

# APPENDIX J

## Noise Monitoring Plan

# REPORT

## Noise Monitoring Plan

### Coffee Gold Mine

**Prepared for:**

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## REVISION TRACKING LOG

Revision Tracking Log			
Version	Date	Section Updated	Description of Update
0	November 2023	-	First submission of the Noise Monitoring Plan
1	October 2024	Various	Updated to reflect RWDI review, in response to QML IR, for consistency with other monitoring documents and as a result of engagement with various parties.
2			

## TABLE OF CONTENTS

<b>LIST OF ACRONYMS AND ABBREVIATIONS.....</b>	<b>III</b>
<b>LIST OF SYMBOLS AND UNITS OF MEASURE.....</b>	<b>III</b>
<b>1.0 INTRODUCTION.....</b>	<b>1</b>
1.1 Indicators and Definitions.....	1
<b>2.0 NOISE MONITORING.....</b>	<b>2</b>
2.1 Monitoring Locations and Frequencies.....	2
2.1.1 Discrete Sampling Noise Monitoring.....	5
2.1.2 Continuous Sampling Noise Monitoring (Wildlife).....	5
2.2 Threshold Action Response.....	5
<b>3.0 MONITORING METHODOLOGY.....</b>	<b>7</b>
3.1.1 Discrete Sampling Noise Monitoring.....	7
3.1.2 Continuous Sampling Noise Monitoring (Wildlife).....	9
<b>4.0 DATA ANALYSIS AND INTERPRETATION.....</b>	<b>9</b>
4.1 Document Control.....	10
4.2 Quality Assurance and Quality Control.....	10
4.3 Data Analysis for Discrete Sampling.....	10
4.4 Data Analysis for Continuous Sampling.....	12
<b>5.0 REPORTING AND ANNUAL REVIEW.....</b>	<b>12</b>
<b>6.0 ROUTINE EVALUATION.....</b>	<b>13</b>
<b>7.0 REFERENCES.....</b>	<b>15</b>

### LIST OF TABLES (WITHIN TEXT)

Table 2-1	Noise Monitoring Station Locations.....	3
Table 2-2	Summary of Applicable Thresholds Comparison for Discrete Sampling Locations.....	6
Table 4-1	Summary of Sound Levels for Comparison.....	12
Table 6-1	Noise: Adaptive Management Triggers and Action.....	13

### LIST OF FIGURES (WITHIN TEXT)

Figure 2-1	Map of Coffee Project Noise Monitoring Locations.....	4
Figure 3-1	Larson Davis 831 Noise Meter Installed in an Environmental Enclosure with Microphone and Wind Screen.....	8

## LIST OF ACRONYMS AND ABBREVIATIONS

Acronym / Abbreviation	Definition
AAR	Acoustic Assessment Report
ARU	Autonomous Recoding Units
BCER	British Columbia Energy Regulator
ECCC	Environment and Climate Change Canada (formally EC)
EMAMP	Environmental Monitoring and Adaptive Management Plan
EPA	Environmental Protection Agency
HC	Health Canada
HLF	Heap leach facility
NAR	Northern Access Route
PSL	Permissible Sound Level
QA/QC	quality assurance and quality control
QP	Qualified Professional
RMS	root mean square

## LIST OF SYMBOLS AND UNITS OF MEASURE

Symbol / Unit of Measure	Definition
asl	Above sea level
C	Celsius
%	percent
μPa	micropascals
dB	decibel
dBA	A-weighted dB
dB <sub>L</sub>	Linear decibels
Hz	Hertz
km	kilometres
L <sub>eq</sub>	Energy Equivalent Sound Level (typically expressed in dBA)
L <sub>d</sub>	Daytime Average Sound Level (typically expressed in dBA)
L <sub>n</sub>	Nighttime Average Sound Level (typically expressed in dBA)
L <sub>max</sub>	Maximum Sound Level (typically expressed in dBA)
L <sub>peak</sub>	Peak Sound Level (typically expressed in dB)
m	metre
m/s	Metres per second

## 1.0 INTRODUCTION

This plan describes the noise monitoring for the Coffee Gold Project (the Project). Airborne sound can potentially affect human and wildlife health and well-being, and noise levels are important to individuals and wildlife for several reasons, such as sleep disturbance, annoyance, habitat avoidance, and stress. Noise will be generated by Project activities and has the potential to interact with other Project components like wildlife and community health and well-being.

This plan is subject to regular updates, as may be necessary as mine design, construction activities and mine operations progress, and as monitoring results are collected and evaluated. This plan interacts closely with the following management plans:

- Noise Management Plan
- Wildlife Management Plan

### 1.1 Indicators and Definitions

The applicable unit of sound/noise is the decibel (dB) level. A dB is defined as the ratio between a measured value and a reference value usually corresponding to the lower threshold of human hearing defined as 20 micropascals ( $\mu\text{Pa}$ ). Broadband sound includes sound energy summed across the frequency spectrum. In addition to broadband sound pressure levels, analysis of the various frequency components of the sound spectrum is often completed to determine tonal characteristics. The unit of frequency is Hertz (Hz), which corresponds to the rate in cycles per second that sound pressure waves are generated. Typically, a sound frequency analysis examines 11 octave (or 33 1/3 octave) bands ranging from 20 Hz (low) to 20,000 Hz (high). This range encompasses the entire human audible frequency range. Since the human ear does not perceive every frequency with equal loudness, spectrally varying sounds are often adjusted with a weighting filter. The A-weighted filter is applied to compensate for the frequency response of the human auditory system. Sound exposure in acoustic assessments is commonly measured and calculated as A-weighted dB (dBA). Unweighted sound levels are referred to as linear. Linear dB are used to determine a sound's tonality and to engineer solutions to reduce or control noise as techniques are different for low and high frequency noise. In this report, linear sound levels are presented as linear decibels (dBL).

A change to environmental noise has occurred when there is a change in the noise level, expressed in dBA and/or dBL. Sound levels may change from moment to moment. Some are sharp impulses lasting one second or less, while others rise and fall over much longer periods of time. There are various measures of sound pressure designed for different purposes including the following:

- $L_{eq}$ : Conventionally expressed in dBA, the  $L_{eq}$  is the energy-averaged, A-weighted sound level for the complete time period. It is defined as the steady, continuous sound level over a specified time, which has the same acoustic energy as the actual varying sound levels over the specified period.
- $L_n$ : The statistical sound levels ( $L_n$ ) provide the sound level exceeded for that percentage of time over the given measurement period. For example, the  $L_{10}$  level is often referred to as the intrusive noise level and is the sound level that is exceeded for 10% of the measurement period.

- $L_{max}$ : The maximum A-weighted sound level as determined during a specified measurement period. It can also be described as the maximum instantaneous sound pressure level generated by a piece of equipment or during a construction activity.
- $L_{peak}$ : The maximum value reached by the sound pressure. The  $L_{peak}$  can sometimes be confused with the  $L_{max}$ ; however, the  $L_{max}$  is the maximum root mean square (RMS) sound level with time constant applied (fast or slow). The  $L_{peak}$  has not time constant applied, and the signal has not passed through an RMS circuit.

There are currently no relevant territorial noise guidelines for the Project. Recommended noise levels to be achieved have been established by other jurisdictions.

## 2.0 NOISE MONITORING

Noise monitoring will be conducted during the Project's Construction and Operation Phases and may be conducted during the Reclamation and Closure Phase and Post-closure Phase, if necessary, as described in the Reclamation and Closure Plan. Regardless of Project phase, the objective of monitoring is the same, which is to confirm that noise produced by the Project remains within acceptable levels. The following subsections describe the proposed locations, methodology, frequency, quality assurance and quality control (QA/QC) procedures, and reporting timelines.

### 2.1 Monitoring Locations and Frequencies

Monitoring locations were selected in consideration of several factors including the spatial description of the proposed mine infrastructure, helicopter landing access as identified by Newmont, the topography, the prevalent wind conditions, sensitive locations for wildlife as determined by Project biologists, and sensitive locations for off-duty workers. Newmont will comply with the Yukon *Workers' Safety and Compensation Act* and Regulations which will consider noise exposure to on-duty workers. Potential effects to the public have not been considered due to the extremely remote location of mine infrastructure.

Upon additional review of the noise monitoring program by Project experts and feedback by regulators and First Nations, two different types of monitoring will be undertaken, they include:

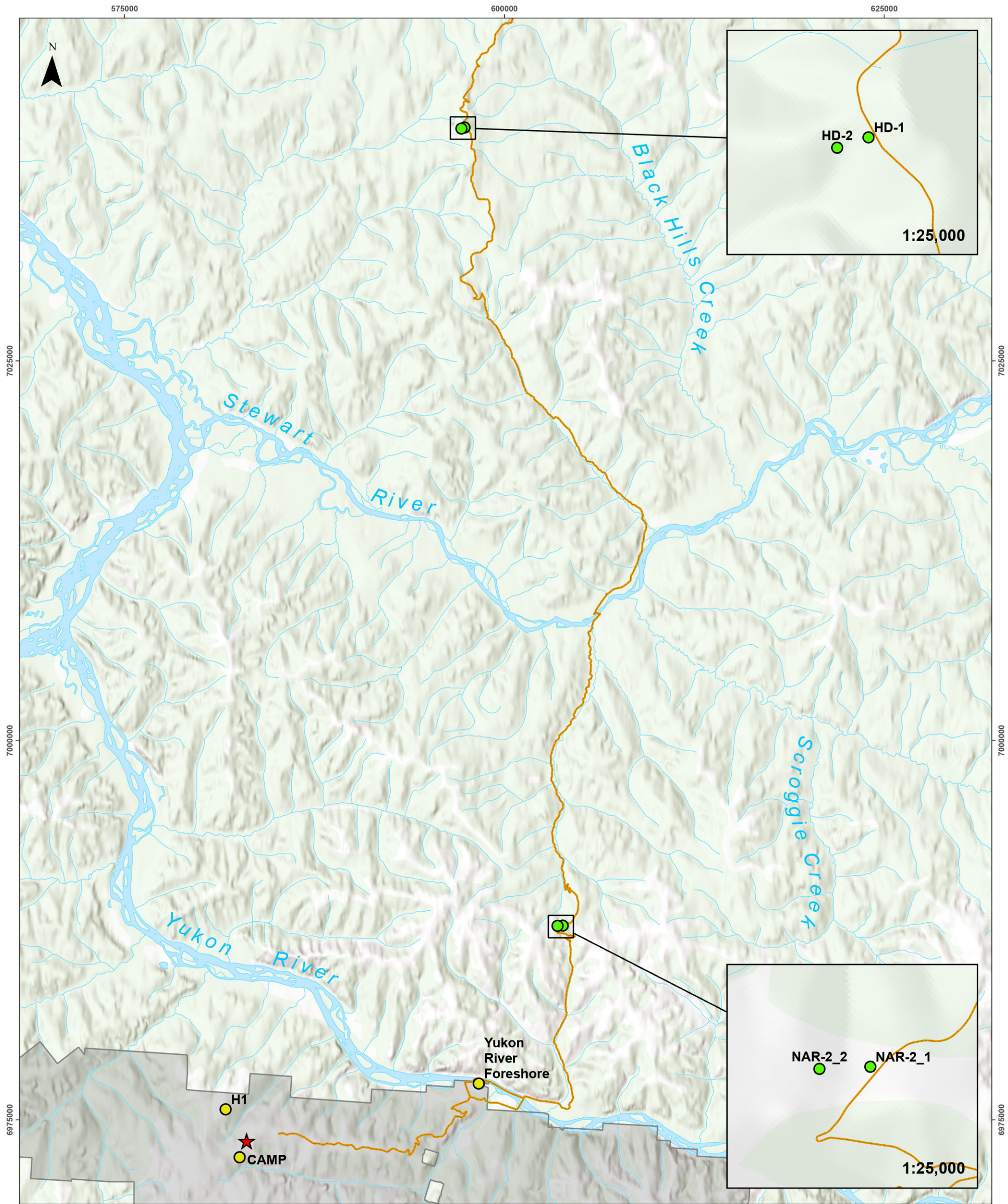
1. Discrete Sample Noise Monitoring; and
2. Continuous Sample Noise Monitoring (Wildlife).

Noise monitoring locations and recommended monitoring type is described below in Table 2-1. Noise monitoring locations are shown in Figure 2-1. A description of each monitoring type is provided below. Monitoring locations and frequencies may be revised in consultation with relevant regulatory bodies based on ongoing data analysis and noise complaints.

**Table 2-1 Noise Monitoring Station Locations**

Station	Location Type	Abbr.	UTM Coordinate (Zone 7)		Monitoring Type
			East (m)	North (m)	
Helipad 1 (NW Ridge)	Wildlife/Compliance	H1	581654	6975691	Discrete Sampling
Permanent Camp	Worker Camp	CAMP	582576	6972537	Discrete Sampling
Yukon River Foreshore*	Cultural	YRF	598315	6977388	Discrete Sampling
NAR Site 2-1	Wildlife	NAR-2_1	603541	6987924	Continuous Sampling
NAR Site 2-2	Wildlife	NAR-2_2	603290	6987925	Continuous Sampling
Henderson Dome 1	Wildlife	HD-1	597534	7040371	Continuous Sampling
Henderson Dome 2	Wildlife	HD-2	597300	7040296	Continuous Sampling

\*The exact location of the Yukon River Foreshore station will be confirmed following further consultation with affected First Nations and ground truthing for suitability.



**Legend**

- Settlement/Community
- ★ Coffee Gold Mine
- Northern Access Route
- Watercourse
- Waterbody
- ☒ Coffee Property

**Proposed Noise Monitoring Type**

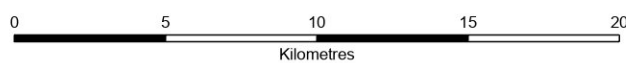
- Continuous ARU Monitoring (wildlife)
- Traditional Discrete Periodic Noise Monitoring

**Proposed noise monitoring locations for the Coffee Gold Project**

**Data Sources**

- Inset Basemap. Elevation: Medium Resolution DEM. Government of Canada, 2024.
- Main Basemap. World Hillshade: Esri, USGS with CanVec 1:250,000 wooded area.
- Base data (Watercourse, Waterbody). CanVec 1:250,000 data, Natural Resources Canada, 2024.
- Noise Monitoring Locations. EDI Environmental Dynamics Inc, October 9, 2024.

**Disclaimer**  
 EDI Environmental Dynamics Inc. has made every effort to verify this map is free of errors. Data has been derived from a variety of digital sources and, as such, EDI does not warrant the accuracy, completeness, or reliability of this map or its data.



Map Scale 1:250,000 (printed on 11 x 17)  
 Map Projection: NAD 1983 UTM Zone 7N

Drawn: OL/CT	Checked: AA	Figure 2-1	Date: 2024-10-11
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### 2.1.1 Discrete Sampling Noise Monitoring

Discrete noise monitoring consists of a sampling program of specific duration that occurs during specific times or activities. Discrete monitoring programs will be undertaken on a total of six (6) occasions over the life-of-mine and will include all discrete sampling monitoring locations identified in Table 2-1. The six (6) monitoring periods are summarized as follows:

- During construction (winter/spring and summer/fall)
- During the start of the operations phase (winter/spring and summer/fall)
- During the peak operations phase (estimated to be in year 6, but subject to change based on mine operating plans) (winter/spring and summer/fall)

Multiple monitoring periods per year allows for capturing potential seasonal variation. Winter monitoring should occur between February and April. Summer monitoring should occur between August and October.

Additional discrete monitoring sample periods will be added if the Project undergoes major changes compared to what was assessed in the Acoustic Assessment Report (AAR) (Tetra Tech, 2017).

### 2.1.2 Continuous Sampling Noise Monitoring (Wildlife)

Continuous sampling will target a longer time span than the discrete sampling to provide a broader perspective on the soundscape associated with Project activities and how this soundscape may be affecting wildlife. It will involve the deployment of instrumentation that will operate continuously (24 hrs/day, 7 days per week) for a minimum of one month in the winter/spring (February – April) and a minimum of one month in the summer/fall (August – October). Similar to the discrete noise monitoring, sampling will be undertaken:

- During construction
- During the first year of operations
- During the peak operations phase (estimated to be in year 6, but subject to change based on mine operation).

As mentioned above, the deployment duration may change dependant on feedback from Yukon Environment, First Nations, or other relevant regulatory bodies according to the results of ongoing data analysis and noise complaints.

## 2.2 Threshold Action Response

A response action is required where the mine is emitting noise in excess of the acceptable noise levels established within the AAR prepared by Tetra Tech (Tetra Tech, 2017) which was included as Appendix 10-A-2 within the YESAA Project Proposal. The AAR discussed the following Guidelines:

- Environment Canada's (EC) Environmental Code of Practice for Metal Mines (EC, 2009)
- British Columbia Energy Regulator's (BCER, formally BC OGC) Noise Control Best Practices Guideline (BC OGC, 2009)

EC provides daytime and nighttime sound level limits (55 dBA and 45 dBA, respectively) for residential areas adjacent to mine sites, as well as a maximum concussion noise limit of 128 dB at or beyond the boundary of the mine property. Similarly, BCER provides permissible sound levels (PSLs) for dwellings

within 1.5 kilometres (km) of the Project site. Dwellings are defined as any permanently or seasonally occupied (six weeks per year or more) residence with the exception of an employee residence or construction camp.

Considering there are no adjacent residential areas or dwellings within 1.5 km, PSLs are not applicable as per BCER. BCER does, however, provide a PSL of 50 dBA during the daytime and 40 dBA during the nighttime at 1.5 km from the Project where there are no dwellings within 1.5 km. As mentioned in the AAR, these thresholds have been applied for similar remote mines such as this. The H1 location is approximately 1.5 km from the mine site and, therefore, acts as an acceptable compliance point for comparison to the BCER Guideline.

Consultation with Project reviewers has resulted in a request to compare monitored noise levels to the background sound level and the predicted modeled noise level from the AAR. The discrete sampling programs will provide the data to conduct these comparisons. Continuous wildlife focused noise sampling data may provide some information, but the wildlife focus of the continuous monitors would provide the appropriate data for direct comparison.

In addition to the BCER Guideline, Health Canada’s (HC) Guidance for Evaluating Human Health Impacts in Environmental Assessment (HC, 2017) recommends an indoor sound level of no more than 30 dBA LAeq for continuous noise. It is recommended that the HC threshold apply to the worker camp to limit the potential for sleep disturbance for the workers.

Applicable thresholds for response per discrete sampling location is summarized in Table 2-2 below.

**Table 2-2 Summary of Applicable Thresholds Comparison for Discrete Sampling Locations**

Abbr.	Response				
	>40 dBA (BCER)	>128 dB (EC)	>30 dBA Indoors (HC)	> Modelled Sound Level	>3 dB above Baseline
H1	Review Effectivity of Mitigation Outlined in Noise Management Plan	Review Effectivity of Mitigation Outlined in Noise Management Plan	N/A	Review Effectivity of Mitigation Outlined in Noise Management Plan	Review Effectivity of Mitigation Outlined in Noise Management Plan
CAMP	N/A	N/A	Apply Adaptive Management	N/A	N/A
YRF	N/A	N/A	N/A	Review Effectivity of Mitigation Outlined in Noise Management Plan	Review Effectivity of Mitigation Outlined in Noise Management Plan

Noise monitoring may also be deployed following an unexpected event or emergency situation that generates elevated noise levels. There would not likely be a quantifiable trigger for action response in those cases, and outcomes from unexpected event noise monitoring would be evaluated by a Qualified Professional (QP) on a case-by-case basis. The requirement for noise monitoring in the event of an

emergency or unexpected event will be determined by Newmont or in consultation with Yukon Environment and Energy, Mines and Resources.

### **3.0 MONITORING METHODOLOGY**

Monitoring methodology for discrete and continuous sampling will be different. Monitoring methodologies are described in detail below.

#### **3.1.1 Discrete Sampling Noise Monitoring**

Noise samples are collected using a Larson Davis 831 or equivalent sound level meter that meets the requirements of IEC 61672-1:2002 for Class I measurements and is capable of logging octave band data (Figure 3-1). This instrument shall have an audible range from 5 to 140 dBA that can capture low sound levels which are typical for undisturbed wilderness, as well as higher sound levels. The sound level meter shall be placed within an environmental enclosure to protect the instrument from weather, with a cable running through a connector to the unit's microphone, installed approximately 1.5 m above the ground on a tripod and protected by a wind screen and bird spikes (Figure 3-1) in accordance with American National Standards Institute standard S12.18-1994, Procedures for Outdoor Measurement of Sound Pressure Level (ANSI 1994).



**Figure 3-1** Larson Davis 831 Noise Meter Installed in an Environmental Enclosure with Microphone and Wind Screen

The sampler should be placed a minimum of 3 m away from obstacles, where possible. Noise measurements should be made once every second and averaged over one-minute intervals. Each location should be monitored for a length of time that would represent two (2) day (Ld) and two (2) night (Ln) periods (approximately 48-hours).

Recorded sound levels can be artificially elevated noise levels due to meteorological conditions (EPA 2003). Sound levels may be artificially elevated due to the following:

- Average wind speeds greater than 20 km/hr
- Active precipitation or fog.

In addition, air temperature and relative humidity requirements are those which allow the sound meter to be operated within manufacturer's specifications, which include:

- Air temperature between -10°C and 50°C<sup>1</sup>
- Relative humidity between 30% and 90%.

Hourly weather parameters recorded at the meteorological station during each noise survey may be used to exclude noise measurement data influenced by inclement weather.

### **3.1.2 Continuous Sampling Noise Monitoring (Wildlife)**

Continuous sampling be conducted using Autonomous Recoding Units (ARUs) (Wildlife Acoustics SongMeter SM4 or similar) to passively monitor the soundscape adjacent to Project infrastructure. ARUs will be mounted on a tree or metal post, approximately 1.5 m above ground and will be deployed for a minimum of one month twice per year (once between February-April and once between August-October). ARUs will be deployed along two transects extending out from the Northern Access Route (NAR) with two ARU in each transect (one at 50 m and one at 300 m)<sup>2</sup> — one transect will be located near Henderson Dome (along an existing section of the NAR with high wildlife values), while the other transect will be located along a new section of the NAR between the Ballarat and Barker drainages. Refer to Section 2.1 for specific locations.

## **4.0 DATA ANALYSIS AND INTERPRETATION**

Recorded noise data collected from the monitoring station is to be entered by the responsible site personnel into a standardized database. The database will be the primary record, and any adjustments or corrections that are performed on this data will be saved as separate files, to ensure that the original data records remain unaltered. All noise data and associated field notes will be stored in standard electronic format (e.g., Microsoft Excel), and backed up to an off-site server. Hard copies of the field notes should be stored in the on-site field office server. Hard copies of the field notes should be stored in the on-site field office.

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<sup>1</sup> Additional insulation and/or activated heat packs may be required during winter operation.

<sup>2</sup> The location of ARUs along the continuous sampling transects was determined based on 1) predicted noise dispersion along the NAR based on noise modelling from the AAR, and 2) the Zone of Influence used in the assessment of indirect habitat loss for focal species in the Wildlife and Wildlife Habitat Valued Component Assessment (Goldcorp 2017).

#### **4.1 Document Control**

The post-processing of noise data will typically be done in Microsoft Excel. Secondary processing steps will be undertaken for some of the regional or extreme event analyses and may require the use of distribution fitting software or another statistical software package.

Noise data will be archived on site computers, and backed up to an external, off-site server on at least a monthly basis if there is recent data that has been collected. Backups of the noise data sets will also exist in the annual reports and will be held by external qualified professionals engaged by Newmont to assist with the reporting and management of noise data.

The data collected by the noise program will be distributed as required by relevant p license conditions or through other agreements, in tabular, graphical and figure format, as required.

#### **4.2 Quality Assurance and Quality Control**

Noise data is to be checked for quality in post-processing using appropriate software for the sound level meter where sound level spikes not related to the Project could be easily identified and omitted from the statistical calculations. The most frequent omission is the noise recorded at the end of a file when field staff arrive at the monitoring site via helicopter or truck and walk up to the noise monitor, or at the beginning of a sampling run when the reverse occurred. Data should be compared to collected meteorological data as well to identify natural impacts to noise, such as thunderstorms.

Data quality assurance and quality control (QA/QC) includes:

1. Perform acoustic calibration of the noise monitor before and after each operation.
2. Upon download of the data from dataloggers, include any error codes and note the condition of noise station and sensors.
3. Photocopy field notes once back in the office and transcribe all notes into the database.
4. Plot all parameters, and in a different file (keep the original file unaltered) remove false readings, flag anomalous readings for follow-up and note any changes made.
5. Flag missing data, and if possible, infill the missing data using relationships developed with other site stations. Note that this data is estimated.
6. Compare the data to previous recordings to confirm that accurate data is being collected.

Any anomalies or errors that are unresolved should be noted in the monthly and annual reports, as this will provide context for any findings resulting from the monitoring program that may appear anomalous.

#### **4.3 Data Analysis for Discrete Sampling**

For discrete sampling, noise interval data is to be averaged statistically in Microsoft Excel following the QA/QC review. Because of the logarithmic nature of the dB scale, sound levels over each interval are not additive. Instead, the logarithm is first inverted (converted to sound intensity) after which the following equation is applied to generate a total value:

$$L_{total} = 10 \cdot \log_{10} \left( 10^{\left( \frac{LA_{eq1}}{10} \right)} + 10^{\left( \frac{LA_{eq2}}{10} \right)} \right)$$

As an example, a conversation (~60 dBA) in a library (~40 dBA) would not result in a noise level of 100 dBA. Rather, the conversation would raise the overall noise level to 60.04 dBA, meaning that the background noise would no longer be audible. However, if two conversations occurred simultaneously at the same 60 dBA level, the overall noise level would increase to 63 dBA.

Daytime environmental noise level is generally higher than that at night.  $LA_{eq}$  values should therefore be determined for both daytime and nighttime. These daytime and nighttime periods should be recorded for each sampling event. In general, the default definition for nighttime is the period from 10:00 pm to 7:00 am.

The data should be compared to predicted sound levels from the AAR, baseline data and to relevant guidelines outlined by BCER (applicable only to H1), as the Yukon does not currently have any published noise guidelines or regulations and there is no developed noise guideline for the mining industry.

In addition, sound levels inside the permanent camp (Monitoring location: CAMP) could remain below 30 dBA  $L_{eq}$  during all hours where workers are expected to sleep according to HC. At a minimum, the transmission loss through the worker's window is assumed to be 15 dB which results in a minimum outdoor target of 45 dBA outdoors. Depending on the construction of the worker camp and the availability of central air conditioning (allowing for closed windows), the transmission loss may be much higher. However, if an outdoor sound level of 45 dBA is met at the worker camp location, the interior level is assumed to meet the indoor target of 30 dBA.

Table 4-1 summarizes the sound levels for comparison.

**Table 4-1 Summary of Sound Levels for Comparison**

ID	Summary of Sound Levels for Comparison			
	BCER (1.5 km)	HC (indoor target)	Predicted Sound Level <sup>1</sup>	Baseline Sound Level
H1	50 dBA (Ld) 40 dBA (Ln)	N/A	Const Ld = 40-45 dBA Const Ln = 40-45 dBA Ops Ld = 40-45 dBA Ops Ln = 40-45 dBA	Winter Ld = 30 <sup>2</sup> Winter Ln = 26 dBA <sup>2</sup> Summer Ld = 42 dBA <sup>3</sup> Summer Ln = 38 dBA <sup>3</sup>
CAMP	N/A	30 dBA	N/A	N/A
YRF	N/A	N/A	Const Ld < 20 dBA Const Ln < 20 dBA Ops Ld < 20 dBA Ops Ln < 20 dBA	Summer Ld = 35 dBA <sup>3,4</sup> Summer Ln = 29 dBA <sup>3,4</sup>

Notes: <sup>1</sup> Predicted construction and operations noise levels from the mine are as presented in the 2017 Tetra Tech AAR (Tetra Tech, 2017). The predicted noise contribution for construction is during Year 1 while operations is during the predicted worst-case year 6.

<sup>2</sup> According to baseline data collected by Tetra Teck in March 2015.

<sup>3</sup> According to baseline data collected by Tetra Teck in July 2017.

<sup>4</sup> The YRF baseline noise monitoring location is on the north side of the Yukon river (previously referred to as NAR-1) but is assumed to be representative of the YRF recommended discrete sampling noise monitoring location.

#### 4.4 Data Analysis for Continuous Sampling

For continuous noise sampling, ARUs will be collected following each deployment and the full set of data downloaded. The data will then be run through an AI Recognizer for industrial noise (currently under development by Yukon Environment; planned publication in spring 2025). Analysis of the continuous noise monitoring data set will include comparison of the monitoring data against the predicted noise levels from the AAR to determine whether the data shows noise levels in exceedance of the modelled levels, and if so, how frequently those exceedances occur. The data will also be sent to the Wildlife QP for analysis in relation the predicted Zone of Influence and to inform wildlife management procedures as needed.

## 5.0 REPORTING AND ANNUAL REVIEW

Reporting of the data collected by the Noise Monitoring Plan will be required for both site operational tracking and monitoring program refinement, and as conditions of the various operational permits and licenses. For years where noise monitoring occurs, reporting can be conducted annually, in the annual interpretive reports, together with all other data collected as part of the Environmental Monitoring and Adaptive Management Plan (EMAMP). The report will include the following information:

- Date and time of measurements.
- An overview of the equipment used.
- A reference to meteorological monitoring program results of weather conditions during the measurements, particularly wind direction and speed, cloud cover, and whether precipitation was present; as well as temperature, relative, humidity, and the location of the weather instrumentation.

- A description of the area surrounding the measurement location including the topography, building geometry, ground cover, and condition and locations including height above ground, of the microphone(s) and source(s).
- Documentation of the monitoring location coordinates and photographs of the monitoring locations in the direction of the Project and in the direction of any noise sensitive receptors (if applicable)
- Information regarding activities occurring at the Mine Site to correlate with measurement data to the extent practical.
- Comparison to baseline sound monitoring results and any applicable guidelines/thresholds.
- Recommendations based on this comparison, e.g., whether further noise mitigation may be necessary, or monitoring program adjustments.

The annual report should also note where any management changes have occurred as a result of the noise monitoring data.

## 6.0 ROUTINE EVALUATION

Newmont is committed to implementing routine evaluation of the monitoring plan and results during all phases of the Project. If an action trigger indicates the potential for a noise-related issue, specific actions will be taken to achieve the Project’s environmental objectives and regulatory guidance. Table 6-1 provides examples of potential triggers and possible courses of action to address identified issues.

**Table 6-1 Noise: Adaptive Management Triggers and Action**

Potential Triggers	Potential Actions
<ul style="list-style-type: none"> <li>• Monitored sound level at CAMP exceeds 30 dBA indoors during periods where sleep is expected; or</li> <li>• Receipt of noise complaints related to Project activities from the public, including any First Nations and Indigenous land users.</li> </ul>	<ul style="list-style-type: none"> <li>• Investigate the source of the exceedance or noise complaint.</li> <li>• If warranted based on the investigation and in consultation with a QP, expand monitoring to collect noise emission readings in close proximity to mobile and stationary noise sources at a standard reference distance of two times the largest dimension of the source. Field notes should identify the noise source under test and describe what activities are being conducted during the test. Equipment noise emission tests need only be performed long enough to capture the equipment going through a few full cycles of typical work (e.g., five minutes). Measurement results will be compared to modelled values to ensure that the equipment’s mufflers and other noise producing elements are not degrading to any measurable degree.</li> <li>• Modify maintenance schedules to ensure that frequency is sufficient to address any equipment issues, which could result in additional noise emissions.</li> <li>• Re-evaluate possible noise mitigation options as detailed in the Noise Management Plan.</li> <li>• Implement additional mitigation</li> <li>• Review the effectivity of additional mitigation. Additional monitoring may be warranted to confirm effectivity of addition mitigation.</li> </ul>
<ul style="list-style-type: none"> <li>• Monitored sound level at H1 exceeds 50 dBA (Ld) or 40 dBA (Ln); or</li> <li>• Monitored concussive noise level at H1 exceeds 128 dB</li> </ul>	<ul style="list-style-type: none"> <li>• Review effectivity of mitigation measures outlined in Noise Management Plan</li> <li>• Review procedures and implement measures to reduce effects to wildlife or land users.</li> </ul>

Potential Triggers	Potential Actions
<p>during production blasting; or</p> <ul style="list-style-type: none"><li>• Post-construction noise monitoring indicates received sound levels are higher than predicted; or</li><li>• Monitored sound level is more than 3 dB greater than baseline; or</li><li>• Disturbance to wildlife related to noise from Project activities; or</li><li>• Outcomes of discussions with affected First Nations related to traditional land uses.</li></ul>	

## 7.0 REFERENCES

American National Standards Institute (ANSI). 1994. Procedures for Outdoor Measurement of Sound Pressure Level.

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