

TEST REPORT 119390



Client:

**Roadstone Wood Ltd
Fortunestown
Tallaght
Dublin 24**

BHP Ref No.: 15/10/696

Order No.:

Date Received: 22nd October 2015

Date Tested: 22nd October 2015

BHP

New Road
Thomondgate
Limerick
Ireland
Tel +353 61 455399
Fax + 353 61 455447
E Mail
graemethornton@bhp.ie

FAO: Colin Doyle

Test Specification: Noise Monitoring

Item: Noise survey at noise sensitive locations at the Roadstone operation located at Huntstown, Finglas, Co. Dublin.

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

For and on behalf of BHP Ltd.

Graeme Thornton

Date Issued: 30th October 2015

Supplement to report No. N/A

Test results relate only to this item. This test report shall not be duplicated except in full and with the permission of the test laboratory

Contents

- 1.0 Scope
- 2.0 Survey Approach
- 3.0 Date of survey
- 4.0 Results
 - 4.1 Noise levels
- 5.0 Interpretation of results
 - 5.1 Noise Levels
- 6.0 Conclusions

Appendix A: Map showing noise monitoring locations

Appendix B: Photographs indicating noise monitoring locations

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

1.0 Scope of survey

At the request of Roadstone Wood Ltd., BHP undertook noise monitoring at their operation in Huntstown, Finglas, Co. Dublin. The purpose of this survey was to provide Roadstone with the noise data and analysis required as part of their planning requirements.

This report deals with four nominated noise locations at the operation in Huntstown, Finglas, Co. Dublin.

2.0 Survey approach

Two sound level meters (SLM's) were used in the survey, a Cirrus 171C type 1 (serial number G068852) and a cirrus 831C type 1 (serial number D20874FF). The SLM's were calibrated at the start of the survey with a CRL 515 calibrator (serial number 52093). The same calibrator was used to check the SLM at the end of the survey, to inspect the microphone drift.

Monitoring and the interpretation of acquired data is to the following standards:

- British Standard: BS 7445 Part 1: 1991 (ISO 1996-1: 1982) Description and measurement of Environmental Noise. Part 1. Guide to quantities and procedures.
- British Standard: BS 7445 Part 2: 1991 (ISO 1996-2: 1987) Description and measurement of Environmental Noise. Part 2. Guide to the acquisition of data pertinent to land use.
- British Standard: BS 7445 Part 3: 1991 (ISO 1996-3: 1987) Description and measurement of Environmental Noise. Part 3. Guide to application to noise limits.

60-minute daytime levels were measured at four locations. The locations are identified on the map included in Appendix A.

Appendix B contains photographs of the noise monitoring equipment at the monitoring points.

3.0 Date of survey

The noise monitoring survey was carried out on the 22nd October 2015 by Graeme Thornton.

4.0 Results

4.1 Noise levels:

Levels are presented on the following pages.

Day-time Measurements - Noise Locations – Huntstown, Finglas, Co. Dublin. (22nd October 2015)

Location	Sampling Interval	Duration (mins)	L _{AEQ} dB	L _{A10} dB	L _{A90} dB	Wind speed m/s	Sampling notes
N1	12.07-13.07hrs	60	60	62	54	1.5-2 gusting 3 West	The quarry facility is not audible. Trucks on the entrance road are occasional and are at 55-60dB. M50 and distant road noise is constant at 55-57dB. Occasional planes are up to 72dB.
N2	13.13-14.13hrs	60	62	65	58	7-9 decreasing to 6 West	The quarry and wind noise are at 59-62dB. When the wind noise drops the quarry screener is in operation at 55-60dB. Occasionally the quarry and wind noise is at 64dB. Wind noise is occasionally at 62-69dB. Occasional planes are at 64 - 71dB. Machinery in the pit (the screener) seems to be operating at 55-60dB, as there is direct line of sight to the machinery from the monitoring location. The main noise source is the wind accelerating up the quarry face and over the location and the woods surrounding the location.
N3	13.32-14.32hrs	60	56	59	49	2-3 West	The quarry is not audible. Occasional planes are taking off at up to 75dB. The adjacent facility is at 50-55dB. Wind noise is at 50dB.
N4	12.08-13.08hrs	60	62	66	50	1.5-2 West	The quarry is not audible. The M50 and distant traffic noise and wind noise was at about 50dB. Occasional planes are up to 70-75dB.

Night-time Measurements - Noise Locations – Huntstown, Finglas, Co. Dublin. (22nd October 2015)

Location	Sampling Interval	Duration (mins)	L_{AEQ} dB	L_{A10} dB	L_{A90} dB	Wind speed m/s	Sampling notes
N1	06.48-07.03hrs	15	61	65	56	2-3 West	The quarry works are not audible. Trucks on the entrance road are frequent at up to 60dB. Occasional cars are going past the location at up to 72dB. Frequent planes are taking off at up to 71dB. Wind noise is at 55-57dB. The M50 is almost constant at 56-57dB

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

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

5.0 Interpretation of results

5.1 Noise levels;

The noise limits for the Roadstone operation in Huntstown Quarry, Finglas, Co. Dublin are as follows:

Daytime Limit L_{Aeq} 55dB

Night time Limit L_{Aeq} 45dB

5.1.1 Day-time levels :

As can be seen in section 4.1, L_{Aeq} levels at the noise monitoring locations are over the limit at all the locations.

From on-site observations it can be seen that the main noise sources for the noise levels at N1, N3 and N4 are the M50 or planes from Dublin airport. These are not considered exceedances of the limits by the quarry operations.

At N2 the main noise source was wind noise. On the day due to wind conditions and direction, there was a localised wind that accelerated up the face of the quarry and into the woods at the monitoring location creating a high wind noise effect. During periods of low wind the screener in the quarry pit seemed to be operating at 55-60dB. The reason for this noise level from the screener was due to direct line of sight from the location to the machine and also the wind direction carried the noise towards the location. However, due to interference from the wind noise it is not conclusive enough for the location to have exceeded the noise limit due to the machine. This is not considered an exceedance of the limit by the quarry operations at this location.

5.1.2 Night-time levels :

As can be seen in section 4.1, L_{Aeq} levels at N1 are over the limit. The exceedance of the noise limit at this location is due to noise sources not related to the quarry. This is not considered an exceedance of the limit by the quarry.

6.0 Conclusions

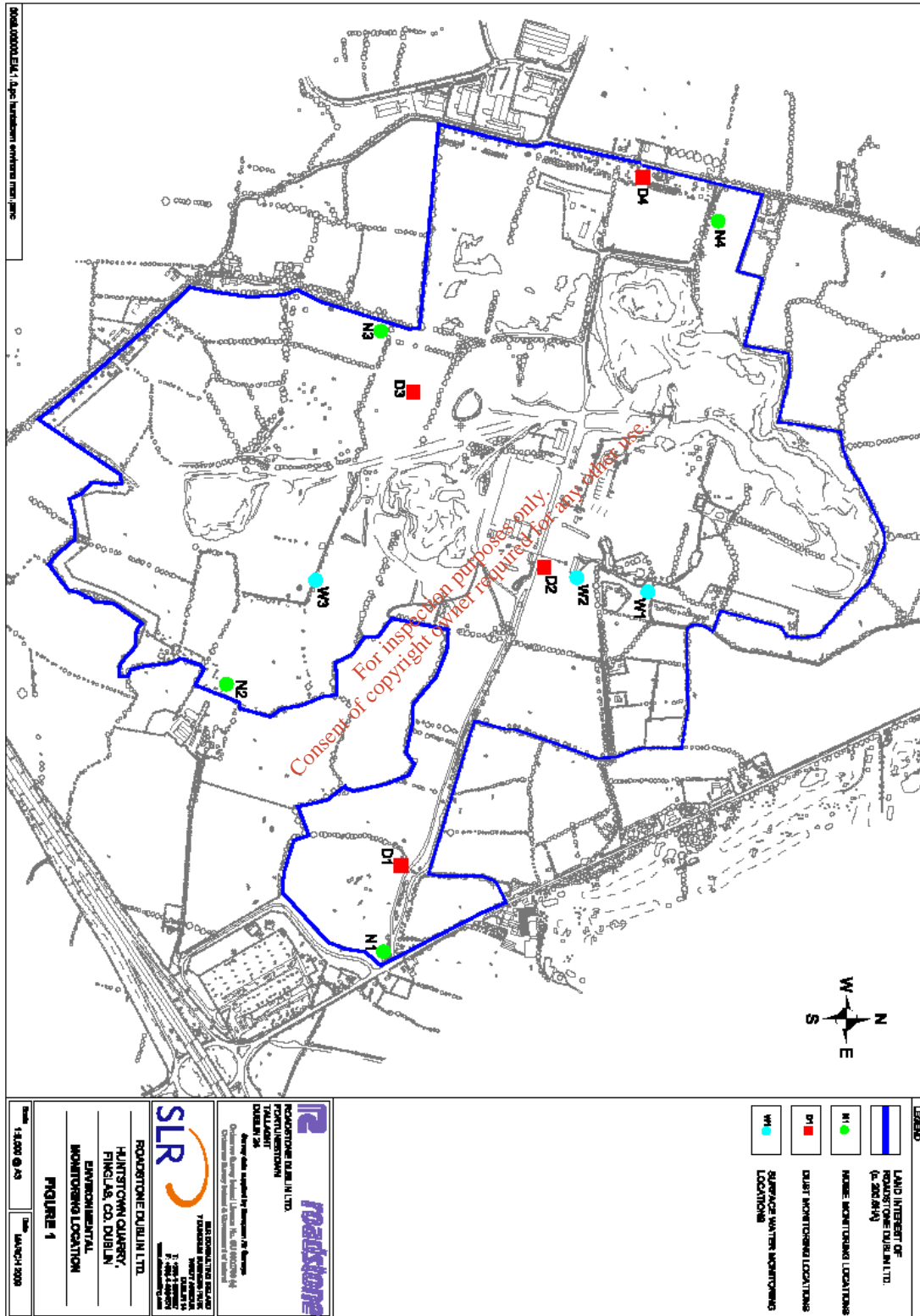
The noise contribution from quarrying activity did not exceed the daytime limit of 55dB at the noise monitoring locations.

The noise contribution from quarrying activity did not exceed the night time limit of 45dB at N1.

There was no evidence of tonal or impulsive qualities to the recorded noise from the quarry at the nominated locations.

Appendix A

Site map showing noise monitoring locations Huntstown, Finglas, Co. Dublin.



Appendix B

Photographs of noise monitoring locations



Noise monitoring location N1



Noise monitoring equipment at monitoring location N2



Noise monitoring equipment at monitoring location N3



Noise monitoring equipment at monitoring location N4