

**BEFORE A COMMISSIONER APPOINTED BY THE OTAGO REGIONAL
COUNCIL AND THE CENTRAL OTAGO DISTRICT COUNCIL**

IN THE MATTER OF

the Resource Management Act 1991

AND

IN THE MATTER OF

applications by Cromwell Certified
Concrete Limited for resource
consents to expand Amisfield Quarry

JOINT WITNESS STATEMENT

(NOISE)

Dated: 14 December 2021

Introduction

- 1 This joint witness statement has been prepared by:
 - i. Mr Jamie Exeter for Cromwell Certified Concrete;
 - ii. Dr Jeremy Trevathan for Central Otago District Council; and
 - iii. Mr Darran Humpheson for the Hayden Little Family Trust, Nicola and Bryson Clark, and Amisfield Orchard Limited.
- 2 Having reviewed the evidence we have each provided for this Hearing, we discussed key acoustics issues via email from the 7th to the 14th of December 2021, and produced this joint witness statement.

Areas of Agreement

Construction noise

- 3 We agree that the relevant District Plan construction noise limits should be applied to the proposal, and we expect construction works undertaken on the site to comply with these limits. 'Construction noise' includes noise from bund formation and rehabilitation works, but not works that are part of an ongoing activity.
- 4 We agree that the construction noise condition should be drafted in accordance with the current New Zealand construction noise standard NZS 6803:1999, and define what activities are to be considered to be construction activities, for clarity.

Operational noise

- 5 We agree that the relevant operational noise sources have been identified, and that the noise level predictions are representative of a worst-case scenario during peak production.
- 6 We agree that the District Plan noise limits should be applied to the proposal (subject to an update from the LA10 to LAeq metric, in line with current best practice) and that the proposed activity can comply with these limits.

- 7 We agree that noise monitoring and noise limit conditions should be drafted in accordance with the current New Zealand environmental noise Standards NZS 6801:2008 *Acoustics – Measurement of environmental sound* and NZS 6802:2008 *Acoustics – Environmental noise*, apart from the minor issue discussed in 13 to 16 below.
- 8 If the proposed noise limits are complied with, we consider that the proposal is acceptable from a noise perspective. Dr Trevathan and Mr Humpheson have characterised the expected noise effect as 'minor'. Mr Exeter considers that the cumulative noise emissions from the expanded quarry will be 'reasonable'.

Operational vibration

- 9 We agree that operational vibration will not exceed standards for avoiding cosmetic building damage, or a reasonable level for people.

Mitigation measures

- 10 We agree that the proposed mitigation measures as detailed in the evidence of Mr Exeter are appropriate. Mitigation measures include construction of bunding, use of broadband reversing alarms for site plant and vehicles, and limited loading of customer vehicles.
- 11 We agree that a list of best practice noise minimisation requirements for plant maintenance and servicing, and loading dump trucks in the expansion area, should be included in the Quarry Management Plan.

Consent conditions

- 12 We agree on the noise conditions attached as **Appendix 1** with the two exceptions set out below.

Areas of Disagreement

Noise limit condition

- 13 Mr Humpheson considers that the noise limit condition should require assessment over a single 15-minute sample period, with no duration correction applied, but otherwise in accordance with NZS 6802:2008 *Acoustics – Environmental noise*. This is because he considers that adverse noise effects of short periods of higher noise would not be adequately offset by an extended period of lower noise.

- 14 Mr Exeter and Dr Trevathan consider that the mandatory sections of NZS 6802:2008 should not be excluded in a condition, and the Standard should be complied with as best practice. However, in this case, the presence or absence of a duration correction will make no appreciable difference because noise received at the key neighbours is expected to be dominated by continuous sources.
- 15 Given that is the case, Dr Trevathan had suggested that a note be added to the Condition recording that "due to the nature of the proposed activity, no duration adjustment in accordance with NZS6802:2008 shall be permitted" to simplify future noise monitoring and reporting (as initial correspondence with Mr Exeter suggested there may be disagreement as to whether applying an averaging adjustment to secondary sources was permitted by NZS 6802:1991).
- 16 While disagreeing in principle, Mr Exeter does not object to the noise limit condition with the modification proposed by Dr Trevathan or Mr Humpheson because, as above, it is not expected to make a difference to the assessment.
- 17 We therefore agree on a single noise limit condition in this case.

Noise monitoring condition

- 18 We disagree on the extent of compliance monitoring that should be required by the consent conditions.
- 19 Mr Exeter recommends that attended noise monitoring should be required once, because the equipment and activities on the existing site and expansion area site will not change. The results of the monitoring can be used to determine the noise levels for extraction activities in areas closer to the dwellings if required. However, a condition recommended by AES in the peer review process, which requires monitoring on two separate occasions, was accepted by the applicant and Mr Exeter accepts this.
- 20 Dr Trevathan generally agrees with the draft condition requiring compliance monitoring on two separate occasions, once within the first 12 months of extraction in the expansion area and again when excavation initially advances to within 200 m of the dwelling at 1308 Luggate-Cromwell Road. He accepts however that '12 months' and

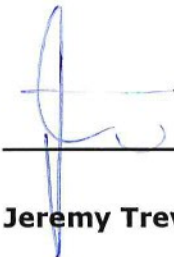
'200 metres' are somewhat arbitrary, and that the expected rate of extraction could potentially be used to refine these parameters. Dr Trevathan also considers that it would be appropriate for Council to determine a preferred course of enforcement action in the event of non-compliance and so has recommended the deletion of the pre-determined measures which were suggested in the Applicants draft monitoring condition. Mr Exeter agrees with this recommendation.

- 21 Mr Humpheson considers that monitoring should be required on three separate occasions. Two as stated above and a third time when excavation reaches a line which is within 50 m of the dwelling at 1308 Luggate-Cromwell Road, i.e. when extraction at its closest point is within approximately 100 m of the dwelling. Mr Humpheson has proposed a monitoring condition.
- 22 Appendix 1 therefore includes two compliance noise conditions; a condition favoured by Mr Exeter and Dr Trevathan, and a condition favoured by Mr Humpheson.
- 23 There are no remaining areas of disagreement.

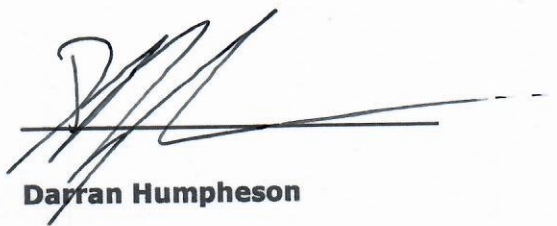
Signed:



Jamie Exeter



Jeremy Trevathan



A handwritten signature in black ink, appearing to be 'D. Humpheson', is written over a solid horizontal line. The signature is stylized and extends to the right of the line.

Darran Humpheson

Date: 14 December 2021

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Appendix 1: Agreed conditions of consent – noise

1. There shall be no stockpiling or processing of aggregate in the quarry expansion area.
2. Operation of processing plant shall be restricted to the hours of 07:00 to 19:00, Monday to Saturday.
3. Noise from the operation of the quarry must comply with the following noise limits as assessed at the notional boundary of any dwelling when measured in accordance with NZS 6801:2008 Acoustics – Measurement of environmental sound and assessed in accordance with NZS 6802:2008 Acoustics – Environmental noise. Due to the nature of the proposed activity, no duration adjustment in accordance with NZS 6802:2008 shall be permitted.

Day	Time period	Noise limit
Monday to Saturday	07:00 to 20:00	55 dB LAeq (15 min)
At all other times		40 dB LAeq (15 min) and 70 dB LAmax

4. All vehicle reversing alarms on quarry-based equipment or trucks, shall only be broadband reversing alarms.
6. Construction activities shall be managed in accordance with the requirements of NZS 6803:1999 Acoustics – Construction Noise and any noise generated shall comply with the limits given in Table 2 of that standard.

For the purposes of this consent "construction activities" means activities associated with the establishment, or rehabilitation of the quarry, such as: site establishment; the construction and removal of bunds, topsoil stripping, creation and removal of the underpass to the expansion area, constructing slope batters and contouring the final land. If ongoing backfilling activity associated with the construction of slope batters occurs at the same time as the quarry is operational, this is not considered to be construction noise and shall comply with the operational noise limits for the site.

7. The activity shall be limited to a maximum of 4 heavy vehicle movements on site between 06:00 and 07:00, Monday to Friday with no more than 1 truck accessing the site in any 15-minute period. Heavy vehicle movements on site before 07:00 shall not occur more than twice per week. There shall be no more than 5 heavy vehicle movements between 19:00 and 18:00, Monday to Friday, with none permitted outside the hours of 07:00 to 19:00 on Saturdays, or at any time on Sundays.

8. No truck shall be loaded between the hours of 06:00 and 07:00 with any product larger than 22 mm concrete aggregate.

Monitoring condition as agreed by Dr Trevathan and Mr Exeter

9. A review of actual noise generation shall be undertaken by a suitably qualified person on behalf of the consent holder, once within the first 12 months following the commencement of quarrying within the expansion area, and again when excavation initially advances to within 200m of the dwelling at 1308 Luggate-Cromwell Road. A completed report shall be provided to the Consent Authority within two weeks of each review being completed. The reviews shall include:
 - a) Daytime noise readings taken at a time when processing machinery is operating simultaneously with extraction in the expansion area.
 - b) A comparison between the consented noise levels and actual noise levels.

Monitoring condition as proposed by Mr Humpheson

10. The Consent holder shall undertake compliance noise monitoring by a suitably qualified and experienced acoustic consultant within the first 12 months following the commencement of quarrying within the expansion area and again when excavation initially advances to within 200 m of the dwelling at 1308 Luggate-Cromwell Road and again when within 100 m of the dwelling. For each survey, excavation should be occurring at the highest ground elevation.

The consent holder shall submit each monitoring report to the Consent Authority within two weeks of each survey being completed. The report shall include:

- a) Daytime noise readings taken at a time when processing machinery is operating simultaneously with extraction in the expansion area.
- b) A comparison between the noise limits of Condition 3 and measured noise levels.

If measured noise levels exceed the noise limits, then the consent holder shall investigate and implement additional mitigation to ensure compliance with Condition 3. The consent holder shall submit a mitigation report to the Consent Authority within one month of the monitoring report detailing the mitigation measures that will be implemented and shall undertake further compliance monitoring within 14 days of any mitigation measures being agreed with the Consent Authority and implemented to demonstrate the effectiveness of that mitigation.

