OCEANAGOLD
WAIHI OPERATION

Noise Summary Report

Third Quarter 2025

Contents

1. Introduction

This report provides a summary of noise measurements and assessments undertaken by OceanaGold (NZ) Ltd Waihi Operations (OceanaGold) for the third quarter of 2025. The report is prepared to comply with the requirements of five consents:

- Hauraki District Council (HDC) Land Use Consent (LUC) for Project Martha (LUC 202.2018.857.1, condition 26A). OceanaGold is required to submit quarterly summary reports to Council on representative noise levels.
- Under the Noise Conditions of the LUC for the Favona Underground Mine (No. 85.050.326.E, condition 9) a summary report is required at the end of each 3-month period from commencement to completion of work.
- Under the Noise Conditions of the LUC for the Trio Underground Mine (RC-15774, condition 6d) a summary report is required at the end of each 3-month period from commencement to completion of work.
- Under the Noise Conditions of the LUC for the Correnso Underground Mine (RC-202.2012, condition 11d) a summary report is required at the end of each 3-month period from commencement to completion of work.
- Under the Noise Conditions of the LUSE for the Services Trench (LUSE-202.2024.00001981, condition 13), a summary report on compliance with Condition 11 to the Hauraki District Council every three months.

Although a report is required, there was no active mining in Favona and Trio during the period.

For exploration drilling operations, the conditions set out in section 8.3.1 of the Hauraki District Plan apply. Any monitoring of these activities is also included in this report.

2. Equipment and Calibration

2.1. Instrumentation Information

OceanaGold (NZ) Ltd Waihi Operations uses equipment and accessories from the manufacturer Brüel & Kjær to measure sound, these are outline in **Table 1** below. These are calibrated by Diatec, an IANZ accredited laboratory in the field of metrology and calibration to ISO 17025.

Table 1. Monitoring Equipment and Accessory information and calibration schedule

Type	Model	Serial Number	*Date of Calibration
Sound Level Meter (night use)	B&K 2250	3025096	30/04/2024
Sound Level Meter (day use)	B&K 2250	2619858	27/06/2024
Acoustic Calibrator	B&K 4231	3014415	02/05/2025
Microphone	B&K 4189	2345693	27/06/2024
Microphone	B&K 4189	3087408	30/04/2024
Microphone	B&K 4952	3166745	14/11/2023

* Calibrations are valid for two years

2.1. Field Checks/Calibration

Field Checks (pre and post calibration) of the microphone are completed before and after each reading. Sensitivity is automatically calculated and accepted or rejected. Any differences greater than 0.5dB as well as any adjustments made are recorded below.

During this quarter there were no variations over 0.5dB or changes made to the calibration of the sound level meters.

2.2. Additional Equipment

OceanaGold (NZ) Ltd Waihi Operations uses the Brüel & Kjær Applications – BZ5503 – Measurement Partner Suite to store and assess noise readings.

3. Methodology

Sound measurements and assessments by OceanaGold comply with the consent conditions and the New Zealand Standards *NZS 6801:2008 Acoustics - Measurement of Environmental Sound, 6802:2008 Acoustics - Environmental Noise and NZS 6803:1999 Acoustics - Construction Noise.*

Compliance noise is measured for a minimum of 15 minutes as required under the consent conditions. Compliance readings cannot always be made on every site visit or check due to excessive wind conditions (i.e. greater than 5 m/s).

Monitoring checks are made in response to complaints whenever necessary; initially to verify the noise level and subsequently (if necessary) to determine the effectiveness of any mitigating actions and/or the effect of changing wind conditions (changing wind strength or direction influences noise transmission between the mine and the receiver).

OceanaGold uses noise monitoring procedures to ensure compliance with the above standards and consent conditions, and to support noise mitigation protocols documented in the site Noise Management Plan. The noise mitigation protocols require review of wind conditions that could potentially result in noise levels generating complaints. Monitoring has shown that wind speeds over 3 m/s (as measured at the OceanaGold weather station at Kenny St) are likely to increase mine noise downwind of an activity to levels that may generate complaints. When such wind conditions occur, OceanaGold implements mitigating actions to reduce noise levels where practicable. During periods when high frequency sounds such as birds, cicadas and crickets become the controlling noise, a filter may be applied to noise measurements to exclude four and eight kHz (kilo-hertz) and enable analysis of the lower frequency noise levels (i.e. those usually associated with mine operations).

Wind has a significant influence on sound propagation. Sound measurement and assessment must take the effect of wind into account. Sound measurements are taken in conditions ranging from nil wind up to 5 m/s at the receiver (*NZS 6801:2008 Acoustics - Measurement of Environmental Sound*). Wind greater than 5 m/s is generally unacceptable for monitoring due to wind noise effects in the nearby environment (e.g. trees) and on the microphone.

Downwind, wind speeds of 3 - 5 m/s are considered marginal due to propagation of sound by wind from source to receiver. Conditions like those for which the compliance limits are set generally occur when wind speeds are less than 3 m/s *(Hegley, 2003: Evidence of Nevil Hegley – Favona Underground Project 2003 Final – 11/11/03*).

Wind speeds are recorded at the OceanaGold weather station. These wind readings are assumed to represent the general wind conditions across Waihi and at the noise source (e.g. the mine/mill).

Other meteorological factors influencing the overall sound environment include solar radiation, cloud cover, sunrise and sunset times, wind direction and the direction from source to receiver. These factors were also measured to derive a meteorological stability rating at the time of monitoring. Meteorological stability categories of 4 (neutral) or 5 (slightly positive) are considered suitable meteorological influences on sound propagation and are used to determine noise compliance (*NZS 6801:2008 Acoustics - Measurement of Environmental Sound* (HDC LUC 97/98-105, Condition 3.8 (e))).

4. Results

4.1. Summary of Data

Monitoring activity for the period is shown in Table 2. These measurements include all quarterly compliance readings for operations, weekly services trench noise readings and all other checks.

Table 2. Noise monitoring activity.

	Number of days checked	Number of days measured	Number of checks (compliance & other)	Number of complaint days	Number of complaint checks
July	3	3	4	0	0
August	5	5	10	0	0
September	6	6	9	0	0
QR Total	**14**	**14**	**23***	**0**	**0**

*Originally 25 reading were taken but 2 readings were excluded from analysis due to excessive background noise unrelated to site activities. These exclusions were caused by high wind and bird calls present at the time of measurement

4.2. Compliance

No mine dominated SCML exceeded compliance levels in suitable met conditions during the reporting period (see Table 3).

Table 3. Summary of Single Corrected Measured Levels (SCML).

	Total SCML readings	Mine dominated SCML over (limit + 5% during the day, limit at night)	SCML in suitable met	Mine dominated SCML over (in suitable met)
July	4	0	3	0
August	10	0	7	0
September	9	0	5	0
QR Total	**23**	**0**	**15**	**0**

Two MCNL assessments were made during the quarter (see Table 4) and were within consent limits. (Mean Corrected Noise Level assessments are taken from the quarterly day and night readings of the operational mine/mill noise measurements.)

Table 4. Summary of Mean Corrected Noise Levels (MCNL).

	Total MCNL calculations	Marginal MCNL	MCNL 5 dB over limit	MCNL in suitable met*	MCNL over limit in suitable met
July	0	0	0	0	0
August	2	0	0	1	0
September	0	0	0	0	0
QR Total	**2**	**0**	**0**	**1**	**0**

* All SCML readings that contribute to the MCNL reading must be in suitable met

4.3. Wind

As seen in Table 5, 70% (16/23) of the measurements made in the reporting period were in suitable wind conditions (<3m/s at the weather station). 100% (15/15) of the measurements made in the reporting period were in suitable wind conditions at the receiver, under 3m/s on average over the time monitored, using a handheld kestrel. (This total number is lower than the total number of measurements taken due to nighttime monitoring being unattended and therefore cannot obtain wind readings at the receiver).

65% (15/23) of the measurements made in the reporting period had suitable met scores of 4 or 5. Adverse wind conditions can influence suitable met assessments, as well as other factors including wind direction, solar radiation, and cloud cover. While it is the general prevailing wind condition as measured at

the weather station that primarily affects noise propagation, measurements may be made under adverse conditions if the wind at the receiver or at street level is generally more favourable for monitoring. Even then, representative noise measurements of mining activities are not always possible due to wind noise. Periods of high wind strengths above 5 m/s were not experienced during monitoring this period.

Table 5. Meteorological conditions of noise assessments during Q3

	Monitoring occasions with average windspeed ≤3 m/s		Monitoring occasions with suitable met
	Receiver	Weather Station	
July	4/4	4/4	3/4
August	5/5	8/10	7/10
September	6/6	4/9	5/9
QR Total	**15/15***	**16/23**	**15/23**

*Night monitoring is unattended and therefore cannot obtain wind readings at the receiver, there number is less than total checks

5. Complaints

No noise complaints were made during this quarter.

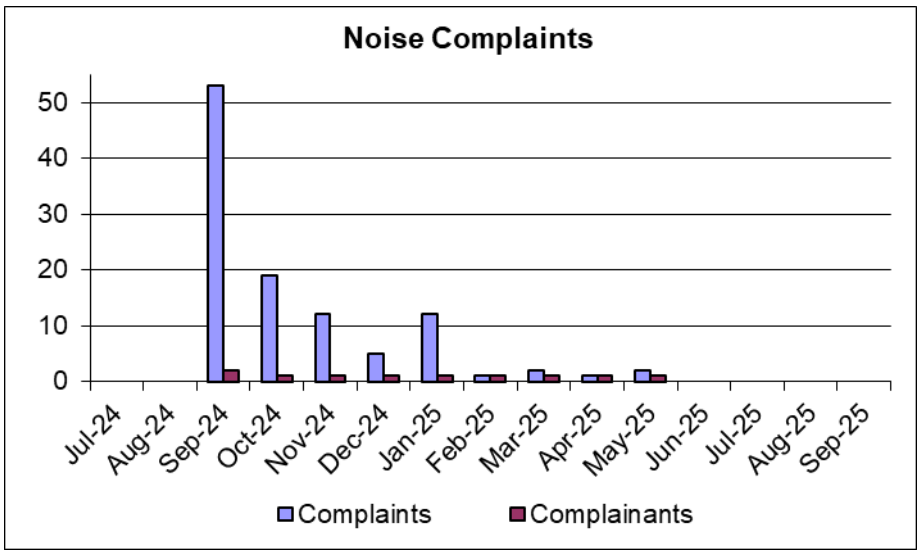

Figure 1. Noise complaint history

5.1. Operations Assessment

5.1.1. Processing and Underground Operations

Processing and underground mining operations continued as usual during the quarter. Six compliance measurements were made of activities at the processing plant and surface-related activities supporting underground operations; all were compliant with noise limits. Day-time noise levels ranged between 38.1dB and 43.0 dB (MCNL 41.4 dB), with birds, wind and a digger, being the dominant noises. Night-time noise levels ranged between 33.6 and 35.2 dB (MCNL 34.4 dB), with traffic, wind, birds and vehicles at the mill being the dominant noises.

Material for underground backfilling is currently being sourced from the polishing pond stockpile. As a result, increased machinery activity has occurred in that area this quarter. To assess compliance, three noise checks were conducted—one during the day and two in the evening. These levels ranged from 37.2dB to 39.3 dB with bird wind and traffic being the dominating noises,

5.1.2.Exploration & Other Drilling

Exploration drilling during the quarter continued underground.

Local surface drilling occurred at the Willows Road site for geotechnical and hydrogeological investigations. To assess noise levels arising from these activities 1 check was completed south of the drilling, measured close to the boundary of the nearest resident and 3 nighttime noise readings were made to the east of the drilling, measured close to the boundary of the nearest resident. All results were compliant and ranged between 34.0dB and 47.0dB.

An additional Vibrating Wire Piezometer was drilled at Altons Drilling Limited (7 Seddon St, Waihi); 5 noise readings were measured close to the boundary of the nearest resident, noise levels ranged between 49.2 dB and 61.0 dB, with the rig, birds, traffic being the dominant noises.

5.1.3. Martha Pit

In-pit stockpiling of waste rock from underground has continued during the quarter when material is not being used for backfilling underground. No significant surface-related works were conducted in the Martha Pit, with only essential maintenance (drainage, weed control, and security) and low-impact geotechnical monitoring being undertaken.

5.1.4. Services Trench

Services trench works commenced in September during the third quarter. In accordance with consent conditions, weekly noise monitoring was undertaken throughout the operational period. Measurements were taken at various locations, depending on where active works were occurring at the time. All recorded noise levels were compliant with the relevant limits. These levels ranged between 41.6dB and 54.7dB, with constructions, birds, traffic, wind and a generator being the dominant noises.

6. Mitigation

6.1. Mine & Exploration

Commitment to the management and mitigation of mine noise was sustained during the reporting period. In accordance with the Noise Management Plan (noise mitigation), no yellow or red assessments were determined during the quarter.

6.2. Services Trench

In accordance with Condition 11 of the consent, monitoring was undertaken to determine whether temporary noise barriers were required at the specified addresses. During this quarter, no works occurred within 100 metres of the identified dwellings that necessitated the installation of temporary noise barriers. As such, no barriers were erected, and all activities remained compliant with the noise limits set out in Condition 10.