

## Supplementary statement

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Date:	15 July 2024
From:	Jamie Exeter
To:	Olivia Stirling
Re:	Supplementary statement of evidence for RC230325 (Hawkeswood Mining Limited)

### 1.0 Introduction

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This document sets out:

- My relevant qualifications and experience
- Outstanding disagreements on matters relevant to potential noise effects
- My review of the draft Operational Noise Management Plan
- My summary statement.

I have prepared this statement in accordance with Section 9 *Code of conduct for expert witnesses* of the Environment Court of New Zealand Practice Note 2023.

The notional boundaries referred to in this document are at the properties where written approval to the application was not provided by the owners and occupiers.

### 2.0 Qualifications and relevant experience

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I am a Principal at Styles Group. I have been working in the field of acoustics for almost 20 years. I have been measuring, predicting, and assessing environmental noise and vibration within the regulatory framework of District Plans and the Resource Management Act for more than 16 years.

I have worked on a significant number of quarrying, mining, and construction projects including many of New Zealand's largest infrastructure projects.

I regularly undertake peer review work for Local Government throughout New Zealand. I have provided expert evidence and advice for District Plan changes and reviews for a large number of private and public sector clients including the Ministry of Education. I have written and presented guidelines on the measurement and assessment of environmental noise and construction noise and vibration to council staff and project teams throughout New Zealand.

I am one of three consultants in a working group currently drafting guidelines on the measurement and assessment of construction noise in New Zealand on behalf of the Association of Australasian Acoustical Consultants (AAAC) to address issues and ambiguities in NZS 6803:1999 *Acoustics – Construction Noise*.

I hold a Diploma in Audio Engineering and I am a Member of the Acoustical Society of New Zealand (MASNZ). I served as an elected council member of the ASNZ from 2012 until 2018. Styles Group is a Member Firm of the AAAC.

### 3.0 Outstanding disagreements

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This section summarises the outstanding disagreements on matters relevant to potential noise effects.

#### 3.1 Ambient noise levels

The ambient noise data provided by Mr Hegley is controlled by a noise source that has not been explained. The influence of the unidentified noise source is illustrated in the original graphs provided<sup>1</sup> where the  $L_{eq}$  value is higher than the  $L_{10}$ . This relationship can only occur when the loudest sounds controlling the average noise level are present for less than 10% of the measurement time (i.e., less than 90 seconds during a 15-minute noise measurement). Examples of noise sources in rural areas that can generate such results include bird scaring devices, birdsong, and insects close to the microphone.

The unidentified noise source is often present in the data for 'Site 1' and is almost always present in the data for 'Site 2' during the proposed operating hours. It was not present in my brief measurements during my site visit.

In my experience, the results of Mr Hegley's ambient noise measurements are not representative of a calm rural environment. I expect they overstate the ambient noise levels typically experienced at the nearest notional boundaries, so I have not adopted them.

#### 3.2 Noise from dewatering pumps

The conditions proposed by the applicant would enable the dewatering pumps to generate noise that is clearly audible outside dwellings in the evenings (and potentially during the day on Saturdays and Sundays when there is no other activity on the site). The noise would be audible as a constant hum that may mask natural sounds in the environment and cause considerable annoyance for residents in outdoor living areas.

I have recommended a noise limit for the operation of the pumps that would ensure this effect is avoided at times when ambient noise levels in rural areas are typically low. Compliance with this limit would not be difficult for the consent holder.

Mr Hegley disagrees with my recommended condition on the grounds that compliance with the District Plan permitted noise limit of 40 dBA  $L_{10}$  after 10 pm would not cause sleep disturbance inside bedrooms or disrupt residential activities inside dwellings. I agree that the night-time permitted noise limits are appropriate for avoiding disturbance inside dwellings from noise generated by permitted

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<sup>1</sup> [Link to ambient noise data on hearing webpage](#)

activities. However, my recommended condition is designed to address potential noise effects on residents in outdoor living areas in the evenings (and potentially earlier on weekends).

In my experience, noise limits more stringent than the permitted standards for the zone can be adopted where an activity has a Discretionary status for reasons relevant to noise. This approach can also apply to operating hours or the timing and duration of specific activities to ensure that noise emissions are reasonable.

## 4.0 Draft Operational Noise Management Plan

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I have reviewed the draft Operational Noise Management Plan. It includes my recommendations. I consider a final version based on the draft will be suitable for the proposed activity providing it includes appropriate controls to ensure that the use of dewatering pumps on site does not generate unreasonable noise effects.

## 5.0 Summary

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I agree that noise from the proposed activity can comply with the permitted noise limits.

Noise from the site will be audible at the neighbouring notional boundaries during the operating hours. There may be times when it is dominant and masks natural sounds in the environment during the day, but I understand that this would be for a short duration of four to six months while mining is completed in the nearest parts of the site. At other times, I expect noise from the site would be less noticeable and much less likely to be dominant (based on my visit to the area). Receivers will be heavily screened from plant and operations that are several metres below ground level or at the far end of the site.

In addition to the agreed draft conditions, I consider that a condition is necessary to address the potential noise effects of constant noise from dewatering pumps being clearly audible at the neighbouring notional boundaries in the evenings and on weekends. This can be achieved by imposing a noise limit for the operation of the pumps that is lower than the permitted noise limits for the zone. I have recommended a limit of 25 dBA L<sub>10</sub> because this will achieve the objective even when there are low ambient noise levels. With a condition in place to address this matter I expect that noise from the proposed activity will not cause unreasonable disturbance at the nearest notional boundaries.