

# **PROPOSED ALLUVIAL MINING**

**1346–1536 TEVIOT ROAD  
ROXBURGH**

**CONSENT NUMBER RC230325**

# **OPERATION NOISE MANAGEMENT PLAN**

**Operator: Hawkeswood Mining Limited**

**Prepared by: Hegley Acoustic Consultants**

**Date: 25 June 2024 Draft**

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## 1. Introduction:

Hawkeswood Mining Limited is proposing to mine the alluvial material using conventional gold recovery plant located on a floating dredge at 1346 – 1536 Teviot Road, Roxburgh. The site is located in a Rural Resource Area in the Central Otago District Plan.

The resource consent conditions require an Operational Noise Management Plan (ONMP) to be prepared for the proposed works. This ONMP has been prepared to satisfy this requirement.

The ONMP shall be updated as appropriate to reflect any changes to the mining activity that may influence the noise received by residents or to reflect changes that are appropriate to ensure all residents are given the appropriate acoustic protection from unreasonable noise. Any update of the ONMP will be sent to the Central Otago District Council for certification.

## 2. Design Requirements

Resource consent conditions 9 and 39 - 42 require:

9. *The hours of operation are:*
- a. *07:00 and 19:00 Monday to Friday, and 07:00 to 13:00 on Saturdays, for all mining and processing activity on the site including associated heavy plant and truck movements. These works must not occur on any Sunday or public holiday.*
  - b. *Unrestricted in respect of emergency works, machinery maintenance, dust control, and dewatering.*
39. *Subject to the following, all activities must be conducted to ensure the following noise limits are not exceeded at any point within a notional boundary or at any point within the Residential Resource Area.*
- a. *On any day 07:00 to 22:00: 55 dBA  $L_{10}$*
  - b. *22:00 to 07:00 the following day: 40 dBA  $L_{10}$  and 70 dBA  $L_{max}$*
- This condition does not apply to the notional boundary of any dwelling:*
- i. *owned by the consent holder,*
  - ii. *owned by Jacks Ridge Limited, or*
  - iii. *located within the mine site.*
40. *Site-based trucks, plant, and machinery must not be fitted with tonal reversing alarms. Broadband reversing alarms are permitted.*
41. *All vibration generated on the site must comply with the guideline vibration values of DIN 4150-3:1999 Vibrations in buildings – Part 3: Effects on structures.*

42. *The consent holder must submit an Operational Noise Management Plan (ONMP). The objectives of the ONMP are to set out the methods and procedures required to adopt the best practicable option for minimising noise and vibration emissions from all aspects of the consented activities, and to ensure that noise and vibration consistently complies with the consented limits. The ONMP must include:*
- a. The consented noise and vibration limits.*
  - b. Requirements and procedures for noise monitoring to ensure consistent compliance with the noise limits in this consent.*
  - c. Procedures for communicating effectively with neighbours.*
  - d. Procedures for receiving and responding to complaints about noise and vibration.*
  - e. Procedures for staff and contractors to follow to minimise noise and vibration emissions.*
  - f. Practicable management and mitigation measures for complying with the consented limits and reducing noise and vibration effects at the neighbouring notional boundaries.*

### 3. Contractors Contact Details:

Office	Hawkeswood Mining Limited 1484 Teviot Road, RD2 Millers Flat, 9572
Site Manager	Simon Johnstone 027 4158406

The contractor will provide a copy of these contact details to all neighbours with a residence within 500m of the site.

### 4. Design Limits - Noise and Vibration

The design limits of the consent are:

39. *Subject to the following, all activities must be conducted to ensure the following noise limits are not exceeded at any point within a notional boundary or at any point within the Residential Resource Area.*
- a. On any day 07:00 to 22:00: 55 dBA  $L_{10}$*
  - b. 22:00 to 07:00 the following day: 40 dBA  $L_{10}$  and 70 dBA  $L_{max}$*

*This condition does not apply to the notional boundary of any dwelling:*

- i. owned by the consent holder,*
- ii. owned by Jacks Ridge Limited, or*
- iii. located within the mine site.*

41. All vibration generated on the site must comply with the guideline vibration values of DIN 4150-3:1999 Vibrations in buildings – Part 3: Effects on structures.

For certainty, DIN 4150-3:1999 Vibrations in buildings – Part 3: Effects on structures requires:

**Guideline values for vibration velocity to be used when evaluating the effects of long-term vibration on structures**

<b>Type of structure</b>	Guideline values for velocity, $v_i$ , in mm/s, of vibration in horizontal plane of highest floor, at all frequencies
1 Buildings used for commercial purposes, industrial buildings, and buildings of similar design	10
2 Dwellings and buildings of similar design and/or occupancy	5

It is noted vibration is not expected to generate any annoyance at all for the neighbours so vibration is not considered further at this stage of the mine management. In the unlikely event there is a vibration complaint the site manager will seek further professional advice and the ONPM updated appropriately.

In addition, section 16 of the Resource Management Act requires that:

*Every occupier of land ... shall adopt the best practicable option to ensure that the emission of noise from that land ... does not exceed a reasonable level.*

All plant selected and work undertaken on site will consider the requirements of section 16.

## 5. Responsibility of Works Supervisor

The site manager noted in section 3 of this plan shall be responsible for:-

- i) Supervision of all on site construction activity;
- ii) Implementation of the ONMP;
- iii) Monitoring that the ONMP is being implemented;
- iv) Investigation of any complaint;
- v) Resolution of any complaint; and

- vi) Reporting to the **General Manager Planning** at the Central Otago District Council the result of any investigation and resulting action that is required to mitigate any issue that may arise.

## 6. Staff Training

All staff will be made aware of this ONMP and a copy of this plan will be available at all times.

Staff operating noisy equipment, such as an excavator or bulldozer will be specifically instructed during their site induction on the way the equipment is to be operated and also instructed on any noise control treatment, such as screening of a noisy activity. In the event a noise complaint is received the operator of the plant generating the noise will be advised of their obligation to operate the equipment to minimise noise and to ensure the appropriate screening is in place.

## 7. Controlling Noise

Mining and processing activity must only take place between 0700 and 1900 hours Monday to Friday, and 0700 to 1300 hours on Saturdays. This includes all heavy plant and vehicle movements. The contractor will ensure that any end of day pack down activities are completed prior to the end of operational hours. Machinery maintenance, dewatering and dust control may be operated outside of the above operational hours.

Noise control bunding shall be established in accordance with the site plans dated 22 April 2024 prior to the commencement of mining in each stage or sub-stage. These bunds may be disestablished in accordance with the staging noted on the site plans (dated 22/4/2024).

The height of these bunds must be no less than 3 metres except for the bund in stage 2, which must be 4 metres high along the northern boundary of the site, and at least 300m down the north-western side of stage 2 and 700m down the north-eastern side of stage 2.

The site manager shall be responsible for ensuring that all plant used on site, including that of any subcontractors, is properly maintained. Any mitigation introduced by the original equipment manufacturer must be installed and operated as intended.

As any plant that may have a special audible characteristic to the sound will attract a 5dBA penalty to the noise assessment it is important that no plant is

operated that has a special audible characteristic. This includes any reversing alarm necessary for safety reasons is a broad band alarm.

During Stage 1 the dewatering pumps will be powered with a small diesel generator located within the pond area. To ensure the use of dewatering pumps at night time do not cause a nuisance for neighbours, and to satisfy the requirements of section 16 of the Resource Management Act they should be located as far away from any dwelling as practical and screened from the neighbours. After Stage 1 the dewatering pumps will be electrically powered so noise will be insignificant to the neighbours.

The above assumes the plant shall be operated to keep noise to a minimum to satisfy the requirements of section 16 of the RMA.

## 8. Complaints

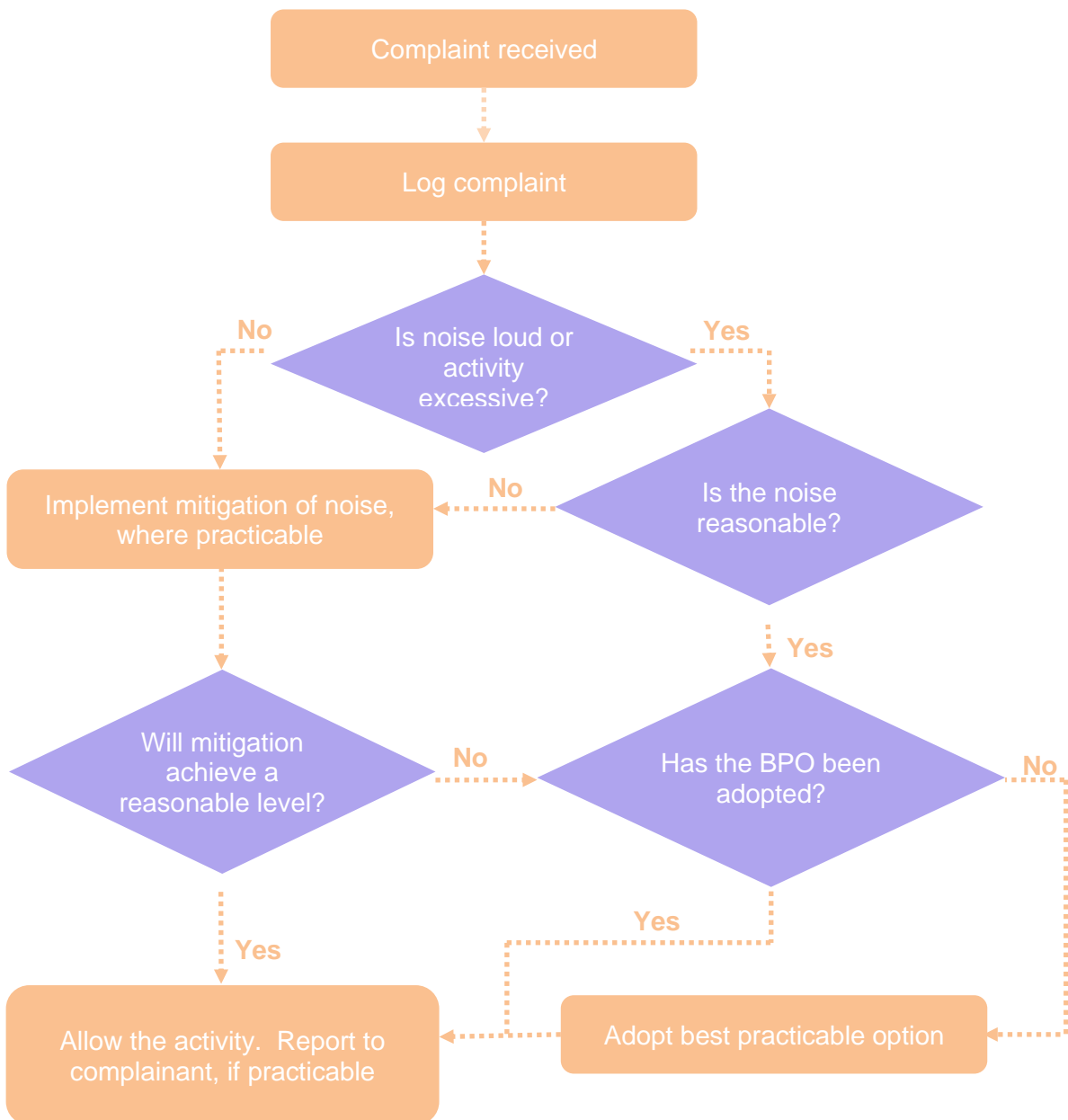
In the event of any noise concerns neighbours will be encouraged to contact Hawkeswood Mining Limited directly using the contact details as set out in Section 3 above. This is not meant to preclude residents going directly to Council but if they choose to contact Hawkeswood Mining Limited directly this will enable any remedial action to be addressed immediately.

Any complaints received by Hawkeswood Mining Limited shall be dealt with as soon as practical and the complaint recorded on a complaint form noting the following:

- Time, contact details of complainant;
- The nature of the complaint;
- Nature of activity occurring on site at time of complaint;
- Actions taken to address the complaint and any remedial actions as necessary;
- Noise levels recorded at time of complaint;
- If it is apparent that there are any sources of noise other than from the mine site (such as birds, wind noise generated in trees and such) likely to be affecting the measurements these effects should be noted;
- Where the complainant's contact details are known they will be contacted once the noise has been assessed and advised on what has been undertaken to resolve the concerns.

The complaint forms shall be kept in a register and submitted to Central Otago District Council on request.

A procedure will be put in place to ensure that the correct steps are taken to deal with complaints, as represented in the flow chart below.



**Flow Chart for Handling Complaints**



## 9. Monitoring

The basic noise monitoring programme that will be undertaken in accordance with the requirements of NZS 6801:1991 Measurement of Sound and NZS 6802:1991 Assessment of Environmental Sound is set out below.

At the commencement of each stage of mining the noise levels will be checked either at the notional boundary of the closest dwelling or a representative monitoring location of the closest notional boundary to ensure compliance. Potential monitoring locations are indicated on the plan below. The actual measurement site may be amended subject to advice from a qualified acoustic professional if the selected site is shown to be unsuitable for any reason. In addition, should there be any specific noise concerns expressed by any resident, the monitoring programme may be adjusted to ensure that compliance is achieved at any selected site.

Mining staff will be trained to undertake noise monitoring. To ensure the minimum delay in checking the noise Hawkeswood Mining Limited will purchase a sound level metre satisfying the requirements of NZS 6801:1991 Measurement of Sound. In addition, a permanent noise data logger will be purchased to enable continuous monitoring to be undertaken where greater detailed data is required.

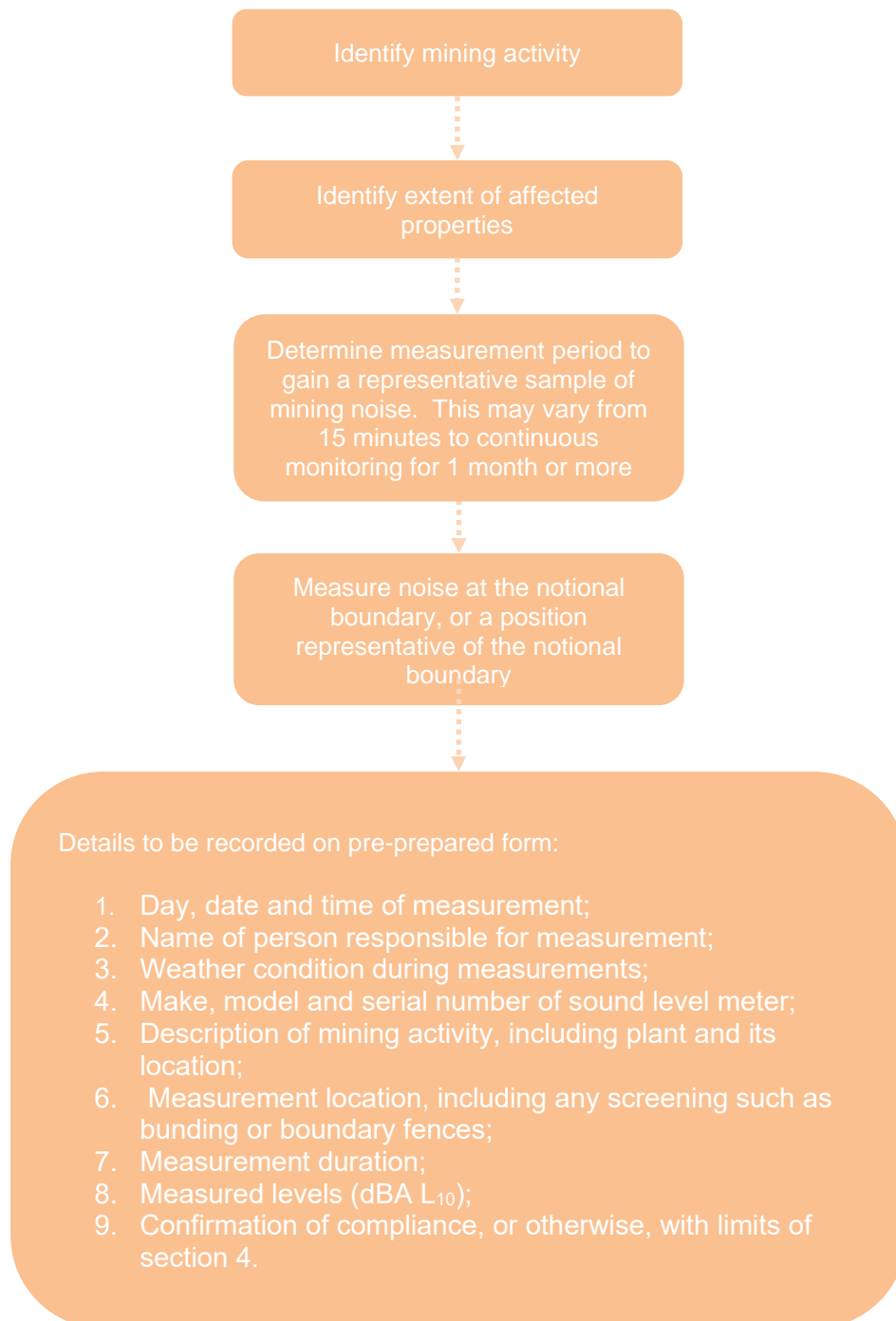
If the mine noise level is within 3dBA  $L_{10}$  of the consented limit professional acoustic advice will be sought to ensure the correct monitoring and assessment techniques are followed. (A level of 3dBA  $L_{10}$  represents a doubling of the total noise output from the mining activities, ie doubling the amount of plant on site, so provides a factor of safety with the assessment.)

The exact location and duration of the monitoring will be determined as the mine progresses and experience gained and the areas of mobile plant have been established to ensure representative monitoring is undertaken.

Monitoring at any selected site will be checked once the mining plant comes within 400m of the notional boundary of any dwelling, except for the dwellings to the south of the mine. For these dwellings checking will start once the mining is within 500m of the notional boundary of any dwelling. Irrespective of these distances, in the event there is any questions raised about mine noise the levels will be checked regardless of the distance from the mine and if relevant, the monitoring criteria will be updated to ensure adequate compliance checking is undertaken.

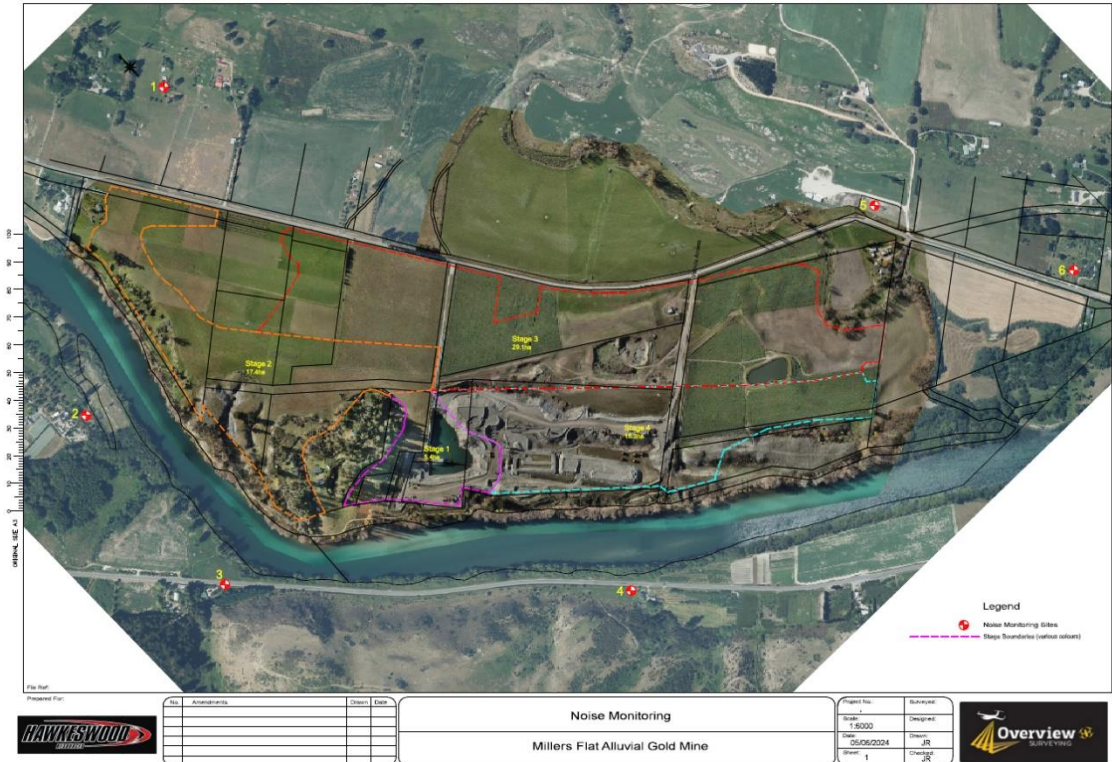
The flow chart below summarises the noise monitoring programme.

### Flow Chart Describing Operation Noise Monitoring



The figure below shows the six noise monitoring sites that will be adopted as potential monitoring points. However, these sites will be reviewed prior to setting up any monitoring station to verify in the field that the site selected is

representative of the most exposed location to fairly represent the noise received by the neighbours.



## 10. Conclusions

The ONMP as set out above has been developed to ensure compliance with the requirements of the conditions of consent and to minimise any adverse effects of noise for the residential neighbours in accordance with the requirements of section 16 of the Resource Management Act, which requires the occupier of land to adopt the best practicable option to ensure that the emission of noise from that land does not exceed a reasonable level.

In addition, the contractor will work with the Central Otago District Council to address any issues that may arise in a proactive manner.

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