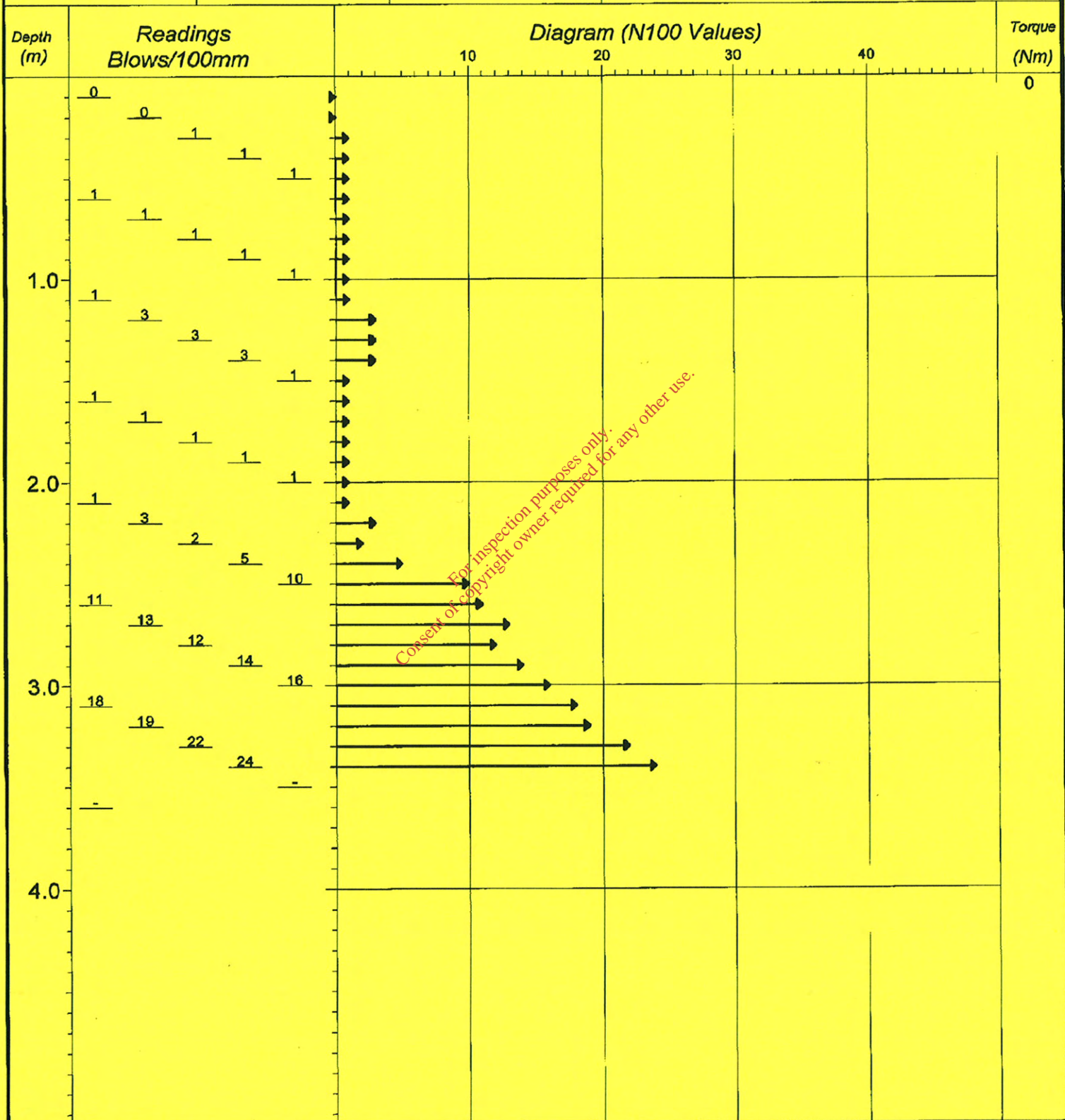
Consent of copyright owner required for any other use.  
For inspection purposes only.



Water Observations			GENERAL REMARKS
Date	Comments	Depth	
			TP ends @ 3.7m bgl. TP dry. TP stable.

All dimensions in metres Scale 1:50	Client Mc ELROY ASSOCIATES	Method/ Plant Used	Logged By <b>JM/LT</b>
--	-------------------------------	-----------------------	---------------------------

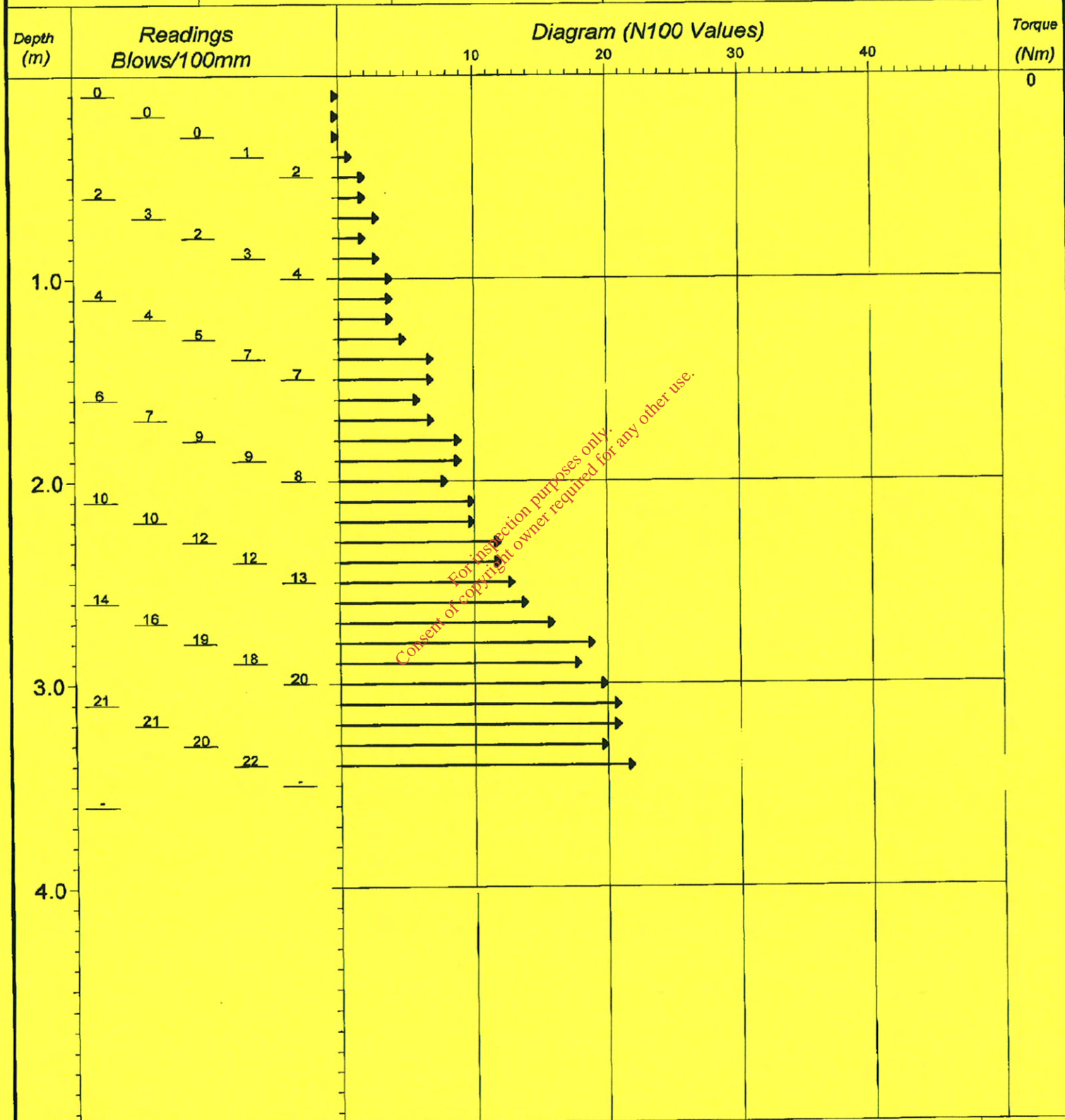
AGS3 UK BH B580 TP LOGS.GPJ AGS3 ALL.GDT 29/3/07

<h1>DYNAMIC PROBING LOG</h1>		Probe No <b>DP1</b>
Client		Sheet 1 of 1
Consultant <b>BLP</b>		Project No <b>1440-02-07</b>
Site <b>Carranstown</b>		Date <b>27/02/2007</b>
E -	N -	Level <b>0.00 m AOD</b> Logged by <b>John / Mark</b>




	Remarks: Refusal at 3.50	Fall Height <b>0</b>	Cone Base Diameter <b>0</b>	
		Hammer Wt <b>0.00</b>	Final Depth <b>3.50</b>	
		Probe Type <b>DPL</b>	Log Scale <b>1:25</b>	

<b>DYNAMIC PROBING LOG</b>			Probe No <b>DP2</b>
Client			Sheet 1 of 1
Consultant <b>BLP</b>			Project No <b>1440-02-07</b>
Site <b>Carranstown</b>			Date <b>27/02/2007</b>
E -	N -	Level -	Logged by <b>John / Mark</b>



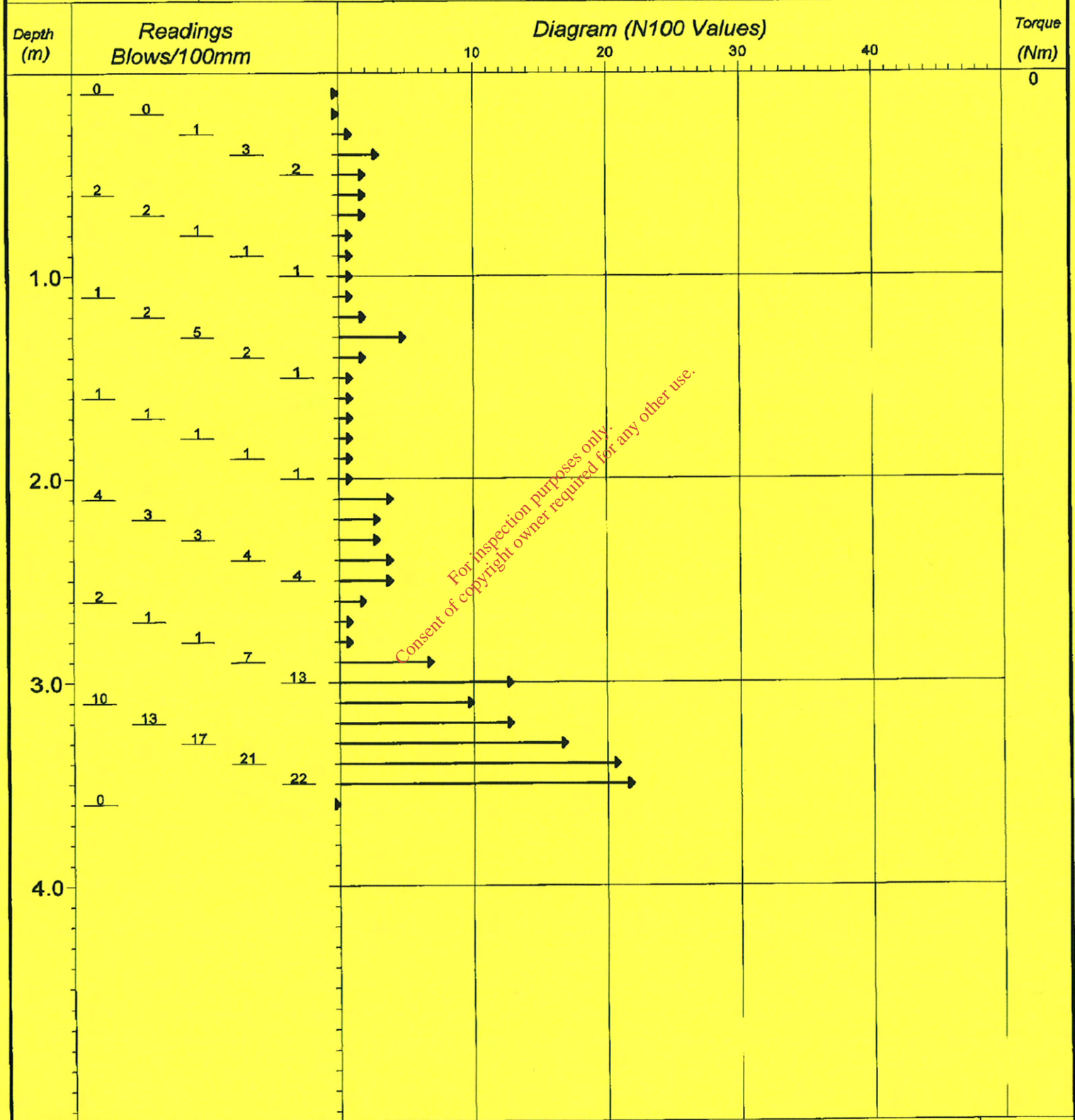
For inspection purposes only.  
Consent of copyright owner required for any other use.


	Remarks: Refusal at 3.50	Fall Height <b>0</b>	Cone Base Diameter <b>0</b>
		Hammer Wt <b>0.00</b>	Final Depth <b>3.50</b>
		Probe Type <b>DPL</b>	Log Scale <b>1:25</b>

HeadOffice 88 (061) 3801 Carranstown Dynamic Probing Log 12 dated 27th Nov 07



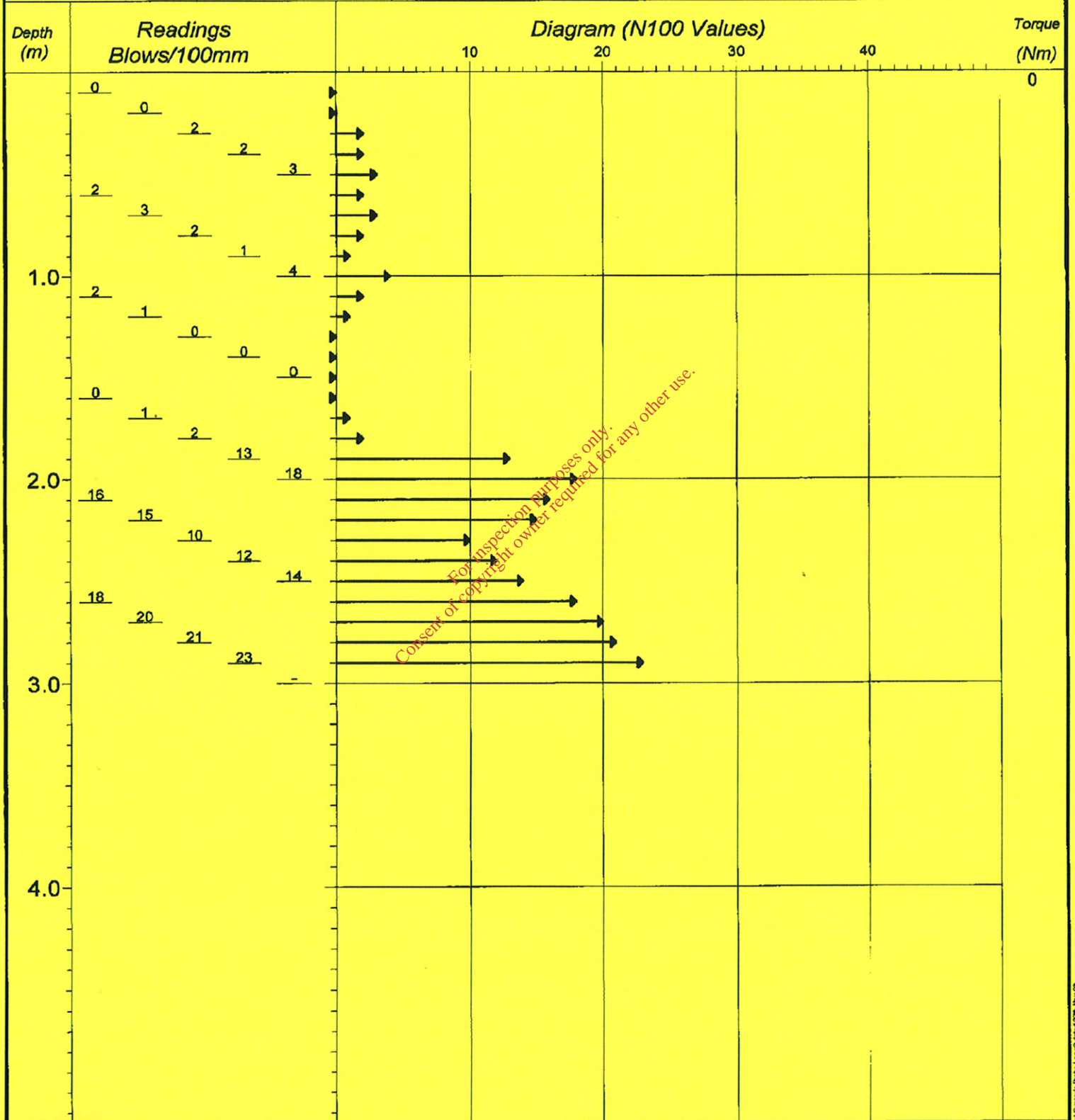
<b>DYNAMIC PROBING LOG</b>			Probe No <b>DP3</b>
Client			Sheet 1 of 1
Consultant <b>BLP</b>			Project No <b>1440-02-07</b>
Site <b>Carranstown</b>			Date <b>27/02/2007</b>
E -	N -	Level -	Logged by <b>John / Mark</b>




	Remarks: Refusal at 3.50	Fall Height	0	Cone Base Diameter	0
		Hammer Wt	0.00	Final Depth	3.50
		Probe Type	DPL	Log Scale	1:25

HEADBASE II (04 99) Standard Dynamic Probe Log V2 dated 27th Nov 03

<b>DYNAMIC PROBING LOG</b>			Probe No <b>DP4</b>
Client			Sheet 1 of 1
Consultant <b>BLP</b>			Project No <b>1440-02-07</b>
Site <b>Carranstown</b>			Date <b>27/02/2007</b>
E -	N -	Level -	Logged by <b>John / Mark</b>

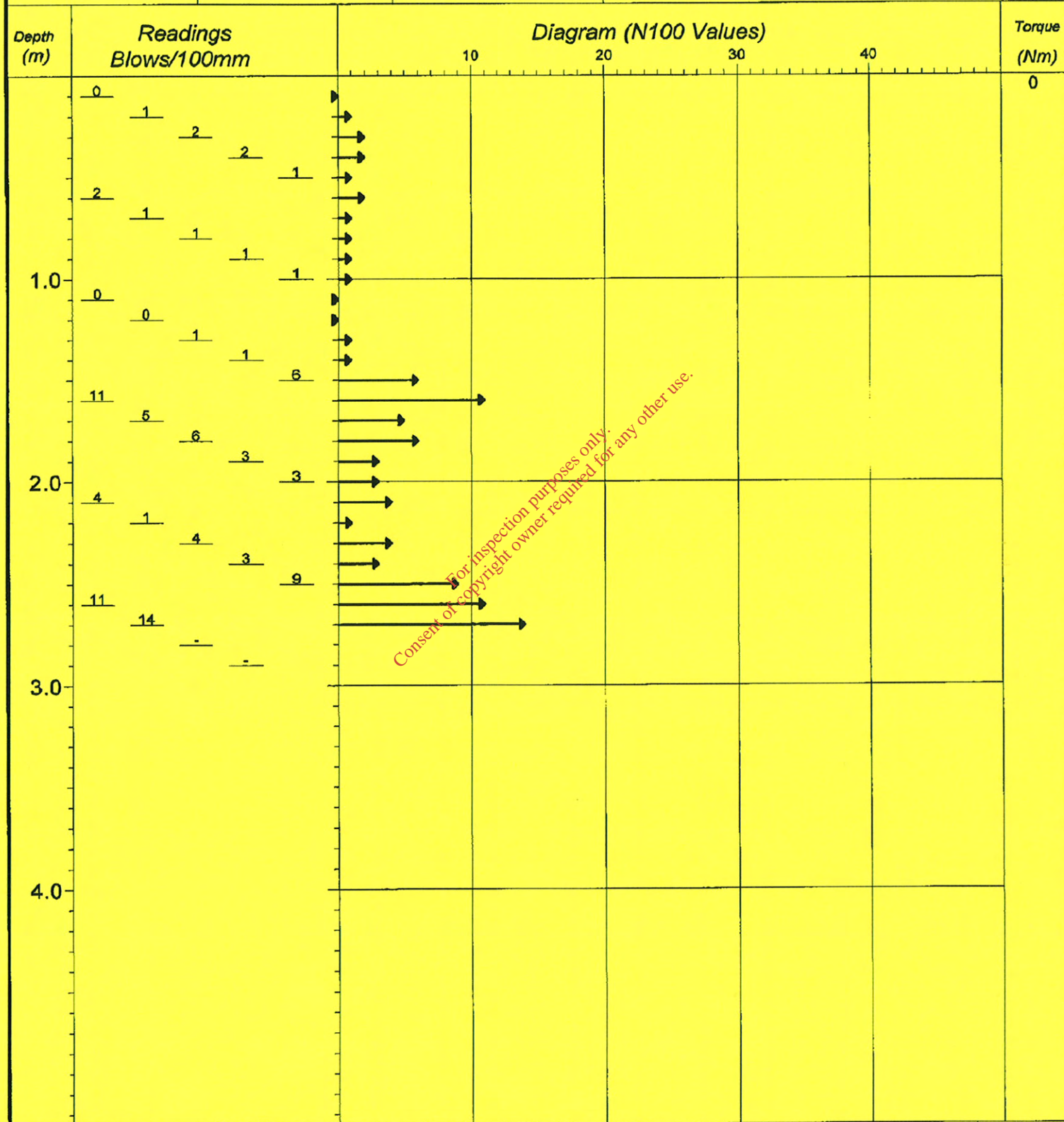


For inspection purposes only.  
Consent of copyright owner required for any other use.



	Remarks:	Fall Height	0	Cone Base Diameter	0
		Hammer Wt	0.00	Final Depth	2.90
		Probe Type	DPL	Log Scale	1:25

AGS (2007) Revisited Dynamic Probe Log v2 dated 27th Nov 07

<b>DYNAMIC PROBING LOG</b>			Probe No <b>DP5</b>
Client			Sheet 1 of 1
Consultant <b>BLP</b>			Project No <b>1440-02-07</b>
Site <b>Carranstown</b>			Date <b>27/02/2007</b>
E -	N -	Level -	Logged by <b>John / Mark</b>

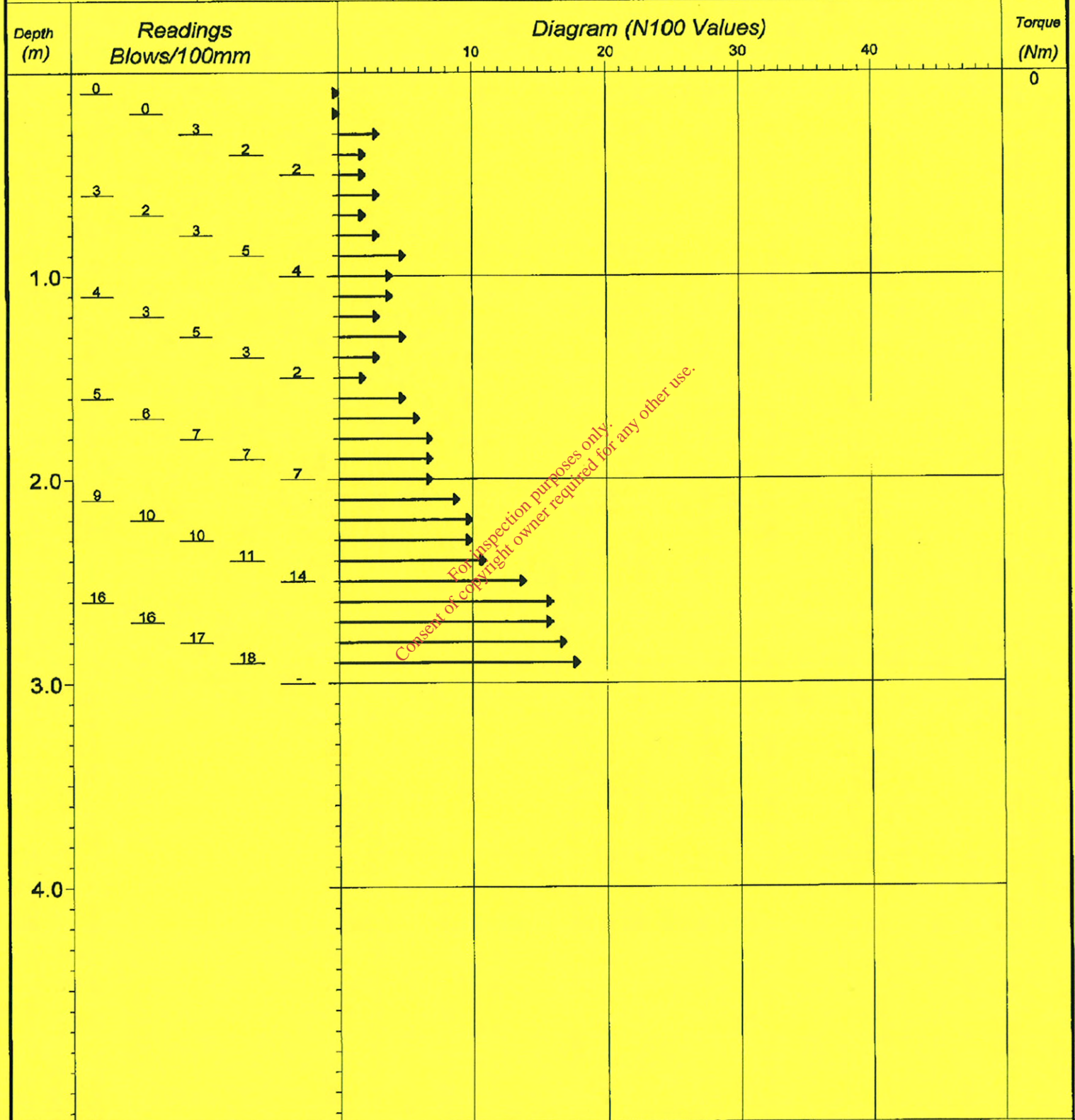


For inspection purposes only.  
Consent of copyright owner required for any other use.

	Remarks: Refusal at 2.80	Fall Height	0	Cone Base Diameter	0
		Hammer Wt	0.00	Final Depth	2.80
		Probe Type	DPL	Log Scale	1:25
					

HP LaserJet FAX 02 Apr 2007 10:41

<b>DYNAMIC PROBING LOG</b>			Probe No <b>DP6</b>
Client			Sheet 1 of 1
Consultant <b>BLP</b>			Project No <b>1440-02-07</b>
Site <b>Carranstown</b>			Date <b>27/02/2007</b>
E -	N -	Level -	Logged by <b>John / Mark</b>



	Remarks:	Fall Height	0	Cone Base Diameter	0
		Hammer Wt	0.00	Final Depth	2.90
		Probe Type	DPL	Log Scale	1:25

# DYNAMIC PROBING LOG

Probe No **DP 7**

Client

Sheet 1 of 1

Consultant **BLP**

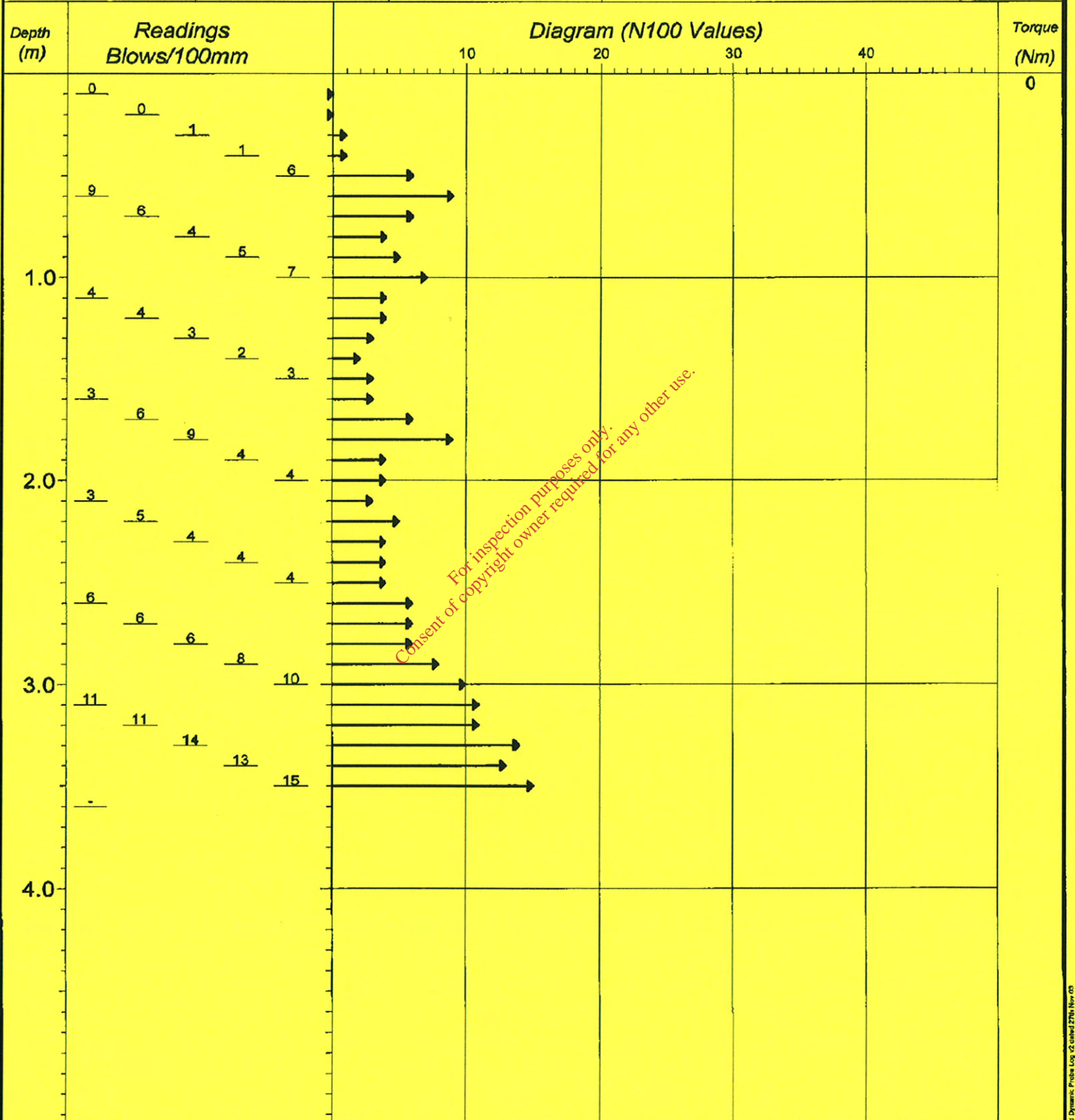
Project No **1440-02-07**

Site **Carranstown**

Date **27/02/2007**

E - N - Level -

Logged by **John / Mark**

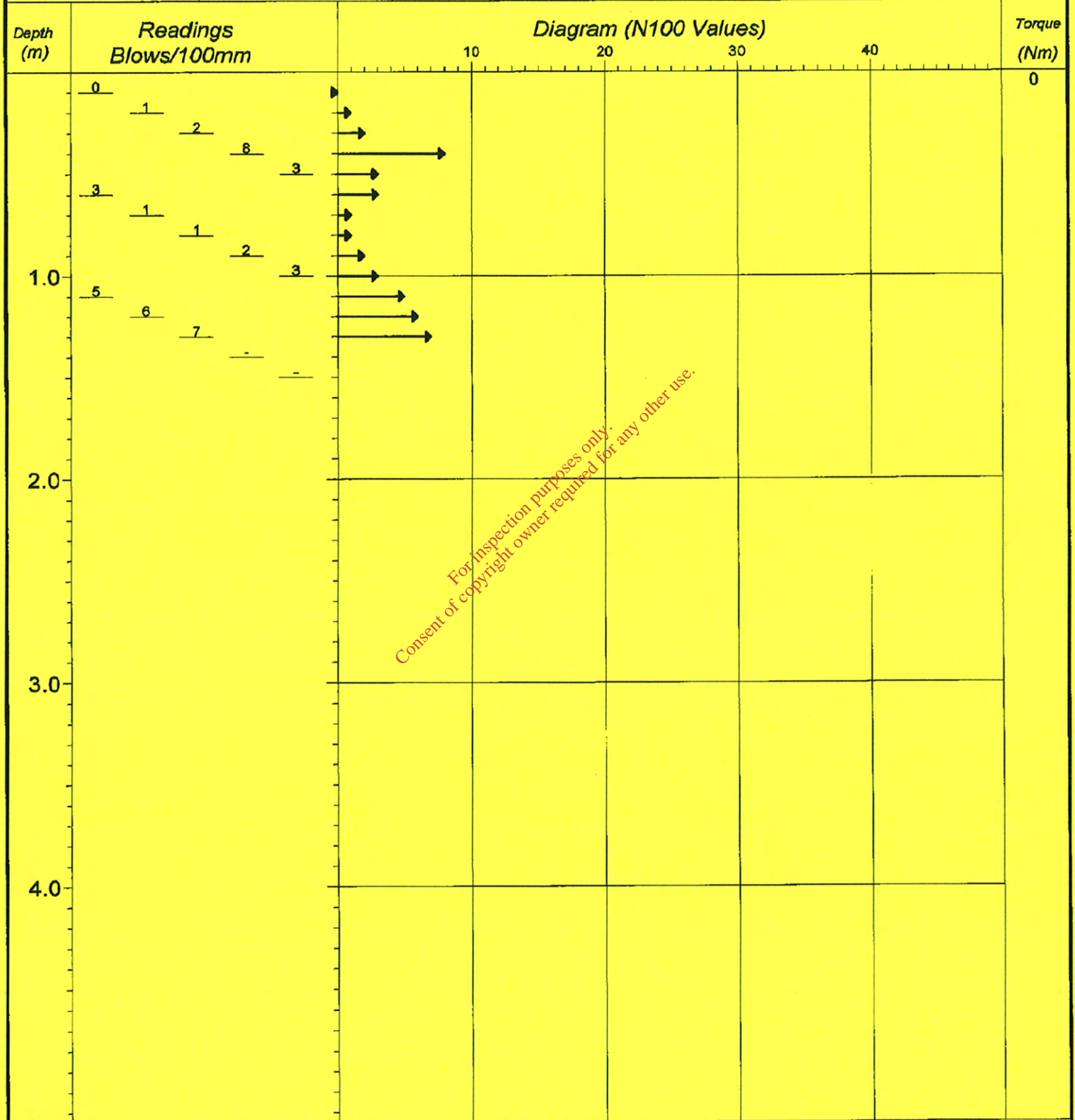


For inspection purposes only.  
Consent of copyright owner required for any other use.


	Remarks:	Fall Height <b>0</b>	Cone Base Diameter <b>0</b>
		Hammer Wt <b>0.00</b>	Final Depth <b>3.50</b>
		Probe Type <b>DPL</b>	Log Scale <b>1:25</b>

HP LASERJET FAX 02 Apr 2007 10:42

<b>DYNAMIC PROBING LOG</b>			Probe No <b>DP8</b>
Client			Sheet 1 of 1
Consultant <b>BLP</b>			Project No <b>1440-02-07</b>
Site <b>Carranstown</b>			Date <b>27/02/2007</b>
E -	N -	Level -	Logged by <b>John / Mark</b>



For inspection purposes only.  
Consent of copyright owner required for any other use.

	Remarks: Refusal at 1.40	Fall Height	0	Cone Base Diameter	0
		Hammer Wt	0.00	Final Depth	1.40
		Probe Type	DPL	Log Scale	1:25



HP LaserJet FAX 02 Apr 2007 10:42