

Noise Monitoring Assessment Monthly

Tomingley Gold Mine

June 2025

Prepared For: Tomingley Gold Operations Pty Ltd

July 2025

MAC160270-2025RP06



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Document Information

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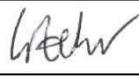
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CONTENTS

1 INTRODUCTION.....5

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

3 METHODOLOGY9

 3.1 LOCALITY9

 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

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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**.

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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.

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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 Tuesday 10 June 2025 and Friday 13 June 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 ± 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
- 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)
	10/06/2025 19:06	ENE	0.6	NW
10/06/2025 19:35	NE	0.8	NW	0.1
10/06/2025 19:55	E	1.3	NW	0.1
10/06/2025 20:21	ENE	1	N	<0.1
10/06/2025 20:55	ENE	1.1	NW	<0.1
10/06/2025 21:21	NE	1.3	NW	<0.1
10/06/2025 22:02	E	1	NW	<0.1
10/06/2025 22:28	E	1	NW	0.1
10/06/2025 22:48	NNW	0.9	W	<0.1
10/06/2025 23:14	ESE	0.8	W	<0.1
10/06/2025 23:47	NNE	1.2	W	<0.1
11/06/2025 00:16	ENE	0.6	W	<0.1
11/06/2025 19:29	SSE	0.7	NW	0.1
11/06/2025 19:52	ENE	0.5	NW	0.1
11/06/2025 20:14	NE	1.9	NW	0.1
11/06/2025 20:45	N	0.9	NW	0.1
11/06/2025 21:15	E	0.9	NW	0.1
11/06/2025 21:43	E	1.5	NW	0.1
11/06/2025 22:30	E	1.2	NW	0.1
11/06/2025 22:56	ENE	0.9	NW	0.1
11/06/2025 23:18	NW	1.6	NW	0.1
11/06/2025 23:44	E	1.5	NW	0.1
12/06/2025 00:13	ENE	1.6	NW	0.1
12/06/2025 00:43	ENE	1.5	NW	<0.1
12/06/2025 19:22	ESE	1.1	NW	0.1
12/06/2025 19:47	E	1.4	NW	0.1
12/06/2025 20:10	E	1.4	NW	0.1
12/06/2025 20:34	E	0.9	NW	0.1
12/06/2025 21:04	E	0.9	NW	0.1
12/06/2025 21:30	ESE	1	NW	<0.1
12/06/2025 22:12	ESE	1.1	W	<0.1
12/06/2025 22:38	E	0.9	W	<0.1
12/06/2025 23:01	W	0.9	W	<0.1
12/06/2025 23:30	W	0.5	W	<0.1
13/06/2025 00:00	SW	0.1	W	<0.1
13/06/2025 00:28	SSW	0.9	W	<0.1

4.2 Assessment Results - Location R2

The results of the attended noise measurements at location R2 for the June 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 ¹	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}			
10/06/2025	19:06 (Evening)	67	40	12	35	WD: NW	Traffic 20-67
						WS: <0.1m/s	Birds 20-28
						Stab Class: E	TGO Alarms 18-20
TGO Site L _{Aeq} (15min) Contribution							<30
10/06/2025	22:02 (Night)	67	40	17	35	WD: NW	Traffic 20-67
						WS: <0.1m/s	Birds 20-28
						Stab Class: D	TGO Alarms 18-22
TGO Site L _{Aeq} (15min) Contribution							<30
11/06/2025	19:28 (Evening)	73	46	21	35	WD: NW	Traffic 20-73
						WS: <0.1m/s	Birds 20-44
						Stab Class: D	TGO Alarms <20 TGO Machinery 20-25 TGO Hum 20-23
TGO Site L _{Aeq} (15min) Contribution							<30
11/06/2025	22:30 (Night)	44	27	22	35	WD: NW	Birds 20-33
						WS: 0.1m/s	Livestock 20-37
						Stab Class: E	Dogs Barking 20-44 TGO Hum <20 TGO Machinery 20-25
TGO Site L _{Aeq} (15min) Contribution							<30
12/06/2025	19:22 (Evening)	76	49	16	35	WD: NW	Traffic 20-76
						WS: 0.1m/s	Dogs Barking 20-30
						Stab Class: E	Birds 20-25 TGO Inaudible
TGO Site L _{Aeq} (15min) Contribution							<30
12/06/2025	22:12 (Night)	45	29	26	35	WD: W	Traffic 20-25
						WS: <0.1m/s	Birds 20-28
						Stab Class: E	MAC Operator 45 TGO Processing 24-31 TGO Alarms 33 TGO Vehicles 20-24
TGO Site L _{Aeq} (15min) Contribution							<30

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 June 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 ¹	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}			
10/06/2025	19:54 (Evening)	83	62	39	35	WD: NW	Traffic 32-83
						WS: <0.1m/s	Truck Idle 35-42
						Stab Class: E	TGO Inaudible
TGO Site L _{Aeq} (15min) Contribution							<30
10/06/2025	22:47 (Night)	80	62	38	35	WD: NW	Traffic 35-80
						WS: <0.1m/s	TGO Alarms <35
						Stab Class: D	
TGO Site L _{Aeq} (15min) Contribution							<30
11/06/2025	20:14 (Evening)	91	71	48	35	WD: NW	Traffic 40-91
						WS: 0.1m/s	Truck Idle 45-55
						Stab Class: E	Service Station <35
TGO Site L _{Aeq} (15min) Contribution							<35
11/06/2025	23:18 (Night)	84	62	41	35	WD: NW	Traffic 38-84
						WS: 0.1m/s	Truck Idle 38-44
						Stab Class: F	TGO Processing <35-38
TGO Site L _{Aeq} (15min) Contribution							<35
12/06/2025	20:10 (Evening)	84	66	40	35	WD: NW	Traffic 32-84
						WS: 0.1m/s	Truck Idle <35-37
						Stab Class: E	TGO Inaudible
TGO Site L _{Aeq} (15min) Contribution							<35
12/06/2025	23:00 (Night)	88	65	36	35	WD: NW	Traffic 30-88
						WS: <0.1m/s	Service Station 35-50
						Stab Class: E	TGO Alarms <30
TGO Site L _{Aeq} (15min) Contribution							<30

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 June 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 ¹	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}			
10/06/2025	20:55 (Evening)	47	36	29	35	WD: NW	Traffic 20-47
						WS: <0.1m/s	TGO Inaudible
						Stab Class: D	
TGO Site L _{Aeq} (15min) Contribution							<30
10/06/2025	23:46 (Night)	45	27	18	35	WD: W	Traffic 20-45
						WS: <0.1m/s	TGO Alarms 23-28
						Stab Class: D	
TGO Site L _{Aeq} (15min) Contribution							<30
11/06.2025	20:43 (Evening)	47	30	22	35	WD: NW	Traffic 20-40
						WS: 0.1m/s	MAC Operator 47
						Stab Class: E	TGO Inaudible
TGO Site L _{Aeq} (15min) Contribution							<30
12/06/2025	00:13 (Night)	47	32	26	35	WD: NW	Traffic 23-45
						WS: 0.1m/s	MAC Operator 47
						Stab Class: E	TGO Machinery 20-30
TGO Processing 20-30							TGO Alarm <25
TGO Site L _{Aeq} (15min) Contribution							<30
12/06/2025	21:04 (Evening)	55	33	18	35	WD: NW	Traffic 20-45
						WS: 0.1m/s	MAC Operator 55
						Stab Class: E	TGO Inaudible
TGO Site L _{Aeq} (15min) Contribution							<30
13/06/2025	00:00 (Night)	42	28	17	35	WD: W	Traffic 20-42
						WS: <0.1m/s	Insects <20
						Stab Class: F	TGO Inaudible
TGO Site L _{Aeq} (15min) Contribution							<30

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 June 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 ¹	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}			
10/06/2025	21:20 (Evening)	76	59	32	35	WD: NW	Offsite Works Depot 27-36
						WS: <0.1m/s	Traffic 25-76
						Stab Class: F	TGO Inaudible
TGO Site L _{Aeq} (15min) Contribution							<30
11/06/2025	00:11 (Night)	80	61	29	35	WD: W	Traffic 25-80
						WS: <0.1m/s	Offsite Works Depot 26-36
						Stab Class: F	TGO Inaudible
TGO Site L _{Aeq} (15min) Contribution							<30
11/06/2025	21:15 (Evening)	79	62	45	35	WD: NW	Traffic 40-79
						WS: 0.1m/s	Offsite Works Depot 44-51
						Stab Class: D	TGO Inaudible
TGO Site L _{Aeq} (15min) Contribution							<35
12/06/2025	00:43 (Night)	77	57	44	35	WD: NW	Traffic 20-77
						WS: <0.1m/s	Offsite Works Depot 43-47
						Stab Class: D	TGO Inaudible
TGO Site L _{Aeq} (15min) Contribution							<35
12/06/2025	21:29 (Evening)	77	60	28	35	WD: NW	Traffic 20-77
						WS: <0.1m/s	Offsite Works Depot 23-33
						Stab Class: E	Insects <20
TGO Site L _{Aeq} (15min) Contribution							<30
13/06/2025	00:27 (Night)	77	56	24	35	WD: W	Offsite Works Depot 23-30
						WS: <0.1m/s	Traffic 20-77
						Stab Class: E	Insects <20
TGO Site L _{Aeq} (15min) Contribution							<30

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 June 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 ¹	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}			
10/06/2025	20:22 (Evening)	40	21	17	35	WD: NW	Livestock 20-40
						WS: <0.1m/s	Traffic 20-25
						Stab Class: E	TGO Inaudible
						TGO Site L _{Aeq} (15min) Contribution	
10/06/2025	23:14 (Night)	60	30	12	35	WD: W	Livestock 30-45
						WS: <0.1m/s	MAC Operator 60
						Stab Class: F	TGO Inaudible
						TGO Site L _{Aeq} (15min) Contribution	
11/06/2025	21:43 (Evening)	48	34	27	35	WD: NW	Traffic 20-48
						WS: 0.1m/s	Livestock 20-39
						Stab Class: F	TGO Alarms <25
						TGO Site L _{Aeq} (15min) Contribution	
11/06/2025	23:43 (Night)	42	24	18	35	WD: NW	Traffic 20-35
						WS: 0.1m/s	Livestock 20-39
						Stab Class: E	Dogs Barking 20-42
							Wildlife 20-30
TGO Site L _{Aeq} (15min) Contribution			<30	TGO Inaudible			
12/06/2025	20:34 (Evening)	38	28	22	35	WD: NW	Traffic 20-38
						WS: 0.1m/s	Livestock 20-38
						Stab Class: D	Dog 20-30
						TGO Site L _{Aeq} (15min) Contribution	
12/06/2025	23:29 (Night)	42	31	20	35	WD: W	Traffic 20-42
						WS: <0.1m/s	Sheep 18-36
						Stab Class: F	TGO Alarms 20-23
						TGO Site L _{Aeq} (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 June 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 ¹	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}			
10/06/2025	19:34 (Evening)	61	47	37	38	WD: NW WS: 0.1m/s Stab Class: D	Traffic 30-61
							Service Station 34-41
							Dogs Barking 30-38
							TGO Alarms <30
TGO Site L _{Aeq} (15min) Contribution							<30
10/06/2025	22:28 (Night)	66	49	43	36	WD: NW WS: 0.1m/s Stab Class: F	Traffic 40-66
							Truck Idle 41-43
							TGO Alarms <36
							TGO Site L _{Aeq} (15min) Contribution
11/06/2025	19:52 (Evening)	65	50	39	38	WD: NW WS: 0.1m/s Stab Class: F	Traffic 35-65
							Truck Idle 36-41
							Service Station 36-45
							TGO Hum 30-33
TGO Site L _{Aeq} (15min) Contribution							<33
11/06/2025	22:56 (Night)	66	48	36	36	WD: NW WS: 0.1m/s Stab Class: E	Traffic 30-66
							Truck Idle 35-40
							Service Station 33-36
							TGO Machinery <30-35
TGO Processing 30-35							<36
12/06/2025	19:47 (Evening)	62	45	35	38	WD: NW WS: 0.1m/s Stab Class: E	Traffic 32-62
							Truck Idle 39-42
							TGO Alarms 30-34
							TGO Processing <30
TGO Site L _{Aeq} (15min) Contribution							<30
12/06/2025	22:38 (Night)	62	47	34	36	WD: W WS: <0.1m/s Stab Class: D	Traffic 25-62
							Service Station 25-54
							TGO Processing 25-30
							TGO Alarms <30
TGO Site L _{Aeq} (15min) Contribution							<30

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 Tuesday 10 June 2025 and Friday 13 June 2025 identified that TGO activities were audible on five occasions during the assessment period at location R2. The estimated mining contributions were measured at <30dBA, therefore TGO emissions remained below the relevant noise limit of 35dB LAeq(15min). Extraneous sources such as traffic, insects, dogs barking, birds and livestock were audible during the measurement period.

5.2 Discussion of Results - Location R3/29

Monitoring between Tuesday 10 June 2025 and Friday 13 June 2025 identified that TGO activities were audible on three occasions during the assessment period at location R3/29. The estimated mining contributions were measured at <35dBA, therefore TGO emissions remained below the relevant noise limit of 35dB LAeq(15min). Extraneous sources such as traffic, trucks idling, and service station noise were audible during the measurement period.

5.3 Discussion of Results - Location R4

Monitoring between Tuesday 10 June 2025 and Friday 13 June 2025 identified that TGO activities were audible twice during the assessment period at location R4. The estimated mining contributions were measured at <30dBA, therefore TGO emissions remained below the relevant noise limit of 35dB LAeq(15min). Extraneous sources such as traffic and insects, were audible during the measurement period.

5.4 Discussion of Results - Location R5

Monitoring between Tuesday 10 June 2025 and Friday 13 June 2025 identified that TGO activities remained inaudible during the assessment period at location R5. The estimated mining contributions were measured at <35dBA, therefore TGO emissions remained below the relevant noise limit of 35dB LAeq(15min). Extraneous sources such as traffic, insects and offsite works depot were audible during the measurement period.

5.5 Discussion of Results - Location R6

Monitoring between Tuesday 10 June 2025 and Friday 13 June 2025 identified that TGO activities were audible on three occasions during the assessment period at location R6. The estimated mining contributions were measured at <30dBA, therefore TGO emissions remained below the relevant noise limit of 35dB LAeq(15min). Extraneous sources such as traffic, birds, dogs barking, livestock, and wildlife were audible during the measurement period.

5.6 Discussion of Results - Location R23

Monitoring between Tuesday 10 June 2025 and Friday 13 June 2025 identified that TGO activities were audible on six occasions during the assessment period at location R23. The estimated mining contributions were measured at <33dBA during the evening period and at <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, dogs barking, trucks idling, and service station noise 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 June 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 ¹	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}				
		Tuesday 10 June 2025						
Attended	19:34	61	47	37	38	<30	WD: NW WS: 0.1m/s Stab Class: D Traffic 30-61 Service Station 34-41 Dogs Barking 30-38 TGO Alarms <30	
Unattended	19:30	57	44	29	38	<30	No audio trigger	
Attended	22:28	66	49	43	36	<36	WD: NW WS: 0.1m/s Stab Class: F Traffic 40-66 Truck Idle 41-43 TGO Alarms <37	
Unattended	22:30	56	45	36	36	<30	No audio trigger	
Wednesday 11 June 2025								
Attended	19:52	65	50	39	38	<33	WD: NW WS: 0.1m/s Stab Class: F Traffic 35-65 Truck Idle 36-41 Service Station 36-45 TGO Hum 30-33	
Unattended	19:45	61	48	37	38	<36	Traffic TGO Inaudible	
Attended	22:56	66	48	36	36	<36	WD: NW WS: 0.1m/s Stab Class: E Traffic 30-66 Truck Idle 35-40 Service Station I 33-36 TGO Machinery <30-35 TGO Processing 30-35	
Unattended	23:00	61	46	38	36	<36	TGO hum and Traffic	
Thursday 12 June 2025								
Attended	19:47	62	45	35	38	<30	WD: NW WS: 0.1m/s Stab Class: E Traffic 32-62 Truck Idle 39-42 TGO Alarms 30-34 TGO Processing <30	
Unattended	19:45	59	45	38	38	<30	No audio trigger	
Attended	22:38	62	47	34	38	<30	WD: W WS: <0.1m/s Stab Class: D Traffic 25-62 Service Station 25-54 TGO Processing 25-30 TGO Alarms <30	
Unattended	22:45	56	43	35	36	<30	Traffic	

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 Tuesday 10 June 2025 and Friday 13 June 2025 identified that TGO mine noise was 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.

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Appendix A – Glossary of Terms

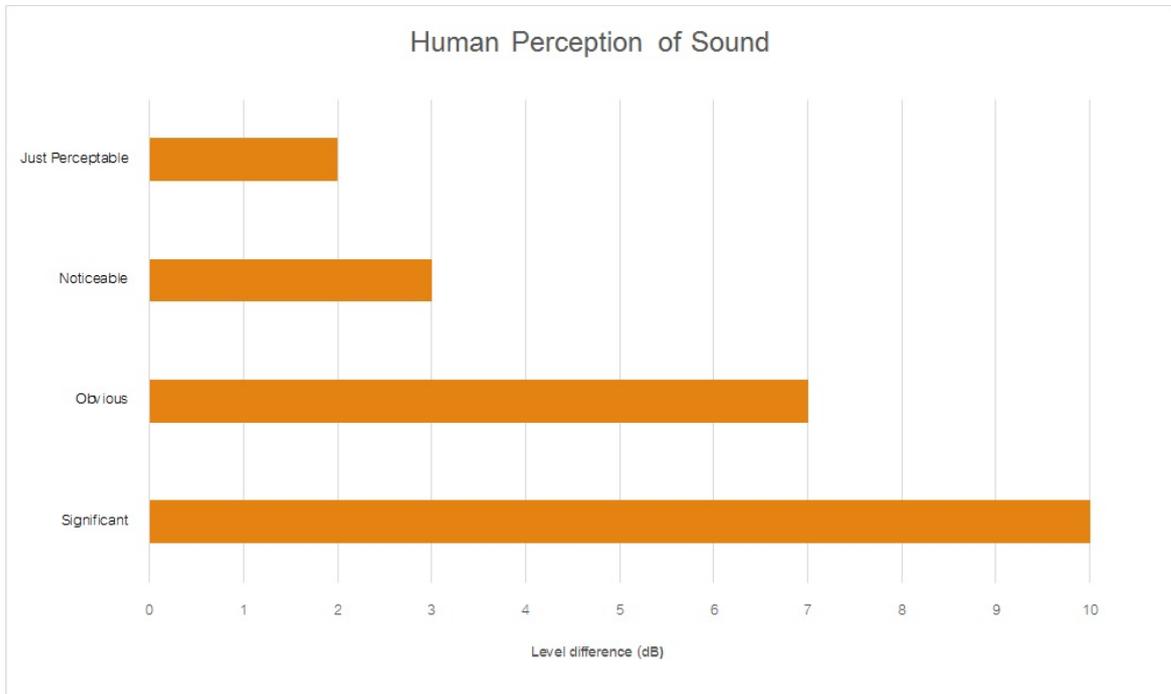
A number of technical terms have been used in this report and are explained in **Table A1**.

Table A1 Glossary of Acoustical Terms	
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.
LAmx	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 (Lw 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 (Lp or SPL)	the level of sound pressure; as measured at a distance by a standard sound level meter. This differs from Lw 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





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