

Appendix G

Noise

REPORT



Report Title : ENVIRONMENTAL NOISE IMPACT ASSESSMENT
FOR PROPOSED EXTENSION OF EXISTING WORKINGS AT THE
SOUTH EAST CORNER OF THE SITE AT TY MAWR WEST
LIMITED, NANTILE, GWYNEDD, LL54 6BH

Report Ref : TY MAWR WEST LTD

Issue No : FINAL

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Date Issued : 15/09/2011

Client : TY MAWR WEST LIMITED
NANTILE
GWYNEDD
LL54 6BH

Report prepared by : Ty Price BA, MSc. Environmental Acoustics MIOA
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Signed:

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EXECUTIVE SUMMARY

Cheshire Environmental Associates has carried out an environmental acoustic assessment for Ty Mawr West Ltd of its proposed site extension.

There already exists planning consent for mineral operations that satisfactorily operate within the statutory noise limits. Given that the overall working output is not going to increase, there will be no increase in internal traffic or processing activities.

The assessment indicates noise emission from the proposed new excavation area (further away from residential properties than the present workings) will not give rise to complaints.

In view of the above, Cheshire Environmental Associates see no reason to implement any additional noise mitigation measures for the proposed new excavation area than are already found in the existing planning conditions governing the remainder of the Ty Mawr West site, and can find **no reason for a refusal of planning permission** for the proposed additional excavation area **on ground of noise nuisance**.

2.0 INTRODUCTION

- 2.1 Ty Mawr West is an existing 'dimension stone' quarry and slate-crushing site, operating without any noise disturbance. It has permission to continue to dig away some of the waste tips, with the mitigation of maintaining acoustic barrier if necessary.
- 2.2 The new scheme, of which an acoustic prediction analysis is required, is extension of the existing workings by digging the collapsed rock at the south-east corner of the site. This will be done with an existing 360° digger and the excavated material carried to the existing sorting area by an existing truck.
Planning permission for the site as it now operates has already been granted including vehicle movements around the site and to and from the site. All that will be different from the existing diggings is that the new operation will be carried on in a slightly different location.
- 2.3 Prior to planning consent being granted Gwynedd Council has requested the submission of an assessment report to show the impact noise from the quarry operations will have on the nearest residential property to the site.
- 2.4 The scope of the assessment is to evaluate noise emission from plant and machinery that will be used for the proposed new excavation and mitigation measures (if any) to ensure noise levels from this new operation is within recommended noise levels at the nearest residential premises.
- 2.5 At the request of Ty Mawr West, Cheshire Environmental Associates has been commissioned to carry out this acoustic assessment in support of the planning application to extend the existing workings by digging the collapsed rock at the south east corner of the site.
- 2.6 The assessment has been carried out in accordance with the procedures contained in **BS: 4142: 1997**.

3.0 SITE SURVEY

- 3.1 Ty Mawr West is located along the B4418 road in the village of Nantile, Gwynedd, LL54 6BH.

The B4418 road is the main commuter route into and out of the village.

- 3.2 The most likely source of noise on site will be noise generated by the 360 o digger and the Volvo BM 816 dumper truck. During excavation the digger will remain in the proposed new excavation area for which planning permission is required. The Volvo BM 861 truck will then carry the excavated material to the existing sorting area (by an existing truck road already in use for another part of the existing site) for which planning permission has already been granted.
- 3.3 The site layout will make a significant impact in noise mitigation. The extraction process will be confined only to the proposed area for which planning permission is required.
- 3.4 The distance from the proposed area to the nearest residential property called Ty Mawr is **300metres**. In between the proposed excavation site and this property are slate heaps. There is also a very large shed opposite Ty Mawr across the B4418 road.

4.0 APPLICABLE STANDARD FOR THE ASSESSMENT

4.1 BS: 4142: 1997

BS 4142 is the leading standard used by local authorities to assess a statutory noise nuisance. The standard however has many shortfalls.

BS: 4142 'Rating industrial noise affecting mixed residential and industrial areas' describes methods for determining at the outside of a building.

(i) noise levels from factories, industrial premises or fixed installations and sources of an industrial nature in commercial premises, and

(ii) background noise levels

(iii) Paragraph 8.2 of BS: 4142 states that a difference of around 5dB between the specific noise level and the background noise (L_{A90}) is of marginal significance. A difference of 10dB is likely to give rise to noise complaints. A level minus 10 dB below the background noise level indicates complaints are unlikely.

5.0 INSTRUMENTATION USED FOR MEASUREMENT

- 5.1 Noise measurements were made using Bruel & Kjaer 2236 Type 1 Precision Sound Level meter. The instrument was calibrated before the start of measurement and after measurements.
- 5.2 The sound level meter and calibrator have calibration certificate.
- 5.3 A windshield was used on the sound level meter.
- 5.4 The weather was dry throughout the measurement periods being dry and warm with very little wind.

6.0 MEASURED NOISE LEVELS ON SITE

- 6.1 Ambient noise measurements commenced 15th August 2011 at 08.00 hours. Measurements were made outside Ty Mawr the nearest residential property to the proposed excavation area. The measurements position was at the field gate on the grass verge near the telegraph pole opposite the Quarry shed located along B4418. The line of sight from the measurement position to the proposed excavation area is unobstructed. The distance from Ty Mawr to the proposed excavation area is 300metres.

The measured ambient noise level when no work was being carried out at the proposed excavation area was $L_{aeq} (60min)$ 47dB(A) and $L_{A90} (60min)$ 41dB(A).

- 6.2 The measured noise level when (demonstration for the purpose of this assessment) excavation was being carried out was $L_{aeq} (30min)$ 44dB(A). The measurement includes some road traffic noise even though the noise meter was paused when a vehicle was heard coming towards the measurement position. Measurement was then started again when the vehicle passed the measurement position. A 30-minute period for measurement was all that could be made because of peak hours vehicle travel which would add to the noise source measurement.
- 6.3 Measurements were also carried out at the proposed excavation site on the 360° digger and the Volvo BM861. The measured levels for these vehicles are contained in Table 1 & 2.

Table 1. Measured noise levels Volvo 861

Vehicle Volvo 861	Revvng noise
10metres from vehicle	$L_{aeq} (2min)$ 79dB(A)
20metres from vehicle	$L_{aeq} (2min)$ 71dB(A)
40metres from vehicle	$L_{aeq} (2min)$ 65dB(A)
Predicted level at 300metres to Ty Mawr residential property	$L_{aeq} (2min)$ 47dB(A)

Table 2. Measured noise level JCB 2000

Vehicle Volvo 861	Revvng noise
10metres from vehicle	$L_{aeq} (2min)$ 64dB(A)
20metres from vehicle	$L_{aeq} (2min)$ 58dB(A)
40metres from vehicle	$L_{aeq} (2min)$ 52dB(A)
Predicted level at 300 metres to Ty Mawr residential property	$L_{aeq} (2min)$ 34dB(A)

7.0 BS 4142 ASSESSMENT FOR MEASURED NOISE AT TY MAWR RESIDENTIAL PROPERTY (for existing excavation/processing operations)

7.1 It should be noted that planning permission for the movement of vehicles around the site for existing operations **has already been granted.**

Noise from vehicles from the proposed extension to the site will therefore be **no greater than at present.**

7.2 Measured overall source noise when demonstration of excavation was in operation

Source noise at Ty Mawr at 09.00 hours = $L_{aeq(30min)}$ 44dB(A)

Residual noise at 08.00 hours $L_{aeq(60min)}$ 47dB(A)

Correction for residual noise = -3dB)

Source noise 47-3 = 44dB)

Correction for tonal characteristic of noise = 0B (not audible)

Background level is = $L_{a90(60min)}$ 41dB(A)

Rating value: 44 -41 = 3dB(A) above background level but includes some road traffic noise.

Complaints are unlikely.

7.3 BS 4142 Assessment just Volvo 861 noise

Predicted level at Ty Mawr = $L_{aeq(2min)}$ 47dB(A)

Residual noise at 08.00 hours = $L_{aeq(60min)}$ 47dB(A)

Correction for residual noise = 0dB)

Ground attenuation -3dB

Source noise 47-3 = 44dB)

Correction for tonal characteristic of noise = 0B (not audible)

Background level is = $L_{a90(60min)}$ 41dB(A)

Rating value: 44-41 = 3dB(A) above background level.

Complaints are unlikely.

It should be noted, planning permission for the movement of vehicles around the site for existing operations has already been granted. Noise from vehicles therefore will be greater

than if a Volvo 816 vehicle was operating from a distance of 300metres from the residential property.

7.4 BS 4142 Assessment just 360 digger

Predicted level at Ty Mawr	= L_{aeq} 34dB(A)
Residual noise at 08.00 hours	= $L_{aeq(60min)}$ 47dB(A)
Correction for residual noise	= 0dB)
Ground attenuation	-3dB
Source noise	34-3 = 31dB)
Correction for tonal characteristic of noise	= 0B (not audible)
Background level is	= $L_{a90(60min)}$ 41dB(A)

Rating value: 31-41 = 10dB(A) below background level.

Complaints are unlikely.

The proposed extension top this operational site will use similar machinery and is further away from the residential property.

8.0 CONCLUSIONS

- 8.1 At the request of Ty Mawr West, Cheshire Environmental Associates has carried out this environmental acoustic assessment
- 8.2 The BS 4142:1997 assessment indicates noise emission from the proposed new excavation area **will not give rise to complaints**.
- 8.3 The existing site operations generate higher noise levels at Ty Mawr House when compared to any noise arising from the proposed development. The reason being that the existing operations are closer to Ty Mawr House than the proposed excavation, which in part will be screened by the intervening land form.
- 8.4 In view of the above, Cheshire Environmental Associates see no reason for any noise mitigation measures for the proposed new excavation area.
- 8.5 Cheshire Environmental Associates see **no reason** for refusal of planning permission for the proposed excavation area on noise grounds.

ANNEX A

GLOSSARY OF TERMS

Decibel (dB):

A unit of noise derived from the ratio between a measured levels and a reference value. The threshold of normal hearing is in the region of 0 dB whereas the threshold of pain is 140 dB.

A-weighting

Approximation of the way the human auditory system hears sound. The weighting de-emphasises the energy at high and low frequencies in favour of the mid-frequency range which humans are more likely to possess.

dB(A)

The (A) in dB(A) indicates that noise measurements were carried out in A-weighting. Decibels measured on a sound level meter incorporate a filter or weighting to mimic the way the sound is heard by the human ear. A change of 1dB(A) is only perceptible under controlled conditions and the average individual can only determine changes of over 3dB(A). A change of 10 decibels corresponds roughly to halving or doubling the loudness. The level inside a bedroom at night is typically 35dB(A). A typical office is 45 -55 dB(A), whereas a city street would be 70-80 dB(A).

 L_{aeq} :

Known as the equivalent continuous sound level, L_{aeq} is the A-weighted energy level of fluctuating noise emission. L_{aeq} is used to describe any type of noise that can be measured using an integrating sound level meter.

Background noise level, L_{90} :

The A-weighted sound pressure level of the residual noise at the assessment position that is exceeded for 90% of a given time interval, T measured using time weighting, F, and quoted to the nearest whole number of decibels.

Appendix H

WAMITAB Certificate – J G Davies

Ellis Wyn Jones

Ty Mawr West
Ty Mawr West Quarry
Ty Mawr
Cardiff
CF15 6RE
Phone: 07817 611152

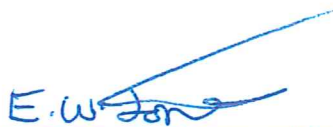
► **Natural Resources Wales**

Ty Mawr West quarry inert waste fill application

To proceed with this application we have appointed Mr John Gwynfor Davies to be the competent person to run our inert waste tip site at Ty Mawr West quarry.

Competence Certificate no. CCC8309 Expiry date 15/4/2016 copy of certificate attach.

Regards



Ellis Wyn Jones

M D

Ty Mawr West LTD

2/2/2015



15 April 2014

Mr John Gwynfor Davies
Watkin Jones & Son Ltd
Llandegai Industrial Estate
Bangor
Gwynedd
LL57 4YF

THE UNIVERSITY OF CHICAGO

CHICAGO, ILLINOIS

Find all integers x such that $x^2 + 1$ is a perfect square.

Candidate No. 12617

Dear Mr Davies

Award of Certificate of Continuing Competence

Please find enclosed your Continuing Competence Certificate. The Continuing Competence Certificate (CCC) is awarded as part of the competence scheme developed jointly by WAMITAB and the Chartered Institution of Wastes Management (CIWM) and approved by Defra and the Welsh Assembly Government.

May I take this opportunity of congratulating you on passing the test for this award which provides evidence on how you maintain your competence(s) over time and meets the specific requirements of The Environmental Permitting Regulations 2007 (and any subsequent amendments). For further information on the validity of this Certificate contact WAMITAB or visit the 'Continuing Competence' section of our web site.

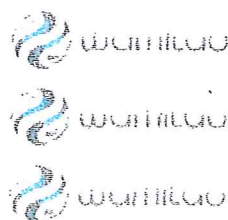
You will need to renew by taking and passing another test by the expiry date given on your certificate.

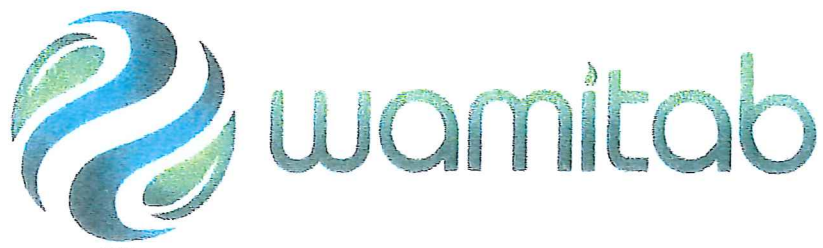
Yours sincerely

Al. Jones

Chris James
Chief Executive Officer

Enc.





Certificate No. CCC8309

Continuing Competence Certificate

This certificate confirms that

John Gwynfor Davies

Has met the relevant requirements of the Continuing Competence scheme for the following award(s) which will remain current for two years from 15/04/2014

LIN Landfill - Inert Waste
TSNH Transfer - Non Hazardous Waste

Awarded: 15/04/2014

Expiry Date:
15/04/2016

Authorised

WAMITAB Chief Executive Officer

CIWM Chief Executive Officer



The Chartered Institution
of Wastes Management



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