

Date: 15 December, 2015

The Director
Department of Planning and Environment
G P O Box 39
SYDNEY NSW 2001

ATTENTION: Director - Resource Assessments
Mr Thomas WATT, A/Senior Planning Officer, Resource Assessments

Dear sir,

Re: Application: SSD 6624
described as "Sly's Quarry Expansion Project"
Applicant: Newman Quarrying Pty Ltd
Location: Jacky Bulbin Road, Tabbimoble Creek, NSW

As mentioned to you in our phone conversation yesterday I spoke at some length with Mr Ben Luffman, the consultant, on Friday morning 11 December, 2015. This letter is an addition to our submission and is principally in response to issues raised by Mr Luffman in that conversation.

I was very disappointed that Mr Luffman would not meet us in person, preferably at our proposed house site on Jackybulbin Road so that we could show him exactly the nature of our concerns, but he insisted that his consultation with us was to be solely by way of a phone interview. This did not seem to us to be what was intended by the SEARS document.

Hours:

Mr Luffman indicated to us that some negotiation had recently occurred with your department. In particular he mentioned that the operating hours are 'now under discussion' but also said they are now 'pretty much settled' at: 7.00am to 6.00pm Monday to Friday and Saturday 8.00am to 1.00pm. He did not mention what might be now proposed for public holidays.

If this is true then we are pleased that the starting time in the mornings has been brought back from the 6.30am which was proposed, and that the Saturday hours are reduced as we requested. Our concern still is that these new hours could still mean that the quarry is operating after dark in the winter. In winter, sunset is at about 5.00pm. It is most people's experience that noise travels more at night. There would also presumably be lights required for working the quarry and our proposed house site has a direct view of the quarry workings.

We still do not support such a late closure time as 6.00pm, nor do we think it is either necessary for operation of the quarry, or even desirable from a management point of view and with regard to safety issues. In a spirit of conciliation and compromise we would not necessarily oppose a later finishing time of 6.00pm in summer. We remain however, strongly opposed to a 6.00pm closure time in winter.

If there were to be a decision by the Minister for a variable closure time of 5.00pm in winter months and a later closure in summer, we believe there would have to be a defined date on which the closing time would be adjusted each season, to provide certainty. We don't know what arrangements might be best but we suggest that one possibility is that the hours be adjusted on the date of conversion from Eastern Standard Time to Daylight Saving Time. So the wording might be:

7.00am to 5.00pm Monday to Friday during Eastern Standard Time and 7.00am to 6.00pm Monday to Friday during Daylight Saving Time. Saturdays to remain at 8.00am to 1.00pm all year. Quarry to be closed on all gazetted public holidays.

Noise:

Mr Luffman spent some time attempting to explain the basis of his noise analysis. During this explanation it became clear that his understanding was that the standard to be applied was always 5 dB above background levels at the residence. I was already aware that the usual standard is 5 dB above background at the property boundary. I suggested to Mr Luffmann that this was the correct interpretation but he rejected it. The general reasoning for this is that the property owner subject to various type of legal nuisance is entitled to the 'quiet and peaceful enjoyment' of the whole of his property. Not just of his residence.

Later on Friday 11 December, 2015 I attended the office of the EPA in Grafton and had a conversation with a Mr G Budd of that office. The gist of his advice was that it is generally correct that the test to be applied is the level of 5 dB above background at the property boundary.

Mr Luffman directed my attention to his map on Figure 6 - Peak daily production with rock hammer which is found in the document 'Slys Quarry EP_EIS_Appendix D_Noise Assessment'. He explained that the lines appearing like isobars are generated by a computer analysis based on the noise levels collected at various locations indicated and also based on models of the type and level of noise to be expected by the operation. I hope that I am characterising what he said correctly. He said that what the analysis shows is that sound levels emitted from the quarry are expected to be below background at our house site. This assertion conflicts with our experience.

It also conflicts with our examination of that map which appears to show our house site inside the yellow line relating to the 30dB level, ie it shows our house site as over 30dB.

I questioned him concerning how the background levels were measured. It turned out that included in a variety of 'background' sources of noise, such as birds, wind in branches of trees and vehicles passing along Jackybulbin Road, there was also included the noise generated by current operations in the quarry. He said that this was because it is an existing lawful activity in the area. He said the computer generated model was used to simulate levels, over and above the current actual outputs namely at the level of maximum output being sought in this application. What this involves is a circular argument in which a large part of current unlawful noise generating activity is included in the calculation of background levels and must in effect therefore, as a matter of simple mathematics, reduce the simulated estimate of future expected noise levels above the background level.

The decibel is a ratio. To fix a level for a particular sound a reference level must be chosen.¹ If the reference level includes sources of sound that are also included in the particular sound to be measured then the measurement protocol involves a circularity and must be invalid and will therefore lead to invalid conclusions.

We note that the data provided by Mr Luffman in Table 2-1 shows historical extraction rates since 1999. It appears to disclose unlawful levels of extraction, at times far above permitted levels of activity, at one time in 2012 over 300% of permitted levels.

Table 2-1 Sly's Quarry past extraction rates

1999	113,520
2000	111,604
2001	61,232

¹ UNSW School of Physics, PhysClips <http://www.animations.physics.unsw.edu.au/jw/dB.htm> under heading Standard Reference Levels.

2002	83,420
2003	59,069
2004	109,816
2005	114,662
2006	176,185
2007	183,930
2008	108,252
2009	139,522
2010	152,636
2011	287,656
2012	324,328
2013	215,822
2014	80,271

* This is tonnes sold, not extracted. The volume sold may include material stockpiled from previous years. The volumes are reported to CVC and EPA annually.

We are at present making inquiries with both Clarence Valley Council and the EPA in order to discover how these levels of extraction have been permitted. Part of that process appears to us to involve an error by one or both of those authorities relating to a possible unlawful approval of expansion of extraction rates.

However that may have come to be it is surely involves false and circular reasoning to include the noise arising from those levels of over-extraction as an approved activity to be included in assessment of background levels of noise.

We suspect moreover that at periods of high extraction rates there would not be higher absolute levels of noise emitted, but rather, there would be more continuous periods of noise emission. (That is, excluding for the time being the separate consideration of greater distances of noise propagation as the proposed expansion of extraction moves to higher levels of AHD in Stage 2 & 3 North.) So, we suggest that including any source of noise from the quarry operation in calculation of background noise levels, whether at an approved rate of extraction or not, will lead to inaccurate and questionable results.

We note from the various maps that one of the 'receivers', identified as R3, which is relied on extensively in the report, is situated to the at least 1.5 kilometres east of our eastern boundary and appears to be in a valley to the south of the quarry site, whilst our proposed house site is on a spur at about 100 metres AHD. We do not consider them comparable.

Mr Luffman expressed the view that there would be no benefit to be obtained from taking measurements of actual levels at our proposed house site, nor at various points along our boundary. We reject that. Mr Lawrence 'Yogi' Berra famously said: "In theory, there is no difference between theory and practice, but in practice there is." One cannot be certain of what actual measurements might be found until the measurements are taken. Computer simulations do not explain all. They are in reality merely a form of human construct and as prone to failure and error as any other.

We say that certain noise sources are more likely to be antagonistic.

- Intermittent impulse noise sources are more penetrating due to the volatility of frequency and amplitude of the sound. For example, rock hammers and reversing signals.
- Higher frequency sounds are more penetrating over distance. An isolated source of sound, far from any reflecting surfaces, such as a bird singing high in the air, can penetrate significant distances, despite the source of the sound not being loud in absolute terms. When the quarry is not operating, such as on Sundays, we can clearly hear individual birds, such as Lewin's Honeyeater, *Meliphaga lewinii*, from their location on the ridge over a kilometre to the north and north-west of our property. When the quarry is operating we cannot hear the honeyeaters at all, nor most other birds.

- Anisotropic (ie directed) sound sources, such as from a megaphone, or in this case due to the shape and angle of the quarry walls are likely to increase penetration of the sound over distance.²

All three of these factors would apply to the sounds from the quarry which create the greatest nuisance to us.

Our experience is that we can clearly hear machinery at the quarry from our proposed house site. We can hear clearly loud noise from a machine that we suppose now to be the one referred to as a rock hammer. We can also clearly hear quite loud reversing signals from either machinery or trucks. These noises continue most of the day and often the whole day without interruption. As the quarry face is potentially extended higher towards the planned Stage 3 north section we anticipate that the volumes will increase. If only because they will be at a similar height datum to us and with no natural or geographical feature between to deflect or mitigate the sound.

We discussed these particular sources of noise and it seems that Mr Luffman may be able to agree to certain mitigating actions to reduce those noises. In respect of the reversing signals, if they are due to machinery confined to the site they might be able to be reduced in volume or replaced with flashing lights or both. In relation to the rock hammer he suggested that its use might be able to be limited to 10.00am to 3.00pm to match permitted blasting periods. How effective these measures might be is not possible for us to assess.

I suggested to Mr Luffman that due to my past experience I knew that an alteration in blasting procedure could drastically reduce the need for use of the rock hammer, but he made no comment in reply.

Blasting

In relation to blasting periods, Mr Luffman suggested that 10.00am to 3.00pm was suitable to the applicant. We think that is generally suitable as it will avoid times when schoolchildren may be transported along the Jackybulbin Road. However, we think that perhaps ending at 2.30pm would be better. Over the years we have heard numerous blasts from our land, they are very loud even at approximately 700 metres distance. We note that the rock face of the quarry in the area outlined as Stage 3 South will eventually come quite close to the public road.

We oppose any expansion of the quarry, but if the expansion is approved either in part or as a whole, then we consider it preferable if blasting is avoided at times when children and their parents might be passing the quarry entrance at the start and end of the school day. We think it would be most unfortunate if a blast were to occur just as a vehicle with very young children, eg kindergarten age, was by chance passing right at the quarry gate. The sudden noise could be frightening, even traumatic. We think it quite important that there be warning systems including signs or lights on the public road.

We note that we have never been informed in advance, either by phone or in writing, of blasting since operations began in 1985. Nor to our knowledge has any system of warning signs or flashing lights been set up as suggested by the Land & Environment Court decision of 29 January 1999.

Thank you for your consideration of these issues

Geoffrey J Hill

² Ibid: under heading: dB and Radiation that Varies with Direction.