

# Monthly Noise Monitoring Assessment

Tomingley Gold Mine  
February 2025

Prepared for: Tomingley Gold Operations Pty Ltd  
February 2025  
MAC160270-2025RP02



# Document Information

## Monthly Noise Monitoring Assessment

Tomingley Gold Mine

February 2025

**Prepared for:** Tomingley Gold Operations Pty Ltd

**Prepared by:** Muller Acoustic Consulting Pty Ltd

PO Box 678, Kotara NSW 2289

ABN: 36 602 225 132

P: +61 2 4920 1833

[www.mulleracoustic.com](http://www.mulleracoustic.com)

DOCUMENT ID	DATE	PREPARED	SIGNED	REVIEWED	SIGNED
MAC160270-2025RP02	25 February 2025	Daniel Brown		Oliver Muller	

Field Officer: Daniel Brown

### DISCLAIMER

All documents produced by Muller Acoustic Consulting Pty Ltd (MAC) are prepared for a particular client's requirements and are based on a specific scope, circumstances and limitations derived between MAC and the client. Information and/or report(s) prepared by MAC may not be suitable for uses other than the original intended objective. No parties other than the client should use or reproduce any information and/or report(s) without obtaining permission from MAC. Any information and/or documents prepared by MAC is not to be reproduced, presented, or reviewed except in full.

**CONTENTS**

1 INTRODUCTION.....5

2 ENVIRONMENTAL PROTECTION LICENSE NOISE LIMITS.....7

3 METHODOLOGY .....9

    3.1 LOCALITY.....9

    3.2 ASSESSMENT METHODOLOGY .....9

4 RESULTS ..... 11

    4.1 METEOROLOGICAL CONDITIONS ..... 11

    4.2 ASSESSMENT RESULTS - LOCATION R2..... 13

    4.3 ASSESSMENT RESULTS - LOCATION R3/29 ..... 14

    4.4 ASSESSMENT RESULTS - LOCATION R4..... 15

    4.5 ASSESSMENT RESULTS - LOCATION R5..... 16

    4.6 ASSESSMENT RESULTS - LOCATION R6..... 17

    4.7 ASSESSMENT RESULTS - LOCATION R23..... 18

5 DISCUSSION ..... 19

    5.1 DISCUSSION OF RESULTS - LOCATION R2 ..... 19

    5.2 DISCUSSION OF RESULTS - LOCATION R3/29 ..... 19

    5.3 DISCUSSION OF RESULTS - LOCATION R4 ..... 19

    5.4 DISCUSSION OF RESULTS - LOCATION R5 ..... 19

    5.5 DISCUSSION OF RESULTS - LOCATION R6 ..... 20

    5.6 DISCUSSION OF RESULTS - LOCATION R23 ..... 20

6 COMPARISON OF ATTENDED AND UNATTENDED MONITORING RESULTS ..... 21

7 CONCLUSION ..... 23

APPENDIX A – GLOSSARY OF TERMS ..... 25

*This page has been intentionally left blank*

# 1 Introduction

Muller Acoustic Consulting Pty Ltd (MAC) has been commissioned by Tomingley Gold Operations Pty Ltd (TGO) to complete a Noise Monitoring Assessment (NMA) for Tomingley Gold Mine (the mine), Tomingley, NSW.

The NMA involved quantifying the noise contribution of the mine by direct attended measurements to determine mining noise emissions so that effective management and controls can be implemented where required. The monitoring has been conducted in accordance with the TGO Noise Management Plan and in general accordance with Conditions L4.2 to L4.7 of the EPL at six representative receiver locations. It is noted that this assessment has been completed as part of an internal noise management initiative and does not form part of the annual noise monitoring program to address conditions of the Environmental Protection License (EPL).

The assessment has been conducted in accordance with the following documents:

- NSW Environment Protection Authority (EPA), Noise Policy for Industry (NPI), 2017;
- NSW Environment Protection Authority (EPA), Approved Methods for the measurement and analysis of environmental noise in NSW, 2022;
- NSW Environment Protection Authority (EPA), Environment Protection Licence # 20169 (EPL);
- Standards Australia AS/NZS IEC 61672.1-2019-Electroacoustics - Sound level meters – Specifications; and
- Standards Australia AS 1055:2018 - Acoustics - Description and measurement of environmental noise - General Procedures.

A glossary of terms, definitions and abbreviations used in this report is provided in **Appendix A**.

*This page has been intentionally left blank*

## 2 Environmental Protection License Noise Limits

Historic Noise Assessments for the mine categorise receivers into Noise Assessment Groups (NAGs). The NAGs were derived based on ambient noise data that controlled receiver RBLs.

**Table 1** reproduces the operational and sleep disturbance noise limits for assessed receivers referenced from the EPL that have been adopted for this NMA and are consistent with historic EPL monitoring locations.

Table 1 Noise Limits, dBA					
Noise Assessment Group	Receivers	Day	Evening	Night	
		LAeq(15min)	LAeq(15min)	LAeq(15min)	LA1(1min)
NAG A	R4, R5, R6	35	35	35	45
NAG B	R2	36	35	35	45
NAG C	R3/29	45	35	35	45
NAG D	R23	43	38	36	45

Note: Refer to figure in Appendix 4 of Project Approval 09-0155 for noise locations. However, these criteria do not apply if the Proponent has an agreement with the relevant owner(s) of these residences / land to generate higher noise levels, and the Proponent has advised the Department of Planning and Infrastructure and EPA in writing of the terms of this agreement.

*This page has been intentionally left blank*

### 3 Methodology

#### 3.1 Locality

TGO is located to the south of the village of Tomingley, NSW. Receivers in the locality surrounding the mine are primarily rural/residential and for consistency the naming conventions for each receiver have been retained from historic Noise Assessments. The monitoring locations with respect to the mine are presented in the locality plan shown in **Figure 1**.

#### 3.2 Assessment Methodology

The attended noise survey was conducted in general accordance with the procedures described in Standards Australia AS 1055:2018, "Acoustics - Description and Measurement of Environmental Noise" and the EPL. Measurements were carried out using a Svantek Type 1, 971 noise analyser between Monday 10 February 2025 and Wednesday 12 February 2025. The acoustic instrumentation used carries appropriate and current NATA (or manufacturer) calibration certificates with records of all calibrations maintained by MAC as per Approved Methods for the measurement and analysis of environmental noise in NSW (EPA, 2022) and complies with AS/NZS IEC 61672.1-2019-Electroacoustics - Sound level meters - Specifications. Calibration of all instrumentation was checked prior to and following measurements. Drift in calibration did not exceed  $\pm 0.5$  dBA.

Both evening and night measurements were of 15-minutes in duration. Where possible, throughout each survey the operator quantified the contribution of each significant noise source. Extraneous noise sources were excluded from the analysis to calculate the  $L_{Aeq}(15min)$  mine noise contribution for comparison against the relevant EPL limit.

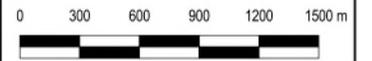
Prevailing meteorological conditions for the monitoring period were sourced from TGO's on-site meteorological station and analysed in accordance with Appendix D1 of the NPI to determine the stability category present at the time of each measured sample. This was undertaken to determine applicability of results in accordance with Condition L4.3 of the EPL. Results obtained during non-prevailing meteorological conditions (ie F Class Stability in conjunction with a 2m/s drainage or G Class Stability) are considered not applicable against the EPL criteria.



FIGURE 1  
 LOCALITY PLAN  
 MAC160270  
 Tomingley Gold Operations

**KEY**

- Receivers
- Brooklands
- TGO Boundary



## 4 Results

The monitoring and assessment results are presented in individual tables for each assessment location.

### 4.1 Meteorological Conditions

Weather data for the noise assessment was sourced from TGOs on-site meteorological station as well as operator measured conditions on site of EPL nominated receiver locations. The data was used to determine prevailing meteorological conditions at the time of the attended measurements, which are presented in **Table 2**.

**Table 2 Prevailing Meteorological Conditions**

Date & Time	TGO on-site Meteorological Station (10m AGL)		Operator Measured Weather Monitoring Location (1.8m AGL)	
	Wind Direction	Wind (m/s)	Wind Direction	Wind (m/s)
	19:44 10/02/2025	NE	6.0	E
20:05 10/02/2025	NNE	4.9	E	1.5
20:28 10/02/2025	NE	4.5	E	1.5
20:50 10/02/2025	NE	2.5	E	0.5
21:07 10/02/2025	NE	4.1	E	1.5
21:30 10/02/2025	ESE	3.2	E	0.1
22:00 10/02/2025	SE	2.3	E	0.1
22:21 10/02/2025	ESE	2.3	E	0.5
22:39 10/02/2025	SSE	4.6	E	0.5
23:00 10/02/2025	SSE	1.5	E	0.5
23:24 10/02/2025	SE	2.5	E	0.1
23:46 10/02/2025	ENE	2.4	E	0.5
19:47 11/02/2025	NE	2.4	E	0.1
20:08 11/02/2025	ENE	1.9	E	0.1
20:32 11/02/2025	NE	1.7	E	0.1
20:54 11/02/2025	NE	2.1	E	0.1
21:11 11/02/2025	ENE	1.8	E	0.1
21:32 11/02/2025	ENE	2.2	E	0.1
22:00 11/02/2025	ENE	2.8	E	0.1
22:21 11/02/2025	ENE	2.9	E	0.1
22:38 11/02/2025	ENE	2.1	E	0.1
22:59 11/02/2025	ENE	4.3	E	0.1
23:22 11/02/2025	E	3.1	NE	3.5
23:45 11/02/2025	ENE	4.1	NE	2.5
19:45 12/02/2025	E	4.1	E	0.1
20:06 12/02/2025	ENE	2.5	E	0.1
20:29 12/02/2025	ENE	4.2	NE	1.5
20:51 12/02/2025	NE	3.0	NE	0.1
21:09 12/02/2025	ENE	5.1	NE	1.5
21:37 12/02/2025	NE	3.2	NE	1.5
22:00 12/02/2025	NE	3.3	NE	1.5
22:21 12/02/2025	ENE	5.0	NE	1.5
22:38 12/02/2025	ENE	4.7	NE	1.5
22:59 12/02/2025	ENE	5.2	NE	3.5
23:23 12/02/2025	ENE	3.6	NE	3.5
23:44 12/02/2025	E	5.0	NE	2.5

## 4.2 Assessment Results - Location R2

The results of the attended noise measurements at location R2 for the February 2025 survey are summarised in **Table 3** with the relevant EPL limits, the calculated mining noise contribution and prevailing meteorological conditions at the time of each measurement.

Table 3 Operator-Attended Noise Survey Results - Location R2							
Date	Time (hrs)	Descriptor (dBA re 20µPa)			EPL Limit	Meteorology <sup>1</sup>	Description and SPL, dBA
		L <sub>Amax</sub>	L <sub>Aeq</sub>	L <sub>A90</sub>			
10/02/2025	21:30 (Evening)	46	42	40	35	WD: E WS: 0.1m/s Stab Class: D	Insects 38-45 Livestock 42-46 Traffic <36 TGO inaudible
							TGO Site L <sub>Aeq</sub> (15min) Contribution
10/02/2025	22:00 (Night)	61	38	35	35	WD: E WS: 0.1m/s Stab Class: E	Insects 32-40 Livestock 37-43 Traffic 35-38 Aircraft 33-39 Operator 38-61 TGO inaudible
							TGO Site L <sub>Aeq</sub> (15min) Contribution
11/02/2025	21:32 (Evening)	49	45	42	35	WD: E WS: 0.1m/s Stab Class: E	Insects 39-49 Traffic <38 TGO hum <35
							TGO Site L <sub>Aeq</sub> (15min) Contribution
11/02/2025	22:00 (Night)	44	38	35	35	WD: E WS: 0.1m/s Stab Class: E	Insects 33-44 Traffic 34-36 TGO hum <33
							TGO Site L <sub>Aeq</sub> (15min) Contribution
12/02/2025	21:37 (Evening)	59	40	36	35	WD: NE WS: 1.5m/s Stab Class: D	Insects 34-42 Birds <35 Traffic 40-59 TGO hum 32-35
							TGO Site L <sub>Aeq</sub> (15min) Contribution
12/02/2025	22:00 (Night)	47	38	36	35	WD: NE WS: 1.5m/s Stab Class: D	Insects 34-47 TGO hum 32-35
							TGO Site L <sub>Aeq</sub> (15min) Contribution

Note 1: Meteorological data obtained from TGO's on-site weather station or by direct measurement by the operator.

#### 4.3 Assessment Results - Location R3/29

The results of the attended noise measurements at location R3/29 for the February 2025 survey are summarised in **Table 4** with the relevant EPL limits, the calculated mining noise contribution and prevailing meteorological conditions at the time of each measurement.

Table 4 Operator-Attended Noise Survey Results - Location R3/29							
Date	Time (hrs)	Descriptor (dBA re 20µPa)			EPL Limit	Meteorology <sup>1</sup>	Description and SPL, dBA
		L <sub>Amax</sub>	L <sub>Aeq</sub>	L <sub>A90</sub>			
10/02/2025	20:50 (Evening)	85	66	44	35	WD: E WS: 0.5m/s Stab Class: D	Traffic 41-85
							Insects 41-46
							Service station <35
							Wind in trees <35
TGO Site L <sub>Aeq</sub> (15min) Contribution							<34
10/02/2025	22:39 (Night)	87	65	38	35	WD: E WS: 0.5m/s Stab Class: E	Traffic 35-87
							Insects <35
							Dogs barking <35
							TGO inaudible
TGO Site L <sub>Aeq</sub> (15min) Contribution							<28
11/02/2025	20:54 (Evening)	86	62	50	35	WD: E WS: 0.1m/s Stab Class: E	Traffic 50-86
							Insects / frogs 48-53
							TGO inaudible
							TGO Site L <sub>Aeq</sub> (15min) Contribution
11/02/2025	22:38 (Night)	87	66	42	35	WD: E WS: 0.1m/s Stab Class: D	Traffic 48-87
							Insects <40
							TGO inaudible
							TGO Site L <sub>Aeq</sub> (15min) Contribution
12/02/2025	20:51 (Evening)	85	66	46	35	WD: NE WS: 0.1m/s Stab Class: D	Traffic 44-85
							Insects <40
							Birds 50-63
							TGO inaudible
TGO Site L <sub>Aeq</sub> (15min) Contribution							<35
12/02/2025	22:38 (Night)	85	67	46	35	WD: NE WS: 1.5m/s Stab Class: D	Traffic 43-85
							Insects <42
							TGO inaudible
							TGO Site L <sub>Aeq</sub> (15min) Contribution

Note 1: Meteorological data obtained from TGO's on-site weather station or by direct measurement by the operator.

#### 4.4 Assessment Results - Location R4

The results of the attended noise measurements at location R4 for the February 2025 survey are summarised in **Table 5** with the relevant EPL limits, the calculated mining noise contribution and prevailing meteorological conditions at the time of each measurement.

Table 5 Operator-Attended Noise Survey Results - Location R4							
Date	Time (hrs)	Descriptor (dBA re 20µPa)			EPL Limit	Meteorology <sup>1</sup>	Description and SPL, dBA
		L <sub>Amax</sub>	L <sub>Aeq</sub>	L <sub>A90</sub>			
10/02/2025	20:05 (Evening)	58	41	37	35	WD: E WS: 1.5m/s Stab Class: D	Wind in trees 35-51
							Insects 35-37
							Birds 38-58
TGO inaudible							
TGO Site L <sub>Aeq</sub> (15min) Contribution							<27
10/02/2025	23:24 (Night)	45	34	31	35	WD: E WS: 0.1m/s Stab Class: D	Insects 27-45
							TGO inaudible
							TGO Site L <sub>Aeq</sub> (15min) Contribution
11/02/2025	20:08 (Evening)	54	38	32	35	WD: E WS: 0.1m/s Stab Class: E	Traffic 32-36
							Birds 34-54
							Insects 31-38
TGO inaudible							
TGO Site L <sub>Aeq</sub> (15min) Contribution							<22
11/02/2025	23:23 (Night)	60	48	44	35	WD: NE WS: 3.5m/s Stab Class: D	Insects <40
							Wind in trees 41-60
							TGO inaudible
TGO Site L <sub>Aeq</sub> (15min) Contribution							<34
12/02/2025	20:06 (Evening)	49	33	27	35	WD: E WS: 0.1m/s Stab Class: D	Birds 27-49
							Insects 25-34
							Wind in trees 29-35
TGO inaudible							
TGO Site L <sub>Aeq</sub> (15min) Contribution							<20
12/02/2025	23:23 (Night)	60	48	43	35	WD: NE WS: 3.5m/s Stab Class: D	Insects 40-60
							Insects 39-42
							TGO inaudible
TGO Site L <sub>Aeq</sub> (15min) Contribution							<33

Note 1: Meteorological data obtained from TGO's on-site weather station or by direct measurement by the operator.

#### 4.5 Assessment Results - Location R5

The results of the attended noise measurements at location R5 for the February 2025 survey are summarised in **Table 6** with the relevant EPL limits, the calculated mining noise contribution and prevailing meteorological conditions at the time of each measurement.

Table 6 Operator-Attended Noise Survey Results - Location R5							
Date	Time (hrs)	Descriptor (dBA re 20µPa)			EPL Limit	Meteorology <sup>1</sup>	Description and SPL, dBA
		L <sub>Amax</sub>	L <sub>Aeq</sub>	L <sub>A90</sub>			
10/02/2025	19:44 (Evening)	82	61	36	35	WD: E WS: 1.0m/s Stab Class: D	Traffic 33-82
							Wind in trees 36-43
							Birds 32-47
							Offsite drilling <32
TGO inaudible							
TGO Site L <sub>Aeq</sub> (15min) Contribution							<26
10/02/2025	23:46 (Night)	81	61	31	35	WD: E WS: 0.5m/s Stab Class: E	Traffic 29-81
							Insects 28-32
							Offsite drilling 29-31
							TGO inaudible
TGO Site L <sub>Aeq</sub> (15min) Contribution							<21
11/02/2025	19:47 (Evening)	82	63	35	35	WD: E WS: 0.1m/s Stab Class: E	Traffic 32-82
							Birds 34-67
							Offsite drilling 32-35
							TGO inaudible
TGO Site L <sub>Aeq</sub> (15min) Contribution							<25
11/02/2025	23:45 (Night)	82	62	38	35	WD: NE WS: 2.5m/s Stab Class: D	Traffic 37-82
							Offsite drilling <32
							Insects 34-36
							Wind in trees 36-48
TGO inaudible							
TGO Site L <sub>Aeq</sub> (15min) Contribution							<28
12/02/2025	19:45 (Evening)	81	63	44	35	WD: E WS: 0.1m/s Stab Class: D	Traffic 45-81
							Offsite drilling 43-46
							Birds 45-49
							TGO inaudible
TGO Site L <sub>Aeq</sub> (15min) Contribution							<34
12/02/2025	23:44 (Night)	76	53	44	35	WD: NE WS: 2.5m/s Stab Class: D	Traffic 43-76
							Wind in trees 41-55
							Insects 40-44
							TGO inaudible
TGO Site L <sub>Aeq</sub> (15min) Contribution							<34

Note 1: Meteorological data obtained from TGO's on-site weather station or by direct measurement by the operator.

#### 4.6 Assessment Results - Location R6

The results of the attended noise measurements at location R6 for the February 2025 survey are summarised in **Table 7** with the relevant EPL limits, the calculated mining noise contribution and prevailing meteorological conditions at the time of each measurement.

Table 7 Operator-Attended Noise Survey Results - Location R6							
Date	Time (hrs)	Descriptor (dBA re 20µPa)			EPL Limit	Meteorology <sup>1</sup>	Description and SPL, dBA
		L <sub>Amax</sub>	L <sub>Aeq</sub>	L <sub>A90</sub>			
10/02/2025	20:28 (Evening)	52	48	45	35	WD: E WS: 1.5m/s Stab Class: E	Birds 45-50
							Insects 44-52
							Traffic 45-48
							Wind in trees 45-49
TGO inaudible							
TGO Site L <sub>Aeq</sub> (15min) Contribution							<35
10/02/2025	23:00 (Night)	44	34	28	35	WD: E WS: 0.5m/s Stab Class: E	Insects 29-34
							Traffic 31-34
							Wind in trees 29-44
							TGO inaudible
TGO Site L <sub>Aeq</sub> (15min) Contribution							<20
11/02/2025	20:32 (Evening)	59	51	48	35	WD: E WS: 0.1m/s Stab Class: E	Traffic <45
							Insects / frogs 47-55
							Birds 51-59
							TGO barely audible on lulls
TGO Site L <sub>Aeq</sub> (15min) Contribution							<35
11/02/2025	21:59 (Night)	48	36	33	35	WD: E WS: 0.1m/s Stab Class: D	Insects 30-48
							Wind in trees <30
							TGO hum 30-35
							TGO Site L <sub>Aeq</sub> (15min) Contribution
12/02/2025	20:29 (Evening)	51	44	40	35	WD: NE WS: 1.5m/s Stab Class: D	Insects 38-44
							Wind in trees 42-49
							Livestock 40-48
							Birds 40-51
TGO hum <35							
TGO Site L <sub>Aeq</sub> (15min) Contribution							<35
12/02/2025	22:59 (Night)	54	44	40	35	WD: NE WS: 3.5m/s Stab Class: D	Insects <39
							Wind in trees 37-54
							TGO inaudible
							TGO Site L <sub>Aeq</sub> (15min) Contribution

Note 1: Meteorological data obtained from TGO's on-site weather station or by direct measurement by the operator.

#### 4.7 Assessment Results - Location R23

The results of the attended noise measurements at location R23 for the February 2025 survey are summarised in **Table 8** with the relevant EPL limits, the calculated mining noise contribution and prevailing meteorological conditions at the time of each measurement.

Table 8 Operator-Attended Noise Survey Results - Location R23							
Date	Time (hrs)	Descriptor (dBA re 20µPa)			EPL Limit	Meteorology <sup>1</sup>	Description and SPL, dBA
		L <sub>Amax</sub>	L <sub>Aeq</sub>	L <sub>A90</sub>			
10/02/2025	21:07 (Evening)	65	50	45	38	WD: E WS: 1.5m/s Stab Class: D	Traffic 40-65
							Insects / frogs 42-52
							Dogs barking 45-55
TGO inaudible							
TGO Site L <sub>Aeq</sub> (15min) Contribution							<35
10/02/2025	22:21 (Night)	57	50	42	36	WD: E WS: 0.5m/s Stab Class: E	Traffic 40-57
							Insects / frogs 38-53
							Dogs barking 42-51
TGO inaudible							
TGO Site L <sub>Aeq</sub> (15min) Contribution							<32
11/02/2025	21:11 (Evening)	60	51	47	38	WD: E WS: 0.1m/s Stab Class: E	Traffic 46-60
							Insects / frogs 45-51
							Dogs barking 48-52
TGO inaudible							
TGO Site L <sub>Aeq</sub> (15min) Contribution							<37
11/02/2025	22:21 (Night)	58	50	46	36	WD: E WS: 0.1m/s Stab Class: E	Traffic 43-58
							Insects / frogs 43-55
							TGO inaudible
TGO Site L <sub>Aeq</sub> (15min) Contribution							<36
12/02/2025	21:09 (Evening)	60	48	43	38	WD: NE WS: 1.5m/s Stab Class: D	Traffic 43-60
							Insects / frogs 40-58
							TGO inaudible
TGO Site L <sub>Aeq</sub> (15min) Contribution							<33
12/02/2025	22:21 (Night)	61	50	44	36	WD: NE WS: 1.5m/s Stab Class: D	Traffic 40-61
							Insects / frogs <40
							TGO inaudible
TGO Site L <sub>Aeq</sub> (15min) Contribution							<34

Note 1: Meteorological data obtained from TGO's on-site weather station or by direct measurement by the operator.

## 5 Discussion

### 5.1 Discussion of Results - Location R2

Monitoring between Monday 10 February 2025 and Wednesday 12 February 2025 identified that TGO activities were audible on four occasions during the assessment period at location R2. The estimated mining contributions were measured below 35dBA, therefore TGO emissions remained below the relevant noise limit of 35dB LAeq(15min). Extraneous sources such as traffic, livestock, wind in trees, dogs barking and insects were audible during the measurement period.

### 5.2 Discussion of Results - Location R3/29

Monitoring between Monday 10 February 2025 and Wednesday 12 February 2025 identified that TGO activities remained inaudible during the assessment period at location R3/29. The estimated mining contributions were measured below 35dBA, therefore TGO emissions remained below the relevant noise limit of 35dB LAeq(15min). Extraneous sources such as traffic, birds, wind in trees, dogs barking, service station and insects were audible during the measurement period.

### 5.3 Discussion of Results - Location R4

Monitoring between Monday 10 February 2025 and Wednesday 12 February 2025 identified that TGO activities remained inaudible during the assessment period at location R4. The estimated mining contributions were measured below 34dBA, therefore TGO emissions remained below the relevant noise limit of 35dB LAeq(15min). Extraneous sources such as traffic, birds, wind in trees and insects were audible during the measurement period.

### 5.4 Discussion of Results - Location R5

Monitoring between Monday 10 February 2025 and Wednesday 12 February 2025 identified that TGO activities remained inaudible during the assessment period at location R5. The estimated mining contributions were measured below 34dBA, therefore TGO emissions remained below the relevant noise limit of 35dB LAeq(15min). Extraneous sources such as traffic, birds, offsite drilling, wind in trees and insects were audible during the measurement period.

## 5.5 Discussion of Results - Location R6

Monitoring between Monday 10 February 2025 and Wednesday 12 February 2025 identified that TGO activities were audible on three occasions during the assessment period at location R6. The estimated mining contributions were measured below 35dBA, therefore TGO emissions remained below the relevant noise limit of 35dB LAeq(15min). Extraneous sources such as livestock, birds, insects, wind in trees and traffic were audible during the measurement period.

## 5.6 Discussion of Results - Location R23

Monitoring between Monday 10 February 2025 and Wednesday 12 February 2025 identified that TGO activities remained inaudible during the assessment period at location R23. The estimated mining contributions were measured below 37dBA during the evening period and below 36dBA for the night period, therefore the noise limit of 38dB LAeq(15min) for evening and 36dB LAeq(15min) for night was satisfied. Extraneous sources such as traffic, insects, dogs barking, birds, wind in trees and aircraft station were audible during the measurement period.

## 6 Comparison of Attended and Unattended Monitoring Results

To address Condition 6 of Schedule 3 of the Project Approval, a program to calibrate and validate the real-time noise monitoring results with the attended monitoring results has been completed.

The validation compares monthly attended monitoring results against the closest assessed unattended monitoring location. Currently, TGO has an unattended real-time monitoring terminal installed at the Brooklands property (nearest to R23). **Figure 1** identifies the location of the monitor with respect to the attended monitoring locations. It is noted that the Brooklands unattended monitor is situated 600m west of the attended noise monitoring location R23, therefore, background (LA90) noise levels are significantly lower due to offset distance to highway traffic.

Historically, a comparison of mine noise contributions between attended and unattended noise monitoring demonstrates a general consistency between attended and unattended results. It was noted that insects, and highway traffic noise influenced measured noise levels for this assessment. Furthermore, for February 2025, results remained below the relevant criteria for attended locations.

Table 9 provides a summary comparison of results between the attended and unattended noise surveys for R23.

**Table 9 Comparison of Attended and Unattended Results**

Assessment Type	Time (hrs)	Descriptor (dBA re 20µPa)			Criteria	Mine Noise Contribution	Meteorology <sup>1</sup>	Description and SPL, dBA
		LA <sub>max</sub>	LA <sub>eq</sub>	LA <sub>90</sub>				
		<b>Monday 10 February 2025</b>						
Attended	21:07	65	50	45	38	<35	Traffic 40-52 Insects / frogs 40-52 Dogs barking 45-55 TGO inaudible	
Unattended	21:15	58	45	41	38	<35	No audio trigger	
Attended	22:21	57	50	42	36	<32	Traffic 40-57 Insects / frogs 38-53 Dogs barking 42-51 Aircraft 42-56 TGO inaudible	
Unattended	22:15	56	43	34	36	<29	Traffic Insects TGO inaudible	
<b>Tuesday 11 February 2025</b>								
Attended	21:11	60	51	47	38	<37	Traffic 40-57 Insects / frogs 38-53 Dogs barking 42-51 Aircraft 42-56 TGO inaudible	
Unattended	21:15	55	49	47	38	<35	No audio trigger	
Attended	22:21	58	50	46	36	<36	Traffic 43-58 Insects / frogs 43-55 TGO inaudible	
Unattended	22:15	58	46	41	36	<31	Insects TGO inaudible	
<b>Wednesday 12 February 2025</b>								
Attended	21:09	64	47	41	38	<31	Traffic 43-60 Insects / frogs 40-58 TGO inaudible	
Unattended	21:15	57	46	43	38	<33	No audio trigger	
Attended	22:21	61	50	44	36	<34	Traffic 40-61 Insects / frogs <40 TGO inaudible	
Unattended	22:15	60	45	37	36	<27	Insects TGO inaudible	

Note 1: Meteorological data obtained from TGO's on-site weather station or by direct measurement by the operator.

## 7 Conclusion

Muller Acoustic Consulting Pty Ltd (MAC) has completed a Noise Monitoring Assessment (NMA) on behalf of Tomingley Gold Operations Pty Ltd (TGO). The assessment was completed to provide monthly monitoring data so that TGO can actively quantify and manage site noise emissions.

Attended monitoring conducted between Monday 10 February 2025 and Wednesday 12 February 2025 identified that TGO mine noise were audible on several occasions during the measurement period. A review of monitoring data and operator attended observations determined that TGO contributions remained below relevant limits.

*This page has been intentionally left blank*

# Appendix A – Glossary of Terms

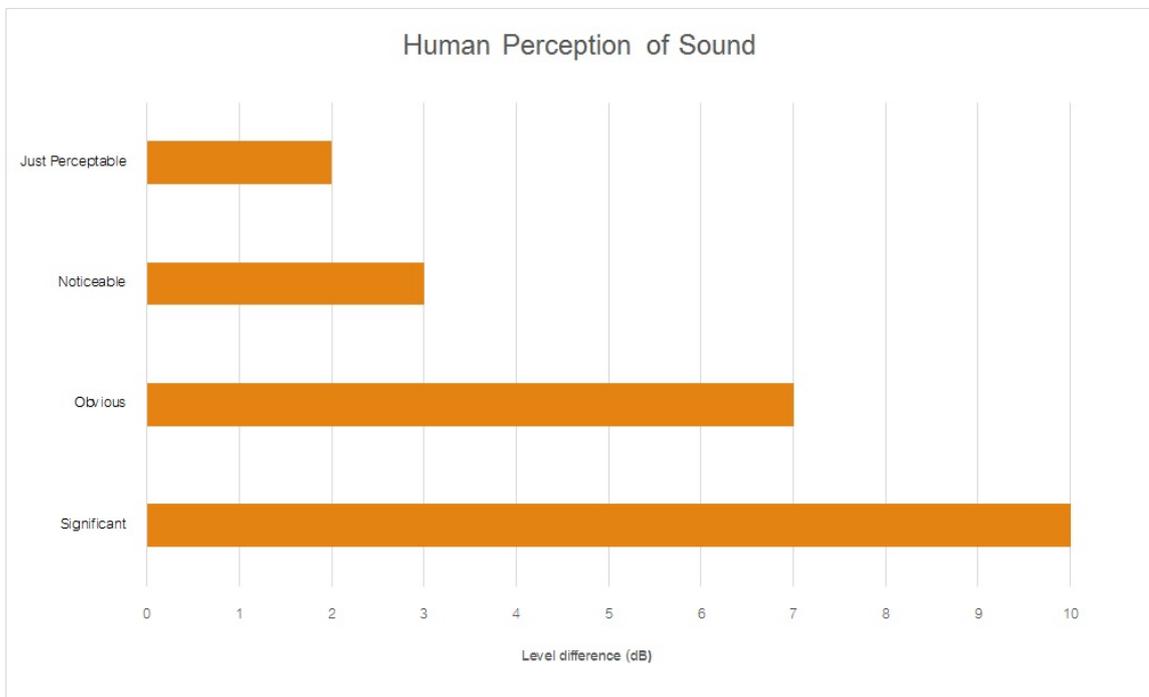
A number of technical terms have been used in this report and are explained in **Table A1**.

<b>Table A1 Glossary of Acoustical Terms</b>	
Term	Description
1/3 Octave	Single octave bands divided into three parts
Octave	A division of the frequency range into bands, the upper frequency limit of each band being twice the lower frequency limit.
ABL	Assessment Background Level (ABL) is defined in the NPI as a single figure background level for each assessment period (day, evening and night). It is the tenth percentile of the measured L90 statistical noise levels.
Ambient Noise	The total noise associated with a given environment. Typically, a composite of sounds from all sources located both near and far where no particular sound is dominant.
A Weighting	A standard weighting of the audible frequencies designed to reflect the response of the human ear to sound.
Background Noise	The underlying level of noise present in the ambient noise, excluding the noise source under investigation, when extraneous noise is removed. This is usually represented by the LA90 descriptor
dba	Noise is measured in units called decibels (dB). There are several scales for describing noise, the most common being the 'A-weighted' scale. This attempts to closely approximate the frequency response of the human ear.
dB(Z), dB(L)	Decibels Z-weighted or decibels Linear (unweighted).
Extraneous Noise	Sound resulting from activities that are not typical of the area.
Hertz (Hz)	The measure of frequency of sound wave oscillations per second - 1 oscillation per second equals 1 hertz.
LA10	A sound level which is exceeded 10% of the time.
LA90	Commonly referred to as the background noise, this is the level exceeded 90% of the time.
LAeq	Represents the average noise energy or equivalent sound pressure level over a given period.
LAm <sub>ax</sub>	The maximum sound pressure level received at the microphone during a measuring interval.
Masking	The phenomenon of one sound interfering with the perception of another sound. For example, the interference of traffic noise with use of a public telephone on a busy street.
RBL	The Rating Background Level (RBL) as defined in the NPI, is an overall single figure representing the background level for each assessment period over the whole monitoring period. The RBL, as defined is the median of ABL values over the whole monitoring period.
Sound power level (L <sub>w</sub> or SWL)	This is a measure of the total power radiated by a source in the form of sound and is given by $10 \cdot \log_{10} (W/W_0)$ . Where W is the sound power in watts to the reference level of $10^{-12}$ watts.
Sound pressure level (L <sub>p</sub> or SPL)	the level of sound pressure; as measured at a distance by a standard sound level meter. This differs from L <sub>w</sub> in that it is the sound level at a receiver position as opposed to the sound 'intensity' of the source.

Table A2 provides a list of common noise sources and their typical sound level.

Table A2 Common Noise Sources and Their Typical Sound Pressure Levels (SPL), dBA	
Source	Typical Sound Pressure Level
Threshold of pain	140
Jet engine	130
Hydraulic hammer	120
Chainsaw	110
Industrial workshop	100
Lawn-mower (operator position)	90
Heavy traffic (footpath)	80
Elevated speech	70
Typical conversation	60
Ambient suburban environment	40
Ambient rural environment	30
Bedroom (night with windows closed)	20
Threshold of hearing	0

Figure A1 – Human Perception of Sound



Muller Acoustic Consulting Pty Ltd

PO Box 678, Kotara NSW 2289

ABN: 36 602 225 132

Ph: +61 2 4920 1833

[www.mulleracoustic.com](http://www.mulleracoustic.com)

