

**NEW GOLD RAINY RIVER MINE  
APPENDIX D  
ACOUSTIC MONITORING RESULTS**



VIA E-MAIL: [sylvie.st.jean@newgold.com](mailto:sylvie.st.jean@newgold.com)

July 31, 2019

**Sylvie St.Jean**  
Environmental Manager  
New Gold Inc. – Rainy River Mine  
5967 Highway 11/71  
Emo, Ontario  
P0W 1E0

**RE: *Acoustic Audit – MECP Air Facility Inspection Report, Actions Required Items #3 & 4  
Trinity Project 197201.0046***

Dear Ms. St. Jean:

Trinity Consultants Ontario Inc. (Trinity) is pleased to provide New Gold Inc. (New Gold) with this letter to summarize the findings from our preliminary Acoustic Audit conducted for the Rainy River Mine (RRM), located in Emo, Ontario. The audit was completed in response to Actions Required Items #3 & 4 of the Ministry of the Environment Conservation and Parks (MECP) Air Facility Inspection Report (File Reference Number RR CH H600 210).

## BACKGROUND

An Acoustic Assessment Report (AAR), dated September 2014, was prepared by Amec Foster Wheeler (Amec) to assess the sound level impacts from the development and operational phases of the RRM. Based on the submitted AAR the MECP granted RRM an Environmental Compliance Approval (ECA) 0412-A2LR4V, dated September 24, 2015.

An updated AAR, dated January 2018, was prepared by Amec to address the development phase activities which overlap with the operational phase activities not assessed as part of the Original AAR completed in 2014.

The issued ECA does not contain a formal condition to conduct an Acoustic Audit. The MECP's Kenora District Office conducted site visits in 2018 and identified that some noise sources were not included in the 2018 AAR. The subsequent MECP Inspection Report required that New Gold carry out an Acoustic Audit an acoustic audit between June 14, 2019 and June 30, 2019 t to verify the following.

1. Actual noise level impacts from the RRM operations to verify results of the 2018 AAR.
2. Submit an Acoustic Audit Report for review by the Ministry by no later than July 31, 2019.

## SCOPE OF WORK

The scope of the acoustic audit involved the following tasks.

- Identify all significant noise sources at the Facility to confirm these sources were assessed in the AAR and Noise Abatement Action Plan (NAAP).
- Collect noise measurements from the sources identified in the NAAP to confirm that the implemented mitigation measure provides the attenuation specified in the NAAP.

- Collect noise measurements at the receptors to confirm that the noise impacts from the Facility at the receptors meet the applicable noise criteria.

Trinity conducted a site visit at RRM between June 20 and 21, 2019 to review site operations, the surrounding areas and collect confirmatory measurements at the existing receptors, for consistency with those identified in the 2018 AAR.

## SITE OBSERVATIONS

Based on the site visit, Trinity noted the following deficiencies.

- The Mill Building contains several sources of noise that are considered to be significant sources of noise not included in the AAR. This includes an open bay door adjacent to the crusher, several general ventilation exhausts discharging indoor crusher noise, as well as an unidentified low-frequency, reverberating noise.
- The AAR did not include longer term construction activities occurring concurrently with production operations at the RRM, including at and near the TMA. This includes additional truck routes, construction equipment (i.e. trucks, excavators, dozers), and water pumps. This requirement was confirmed by Mr. Header Merza, MECP Senior Review Engineer for noise, in a conversation between Mr. Merza and Trinity Consultants on July 26, 2019.
- New water treatment building and the associated noise sources, including blower(s) were not included in the AAR.
- A number of minor sources were identified during the site visit, which were not previously assessed in the AAR. This includes the air handling units (AHUs) and air make-up units (AMUs) at both the Mill Building and the Assay Building and two (2) dust collectors at the Assay Building. It was unclear from the AAR if these additional sources were considered to be insignificant: if so they should be identified as such, using objective noise data.

## NOISE CRITERIA

The 2018 AAR identified the receptors surrounding the Facility to be located in a “Class 3” Rural Area, which is defined in NPC-300 (October, 2013) as

*means a rural area with an acoustical environment that is dominated by natural sounds having little or no road traffic, such as:*

- a small community;
- agricultural area;
- a rural recreational area such as a cottage or a resort area; or
- a wilderness area.

Trinity agrees with the classification of receptors as Class 3. The existing ambient sound levels that were measured as part of the Environmental Assessment (EA) were noted to be lower than the exclusionary limits identified in NPC-300. Therefore, the assessment criteria used in the AAR for all the receptors were the default exclusionary sound level limits identified in NPC-300.

## PRELIMINARY ACOUSTIC AUDIT MEASUREMENTS

Sound pressure levels were measured per MECP Publication NPC-103 using a Larson Davis SoundExpert LxT sound level meter, with a PRMLXT1L preamplifier and a 377B20 Type 1 removable microphone. One 3.5-inch WS001 wind screen was used over the microphone for all measurements. For steady sound measurements, the meter was set to slow response and A-weighting. A Larson Davis CAL200 acoustical calibrator was used to calibrate the sound meter at the start and end of the measurement program.

Noise measurements were taken on June 20, 2019 with weather conditions during the site visit were mostly clear, temperature was 24°C with wind speeds consistently below 20 km/hr (between 10:00 AM and 4:30 PM) with no precipitation.

Of the significant noise source not included in the 2018 AAR, construction activities at and near the TMA were considered to be the most proximal noise source to the PORs. To assess the noise impacts associated with the TMA construction activities, confirmatory daytime measurements were collected in the vicinity of POR17, a house located northwest the TMA. Measurements were collected from the Old Highway 600, near the entrance to the POR.

Sound level measurements collected at this location were noted to vary between 43 dBA and 47 dBA depending on the construction equipment operating at the TMA. The measured sound levels at POR17 are considered to be representative of an outdoor living area and the POR’s plane-of-window impacts. The predominant sources of noise at this measurement location were the equipment associated with the construction activities at the TMA. Based on discussions with RRM personnel, it was noted that the construction activities occur during nighttime periods as well.

The measured sound level and the MECP exclusionary sound level limits are summarized in Table 1 and demonstrate that the TMA construction activities are elevated above the applicable MECP sound level criteria. Noise measurements indicated that site noise level limits are above day, evening and night criteria when construction activities are proximal to receptors.

**Table 1. . – Noise Impacts near Construction Activities**

Point of Reception	Description of Reception Point	Site L <sub>eq</sub> (dBA)			Verified by Acoustic Audit	Performance Limits (dBA)			Compliance with Performance Limit
		Day	Evening	Night		Day	Evening	Night	
POR17	Existing Residential Dwelling Plane of Window POR	47			Yes	45	40	N/A <sup>1</sup>	No
POR17	Existing Residential Dwelling Outdoor POR				Yes	45	40	40	No

Note: Plane of Window POR impacts conservatively assumed to be same as Outdoor POR impacts as Trinity did not have access to the property.

## CONCLUDING REMARKS AND RECOMMENDATIONS

Based on the site observations, Trinity has identified that the sound level impacts at POR17 are higher than the applicable MECP exclusionary sound level criteria as identified in both the 2014 and 2018 AARs.

Trinity determined that the RRM has sound level impacts at some receptors in excess of the applicable noise criteria. In light of the measurements and considering some sources were omitted from the AAR, a comprehensive AAR update is warranted.

Trinity recommends completion of the following steps.

- 1) Trinity will prepare an updated AAR to incorporate all noise sources at RRM that reflect current and temporary operations consistent with MECP Inspection Report findings;
- 2) implement any noise mitigation recommended by the AAR; and
- 3) conduct a confirmatory third-party Acoustic Audit once the above tasks are completed.

If you have any questions or comments about the information presented in this letter, please do not hesitate to call me at 416-391-2527 ext. 30.

Sincerely,

TRINITY CONSULTANTS ONTARIO INC.

A handwritten signature in blue ink, appearing to read "Chris Scullion".

Chris Scullion  
Managing Consultant

Cc: Twila Griffith, New Gold  
Kelsea Hunsperger, New Gold  
Karina Kenigsberg, Trinity  
Ramesh Sivasenthinathan, Trinity