Appendix 23 : 2020 Noise Monitoring Report

AGNICO EAGLE

MELIADINE GOLD PROJECT

2020 Noise Monitoring Report

In Accordance with NIRB Project Certificate No. 006

Prepared by:
Agnico Eagle Mines Limited – Meliadine Division

MARCH 2021

EXECUTIVE SUMMARY

In accordance with NIRB Project Certificate No. 006, and as described in the Noise Abatement and Monitoring Plan (Version 3; March, 2020), Agnico Eagle Mines Ltd. (Agnico Eagle) monitors outdoor ambient noise at the Meliadine site. The objective of the noise monitoring program is to measure noise levels at a minimum of three previously determined monitoring locations over at least two 24 h periods. Results are compared to FEIS predictions for the 24-h L_{eq}, the $L_{eq\text{-}nighttime}$ design target, and the site's noise monitoring criteria.

Since high winds in the area tend to significantly reduce the amount of available data, technicians aim to conduct two or more monitoring events for each station, lasting two to four days each. In 2020, two monitoring events were successfully conducted for all stations (NPOR006a, NPOR008 and NPOR017a). According to conditions of the Project Certificate, NPOR014 was not required to be monitored in 2020, since mining activities related to the Discovery Pit were not occurring.

Following processing of the data in accordance with standard methods (Alberta Energy Resource Conservation Board Directive 038), sufficient valid data was available for the calculation of at least two 24-h L_{eq} values for each monitoring station in 2020. Final values are shown in Table 1.

For NPOR006a, one 24-h L_{eq} measurement marginally exceeded the FEIS prediction of 39.8 dBA, at 41.8 dBA. Review of sound recordings indicated this was generally due to infrequent aircraft flyovers causing elevated noise peaks lasting 1-2 minutes during 5 of the 57 monitoring hours. Since the exceedance was marginal, only occurred during one event, and the noise monitoring criterion was not exceeded, the event was not investigated further.

For NPOR008, one exceedance of the site's noise monitoring criterion (45 dBA, 24-h L_{eq}) and night-time design target (40 dBA) occurred, both during monitoring event 2 (August 27 – 31). Elevated sound levels during this event were due to frequent helicopter flyovers (1-2 per hour throughout each day) causing brief (1-2 min) but significant sound peaks. Although no mine-related activity is ongoing in this area, this station is located under the flight path for helicopters between the Exploration Camp and the Discovery Pit area. During monitoring event 2, a fuel tank recovery operation was ongoing, resulting in frequent helicopter flyovers. This is expected to be an isolated incident, and is not representative of the typical sound environment in this area. Historically and during the first 2020 monitoring event at NPOR008, no exceedances have occurred for this site, and to date no noise-related complaints have been received. Sound levels at this location will therefore continue to be observed in 2021 to determine whether a trend is beginning or whether the 2020 exceedance was an isolated event.

For NPOR017a, no measured values exceeded the FEIS prediction or noise monitoring criterion in 2020.

To date, no noise-related complaints have been received for the Meliadine site, and no changes to noise mitigation plans are proposed at this time.

Table 1. Summary of noise monitoring results in 2020. Values exceeding FEIS predictions are in bold. Values exceeding the noise monitoring criterion or design target are underlined. "-" indicates not applicable. "NM" indicates not required to be measured in 2020.

Location	Monitoring Start	Monitoring End	Noise Monitoring Criterion $L_{eq(24\ h)}$ (dBA)	FEIS Prediction $L_{eq(24\ h)}$ (dBA)	Measured $L_{eq(24\ h)}$ (dBA)	Design Target $L_{eq\ (nighttime)}$ (dBA)	Measured $L_{eq\ (nighttime)}$ (dBA)
NPOR006a	08/05/2020 3:03 PM	08/08/2020 3:32 PM	45	39.8	**41.8**	-	-
	08/11/2020 8:25 AM	08/14/2020 10:18 AM			30.8		-
NPOR008	08/01/2020 1:47 PM	08/04/2020 6:58 AM	45	41.7	40.1	40	39.5
	08/27/2020 1:48 PM	08/31/2020 3:29 PM			**46.8**		44.3
NPOR014	NM	NM	45	44.7	NM	-	-
NPOR017a	08/05/2020 1:44 PM	08/08/2020 1:03 PM	45	43.4	38.9	-	-
	08/10/2020 3:26 PM	08/13/2020 8:29 AM			38.3		-

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1 INTRODUCTION

In February, 2015, Agnico Eagle Mines Ltd. (Agnico Eagle) was issued NIRB Project Certificate No. 006 for the Meliadine Gold Project, near Rankin Inlet, NU. In accordance with this Project Certificate, and as described in the Noise Abatement and Monitoring Plan (Version 3; March, 2020), Agnico Eagle began conducting outdoor noise monitoring at the Meliadine site in 2016. The objective of the Noise Abatement and Monitoring Plan is to validate predictions of noise levels made in the FEIS, confirm the findings of the noise impact assessment (Vol. 5 – Atmospheric Environment and Impact Assessment, April, 2014), and inform the implementation of noise mitigation measures. If noise monitoring confirms excessive Project-associated noise levels exist, the monitoring data will be used to determine where noise abatement requires improvement.

A summary of the noise monitoring program is shown in Table 2, according to the Noise Abatement and Monitoring Plan.

Table 2. Noise monitoring objectives, frequency, duration, and locations.

Project Phase	Project Objectives	Frequency and Duration of Monitoring	Monitoring Locations
Construction and Operations	To verify that the noise emissions used in the FEIS noise assessment were reasonable, yet conservative. To verify that the mitigation measures considered integral to the Project are incorporated as planned, and are effective.	Two noise surveys per year per station, for a minimum period of 24 h per survey.	FEIS receptor locations: NPOR005 and/or NPOR006 NPOR008 NPOR014 (pre-2020) or NPOR014a (2020+) – *when activities associated with the Discovery Pit are occurring.* NPOR017

2 METHODS

2.1 MONITORING LOCATIONS

In 2020, noise monitoring was conducted at three locations, as required by the Noise Abatement and Monitoring Plan (March, 2020). Since activities were not ongoing at the Discovery Pit location, NPOR014a was not monitored in 2020.

The monitoring locations in 2020 are identified in Figure 1, and summarized in Table 3. Photos of the noise monitoring locations are provided in Section 3. These monitoring locations will be reviewed and may be adapted throughout the construction and/or operations phases of the Project, as necessary. Changes will be detailed in subsequent updates to the Noise Abatement and Monitoring Plan.

Due to restrictions on interaction with the community due to COVID-19 in 2020, the locations of two monitoring stations had to be adjusted (NPOR006 and NPOR017). These changes are described below.

Table 3. Noise monitoring locations and conditions for monitoring.

Location ID	UTM (Zone 15V)	Project Area	Monitoring Conditions	Monitored in 2020
NPOR 006	538286E 6991299N	Mine	Monitor during the entire Construction and Operations Phases, and initial stages of Closure when extensive activities are occurring.	No
NPOR 006a	537550E 6991300N	Mine	Adjusted NPOR006 location in 2020 to reduce potential for community interaction due to COVID-19 restrictions.	Yes
NPOR 008	543707E 6987276N	Mine	Monitor during the entire Construction and Operations Phases, and initial stages of Closure when extensive activities are occurring.	Yes
NPOR 014	549401E 6982060N	Mine	Pre-2020 monitoring location. Monitor only if activities associated with the Discovery Pit are occurring.	No
NPOR 014a	TBD	Mine	Adjusted NPOR014 location for 2020 +. This station has been moved based on community concerns around monitoring near cabin. Monitor only if activities associated with the Discovery Pit are occurring.	No
NPOR 017	544203E 6970537N	AWAR	Monitor during the entire Construction and Operations Phases, and initial stages of Closure when extensive activities are occurring.	No
NPOR 017a	546152E 6971995N	AWAR	Adjusted NPOR017 location in 2020 to reduce potential for community interaction due to COVID-19 restrictions.	Yes
(NPOR 005)	537978E 6991742N	Mine	Alternate to NPOR006 if monitoring at that location is not feasible due to high occupancy rates of the adjacent cabin.	No

All the original noise monitoring stations (NPOR006, NPOR008, NPOR014 and NPOR017) are located in close proximity to seasonally occupied cabins, which were identified as being the most sensitive receptors in the noise impact assessment (FEIS Vol. 5, Section 5.5.4.4). However, the frequent use of some of these cabins (especially NPOR006) has historically impeded the efficient collection of valid noise data that is representative of mine activities. In 2020, three of these stations were moved based on either community complaints (NPOR014) or based on COVID-related restrictions on community contact (NPOR006, NPOR017).

NPOR006 is located approximately 1 km north of the mine site disturbance area, and approximately 200 m outside the FEIS site study area (SSA). The adjacent cabin was in use at the time of the 2017 and 2018 noise surveys, but did not appear to be in use in 2019. The surrounding terrain is a mix of small rock and lichen. The slope is very minimal towards the SW. Meliadine Lake is ~150 m NE and an unnamed small lake is ~120 m SSW. In 2020, this monitoring station was moved approximately 700 m to the west to reduce potential for interaction with community members during the COVID-19 pandemic. The new station, NPOR006a, is approximately the same distance from the FEIS SSA boundary as NPOR006 (~200 m north), and is within the same noise isopleth (band of predicted sound levels) in the FEIS noise assessment. Results at this station are therefore compared to the same criteria as applied previously for NPOR006.

Station NPOR008 is located approximately 1.25 km from the SSA, on the east side of the site. The surrounding terrain is on the summit of a small vegetated hill with very little apparent rock. Meliadine Lake is ~ 51 m to the NNE. The mine camp is approximately 2 km to the northwest, and the all weather road is approximately 2.5 km to the southwest. No changes were made to the location of this station in 2020.

Station NPOR014 is located approximately 130 m from the traditionally used ATV trail. This station is at the southern end of Meliadine Lake and is approximately 10 km away from the Meliadine exploration camp and 5 km from the Discovery area. It is located within the SSA. Currently there is no development in this area, so monitoring has only been conducted opportunistically, and any measurements at NPOR014 are expected to be indicative of background values. Noise monitoring was not conducted at this station in 2020. Due to community concerns with the presence of noise monitors at this station that were brought to Agnico's attention in early 2020, Agnico will adjust future monitoring events to another suitable location in the vicinity of the Discovery Pit. The new station (NPOR014a) will be similarly sited with respect to expected noise emissions from future local activities (e.g. similar distance from the proposed roadway, similar distance from the proposed Discovery Pit). The specific location will ultimately be determined in the field by Agnico Environment technicians, in consultation with community relations representatives once activities associated with the Discovery Pit are imminent.

NPOR017 is located at the southern end of the all-weather access road (AWAR). It is approximately 150 m SE of the road. No SSA was assessed for the AWAR. Since this station is located outside (south) of the AWAR gatehouse and could not be accessed in 2020 due to COVID-19 restrictions, monitoring was conducted at new station NPOR017a which is approximately 2 km further north along the AWAR. Station NPOR017a was sited at the same distance from the AWAR (150 m SE), which is the dominant noise source of interest for this station. Topography in both locations is similarly flat, and results for station NPOR017a are suitable for comparison to criteria and FEIS predictions previously applied to NPOR017.

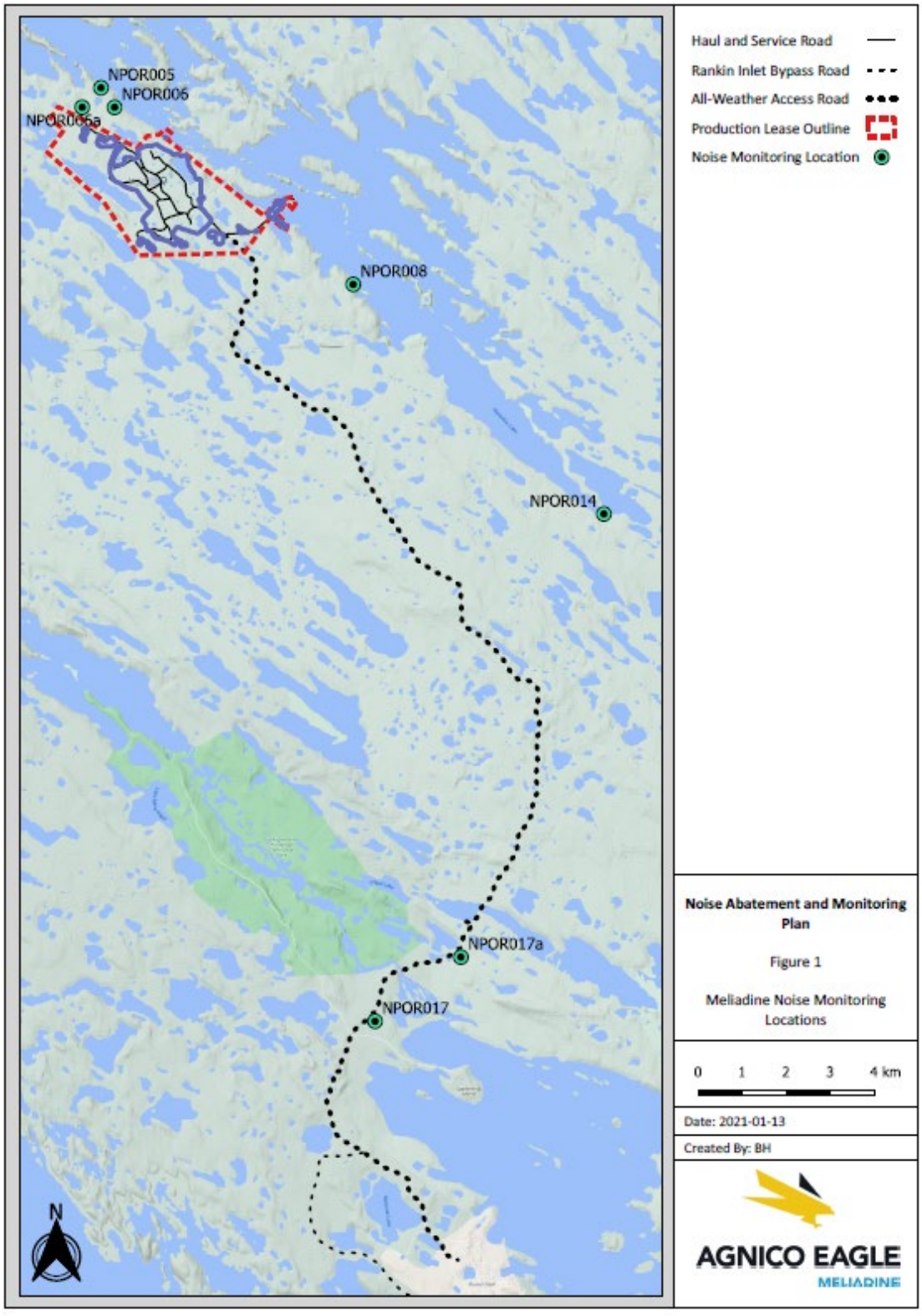

Figure 1. Noise monitoring stations for the Meliadine site. Monitoring was conducted at NPOR006, NPOR008, and NPOR017 in 2020.

2.2 Monitoring Dates

In accordance with the Noise Abatement and Monitoring Plan, two or more 24-h+ noise surveys were conducted for each location. Surveys were planned to last a minimum of 48 h, since a significant portion of data has historically been filtered out due to sub-optimal weather conditions (see Section 2.4). Monitoring dates and times for each survey are provided in Table 4.

Table 4. Noise monitoring dates in 2020, and total duration of the survey based on recorded data.

Location	Monitoring Start	Monitoring End	Duration (h)
NPOR006a	08/05/2020 3:03 PM	08/08/2020 3:32 PM	72
	08/11/2020 8:25 AM	08/14/2020 10:18 AM	74
NPOR008	08/01/2020 1:47 PM	08/04/2020 6:58 AM	65
	08/27/2020 1:48 PM	08/31/2020 3:29 PM	98
NPOR017a	08/05/2020 1:44 PM	08/08/2020 1:03 PM	72
	08/10/2020 3:26 PM	08/13/2020 8:29 AM	65

2.3 Sound Level Meter

For all stations a Bruel and Kjaer Model 2250 integrating sound level meter with outdoor microphone type 4952 was used to conduct the noise survey. In 2019, a second sound level meter was purchased to facilitate the noise monitoring program. Historically, a secondary windscreen was used for all measurements. This equipment was not available for purchase with the second sound level meter, so in 2020, a secondary wind screen was only used for monitoring at NPOR006a. Agnico is looking into the use of secondary wind screens moving forward.

The noise logging rate was set at one-minute intervals, and according to the Noise Abatement and Monitoring Plan, logged parameters included:

- Integrated equivalent A-weighted sound level (L_{Aeq})
- 1/3 octave band sound levels in decibels (dB)
- Statistical data (L_{10}, L_{90})
- Maximum sound level (L_{max}) in dBA
- Minimum sound level (L_{min}) in dBA

Calibration of the instrument was performed before and after each monitoring event using a Bruel and Kjaer Type 4231 Calibrator, to ensure variance was within 0.5 dB (see field notes, Appendix A). Estimated uncertainty, over a yearly time period for the calibrator is +/- 0.12 dB at a 99% confidence level.

According to the Plan, professional calibration of the instruments is performed every year (calibrator and microphone) or every two years (sound level meter). A record of professional calibration is provided in Table 5.

Table 5. Professional calibration record for noise monitoring instruments (calibration for each microphone includes the field calibrator). P = purchase date. ✓ = professional calibration. Meter 1 was purchased in 2016.

Year	B&K Sound Level Meter 1	B&K Microphone 1	B&K Sound Level Meter 2	B&K Microphone 2
2019			P	
2020		✓		✓

2.4 WEATHER DATA

Weather data for the noise monitoring periods was collected using the mine site's permanent weather station. Hourly data for wind, temperature, and relative humidity were available from this station.

In the case of noise monitoring for complaint situations, the Alberta Energy Resource Conservation Board Directive 038 (Directive 038) requires noise data to be collected under appropriate weather conditions, which are represented by an absence of steady precipitation, snow, water, or ice ground cover, as well as restrictions on wind speed. To adhere as much as possible to these conditions, noise data was filtered out from analyses when wind speed exceeded 15 km/hr. Average wind speed values were used, since filtering based on maximum values has historically resulted in exclusion of nearly the entire noise dataset. This approach is considered conservative, since higher winds are likely to result in increased noise levels due to wind effects. Data was not filtered on the basis of recorded precipitation, since hourly precipitation measurements were not available from the onsite weather station, and filtering of data based on elevated relative humidity (>90 or 100%) has historically resulted in significant data elimination. This approach was considered acceptable since no noise-related complaints were under investigation (none have been received to date). Weather data (wind speed, wind direction, temperature, and humidity) are provided in Appendix B.

2.5 FIELD NOTES

A pocket weather meter (WeatherHawk® WindMate™, WM-300) was used by field staff to record wind speed, direction, and temperature at the beginning and end of each monitoring period. Other observations

included precipitation, cloud cover, and observed noises during instrument set-up and takedown. All field notes are provided in Appendix A.

2.6 Data Analysis

Data recorded at the three monitoring stations were downloaded for assessment using the Bruel and Kjaer 5503 Measurement Suite software, with some calculations performed using Microsoft Excel. Recorded one-minute L_{Aeq} values were used to calculate hourly equivalent energy noise levels ($L_{eq,\ 1h}$) for further processing.

2.6.1 Data Filtering

2.6.1.1 Initial Filtering

All datapoints associated with the first and last hour of measurement were filtered out to remove noise from technician activity, and to ensure more than 30 min of data contributed to hourly averages. Data was also filtered on the basis of hourly recorded weather conditions to comply with Directive 038 (see Section 2.4). After this initial data filtering, valid hourly L_{eq} values for each monitoring period were used to calculate average 24-h equivalent energy noise levels ($L_{eq,\ 24\ h}$). When a data point ($L_{eq,\ 1\ h}$) was available from more than one day within a monitoring period, values were energy-averaged across calendar days to ensure time points contributed equally to 24-h L_{eq} values.

2.6.1.2 Review of Sound Recordings

When calculated 24-h L_{eq} values exceeded FEIS predictions or noise criteria (see Section 3.6.2, below), data and sound recordings were further reviewed to identify and if appropriate, remove noise data dominated by background noise sources unrelated to mine activity, and causing recorded 1-min L_{eq} values in excess of FEIS predictions or noise criteria (e.g. wind, ongoing animal disturbance in close proximity to the microphone, human interference). These noise sources were assumed to be minimal in the FEIS process, since a background sound level of 35 dBA was used. After this second data filtering, hourly L_{eq} values were re-calculated and those with less than 30 min of valid data were excluded from 24-h L_{eq} calculations, in accordance with Directive 038. Similarly, 24-h L_{eq} values were only calculated when more than 180 valid minutes were available from each of the daytime and nighttime periods. In 2020, sufficient valid data was available for all monitoring periods after filtering to conform to this guideline.

2.6.2 Noise Monitoring Criteria

Final L_{eq} values were compared to FEIS predictions and the site's noise monitoring criteria (see Table 6).

As indicated in the Noise Abatement and Monitoring Plan, night-time (11 pm – 7 am) L_{eq} values were also calculated, and are compared with the design target of 40 dBA for sites NPOR005 and NPOR008, for reference only. It should be noted that this target was designed to apply at a distance of 1.5 km from the site study area (SSA) in remote areas. NPOR005 and NPOR008 are located approximately 1.2 km from the SSA, so exceedances of this target value may occur at the monitoring stations without exceeding the design target at the 1.5 km distance. If concerns arise regarding nighttime sound levels around the minesite, one or more stations may be added or moved in future monitoring events to coincide with this design target location to more precisely assess FEIS predictions. The other minesite monitoring stations (NPOR006, NPOR014) are located significantly closer to or within the SSA, so comparison to the nighttime design target is not considered appropriate. Similarly, no SSA was assessed for AWAR locations in the FEIS, so results at NPOR017 are not compared to the nighttime design target.

Table 6. FEIS predictions for 24-h equivalent sound levels, FEIS design targets for 1.5 km from the site study area perimeter, and noise monitoring criteria from the Noise Abatement and Monitoring Plan.

Location	FEIS Prediction L_{eq-24h} (dBA)	FEIS Design Target (1.5 km from SSA) $L_{eq-nighttime}$ (dBA)	Noise Monitoring Criteria L_{eq-24h} (dBA)
NPOR005	36.3	40	45
NPOR006	39.8	-	45
NPOR008	41.7	40	45
NPOR014	44.7	-	45
NPOR017	43.4	-	45

3 RESULTS

24-h and night-time L_{eq} values are presented and reviewed below, for comparison to criteria in Section 2.6.2. All 1-h L_{eq} values are provided in Appendix B.

3.1 NPOR006A

Recorded 1-min L_{eq} values over monitoring events 1 and 2 at NPOR006a are shown in Figures 3 and 4. Invalid data points removed from analyses following data filtering (as described in Section 2.4) are indicated (LA_{eq}-unfiltered). For event 1 at station NPOR006a (August 5 - 8), 71 h of monitoring were conducted, and 57 h of valid data were available after filtering. For event 2 at NPOR006a (August 11 - 14), 74 h of monitoring were conducted, and 39 h of valid data were available after filtering.

Noise sources noted in the field log for this location include possibility for human activities from the nearby cabin (~600 m), birds, and regular operations at the nearby emulsion plant (approx. 600 m away).

Review of the sound recordings for event 1 indicated that peaks were generally caused by aircraft sounds. Ongoing bird calls in very close proximity to the microphone were identified and removed during the secondary filtering for event 1. No secondary filtering was performed for event 2.

After data filtering, the calculated 24-h L_{eq} value for event 1 was 41.8 dBA, which marginally exceeded the FEIS prediction of 39.8 dBA, but did not exceed the noise monitoring criterion for “non-significant impacts” (45 dBA). For event 2, the 24-h L_{eq} value was 30.8 dBA, which is below the FEIS prediction and noise monitoring criterion.

The elevated 24-h L_{eq} measured in event 1 in 2020 (as compared to FEIS predictions) occurred because of elevated sound levels during 5 of the 57 valid hours, and appeared generally due to infrequent aircraft flyovers causing noise peaks. Since the exceedance was marginal, only occurred during event 1, and the noise monitoring criterion was not exceeded, the event was not investigated further.

Figure 2. Noise monitoring location NPOR006a (August 11, 2020).

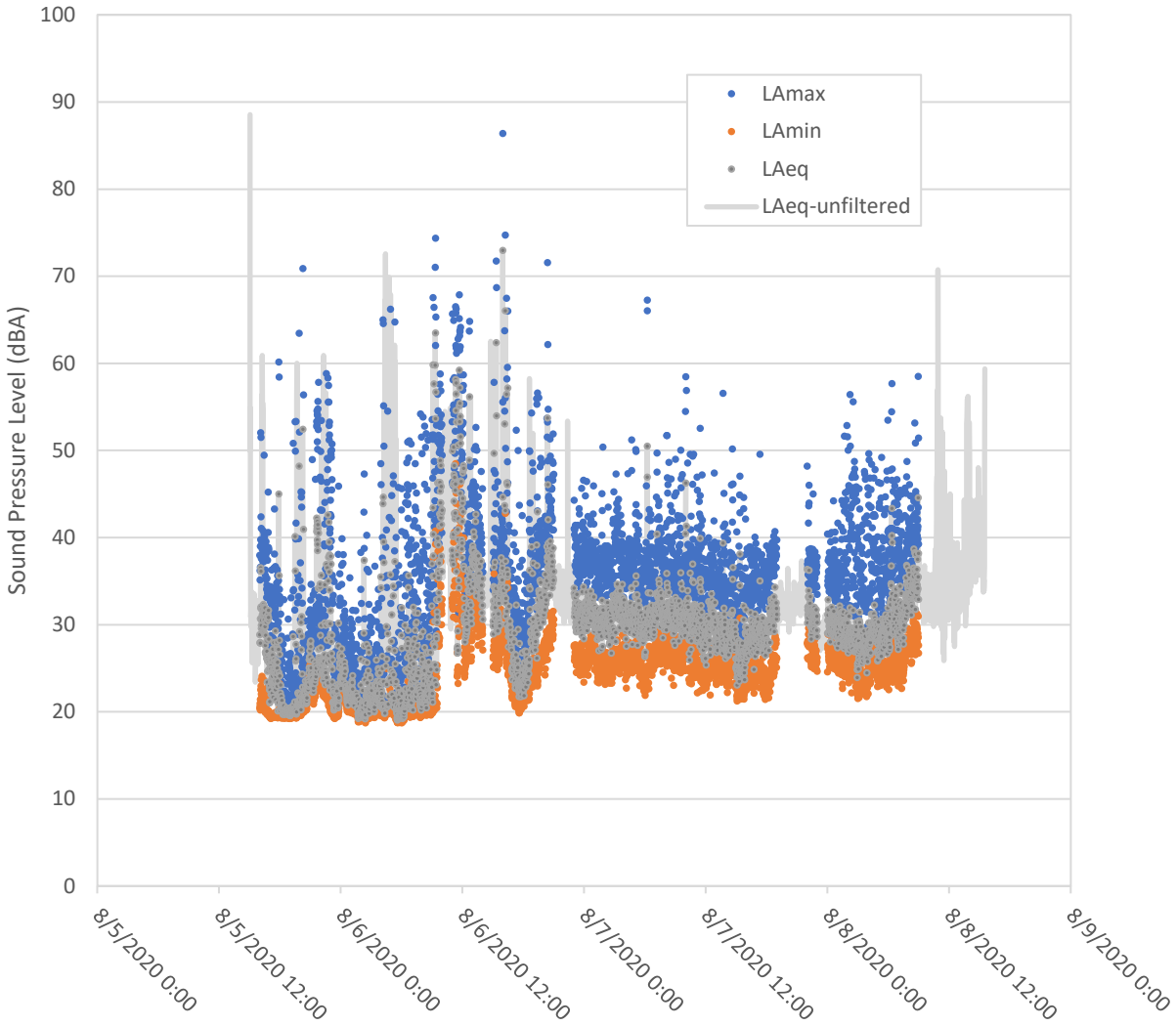

Figure 3. 1-min L_{max}, L_{min}, and L_{eq} values recorded at site NPOR006a during monitoring event 1.

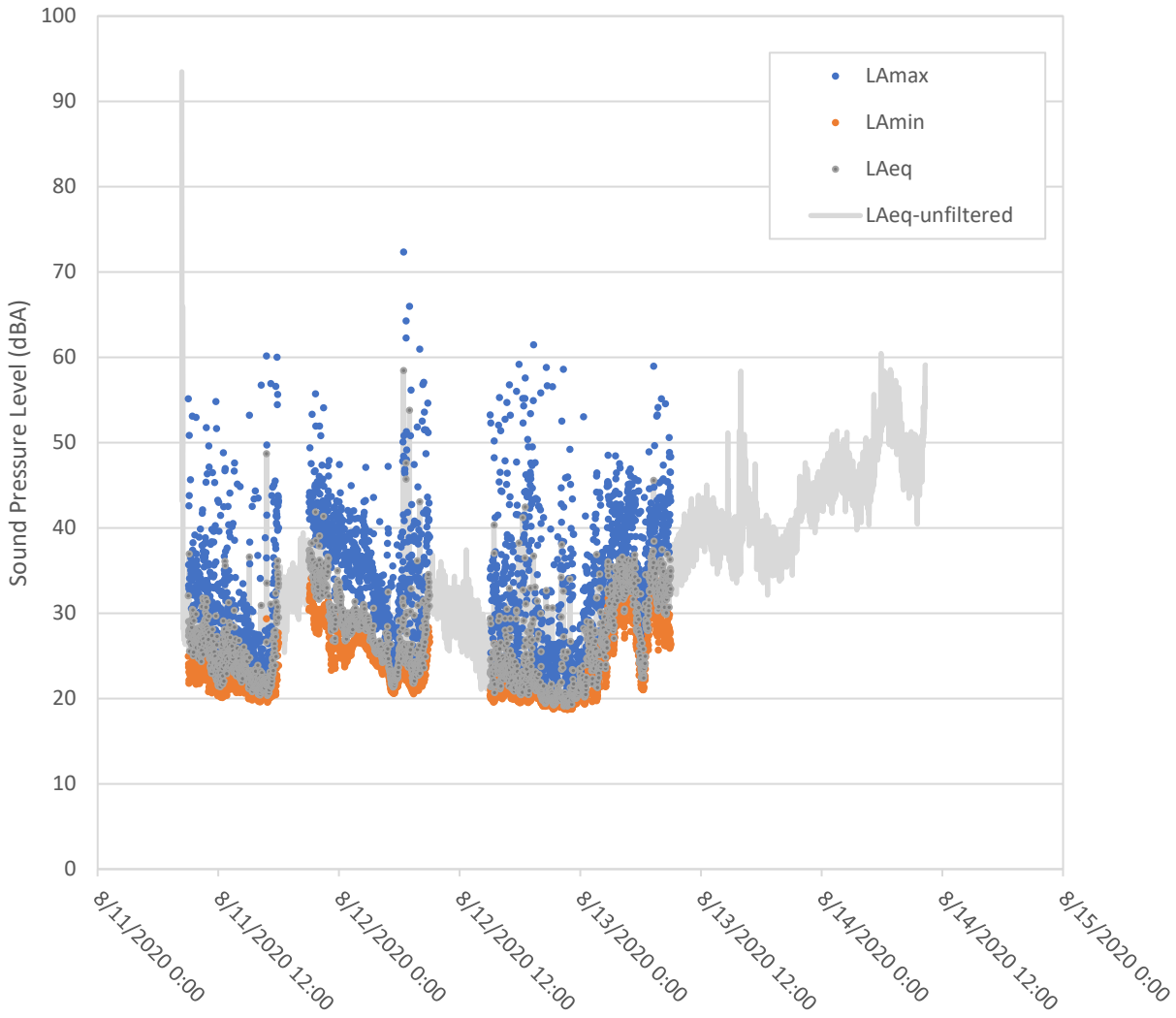

Figure 4. 1-min L_{max}, L_{min}, and L_{eq} values recorded at site NPOR006a during monitoring event 2.

3.2 NPOR008

Recorded 1-min L_{eq} values over monitoring events 1 and 2 at NPOR008 are shown in Figures 6 and 7. Invalid data points removed from the analysis following data filtering as described in Section 2.4 are indicated (L_{eq}-unfiltered). For monitoring event 1 at this station (August 1 - 4), 65 h of monitoring were conducted, and 20 h of valid data were available after filtering. For monitoring event 2 (August 27 - 31), 98 h of monitoring were conducted, and 59 h of valid data were available after filtering.

Possible noise sources noted in the field log at this location include occasional boats, helicopters, and wildlife (birds). Audible sounds on the recordings included wind, waves, back-up alarms, aircraft flyovers and birds. Currently, no mine-related activity is ongoing in this area, however this station is located under the flight path for helicopters between the Exploration Camp and the Discovery Pit area. During monitoring event 2, a fuel tank recovery operation was ongoing, resulting in frequent helicopter flyovers. This is expected to be an isolated incident, and is not representative of the typical sound environment in this area.

As noted in previous years, this location is adjacent to Meliadine Lake, and the combination of greater wind speeds and the nearby shoreline appears to result in elevated background sound levels which should continue to be considered in data interpretation for this site. In event 1, calculated L90 values (which are typically assumed representative of background sound levels) commonly exceeded 35 dBA for this location, likely as a result of elevated local wind gusts. After review of sound recordings, a portion of the data for event 1 was filtered out on the basis of these elevated L90 values (in excess of 35 dBA) without any audible mine-related noise. The 1-h L_{eq} values excluded on this basis are indicated in Appendix B. For event 2, sound files were reviewed to determine the cause of noise peaks (see below), but no data was filtered out as a result of this review, since causes were mine-related (helicopter flyovers).

After all data filtering, the calculated 24-h L_{eq} values for events 1 and 2 were 40.1 dBA and 46.8 dBA, respectively. The measured value for event 1 does not exceed the FEIS prediction of 41.7 dBA, or the noise monitoring criterion for “non-significant impacts” (45 dBA), however the measured value for event 2 exceeds both the prediction and the criterion.

The night-time L_{eq} value for event 1 was 39.5 dBA which does not exceed the design target of 40 dBA for 1.5 km from the mine SSA. The night-time L_{eq} value for event 2 was 44.3 dBA, which does exceed the design target.

For event 2, review of the data and sound recordings indicated that the observed exceedances were caused by frequent helicopter fly-overs. Each flyover event tended to cause increased noise levels up to 70 dBA for 1-2 minutes, and occurred 1-2 times per hour between 5 am and 7 pm. As discussed above, this station is located under the flight path for helicopters between the Exploration Camp and the Discovery Pit area, which saw increased use during monitoring event 2 in 2020. The FEIS noise impact assessment excluded aircraft since regular or scheduled air traffic was not planned to occur at the mine site. As a result, noise levels at this location exceeded FEIS impact predictions during one of two monitoring events in 2020. Since helicopter activities during this event were related to a specific activity (fuel tank recovery) and this is not expected to be an ongoing occurrence, FEIS noise models are still considered representative of normal site activity. Noise monitoring for NPOR008 will proceed as planned in 2021, and results will be reviewed to determine whether there is a trend towards increased noise levels at this location.

To date, no noise-related complaints have been received in this area.

Figure 5. Noise monitoring location NPOR008 (August 27, 2020). Meliadine Lake in the background.

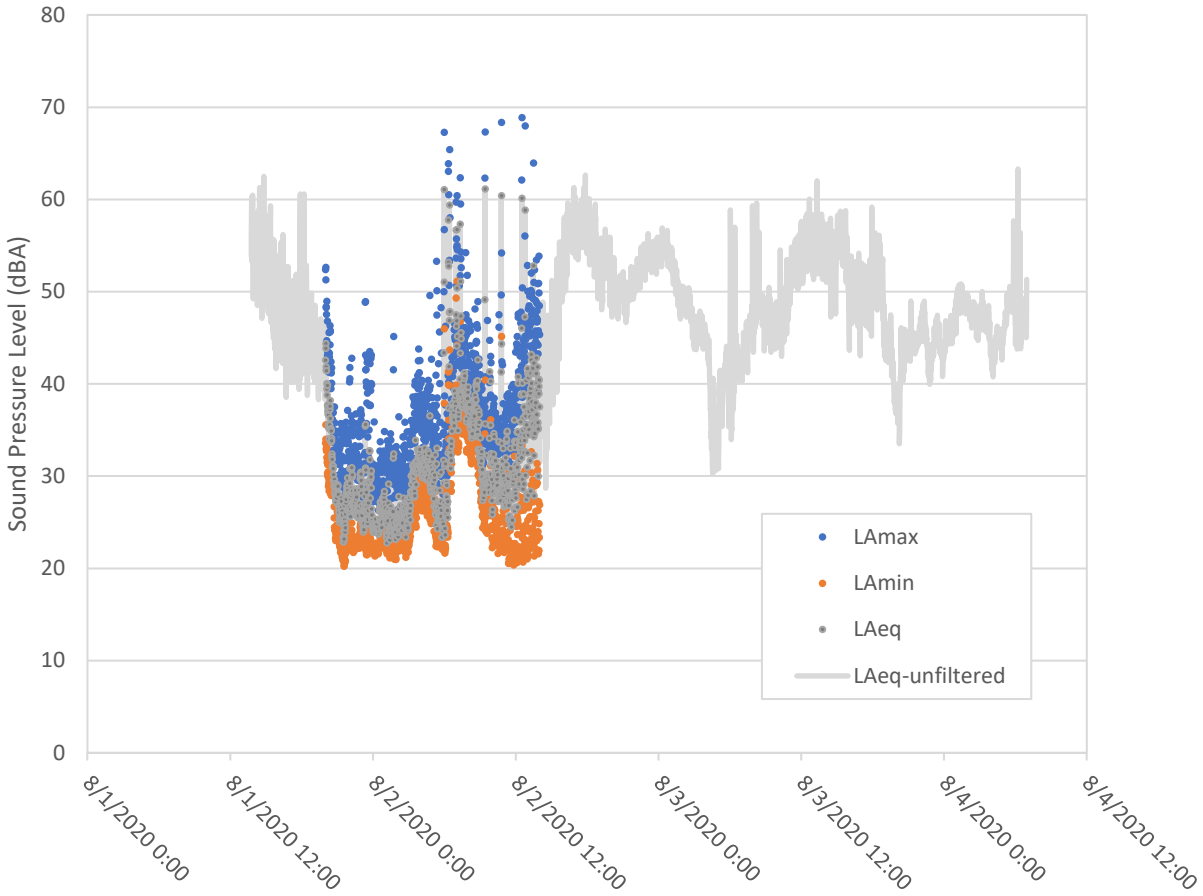

Figure 6. 1-min L_{max}, L_{min}, and L_{eq} values recorded at site NPOR008 during monitoring event 1.

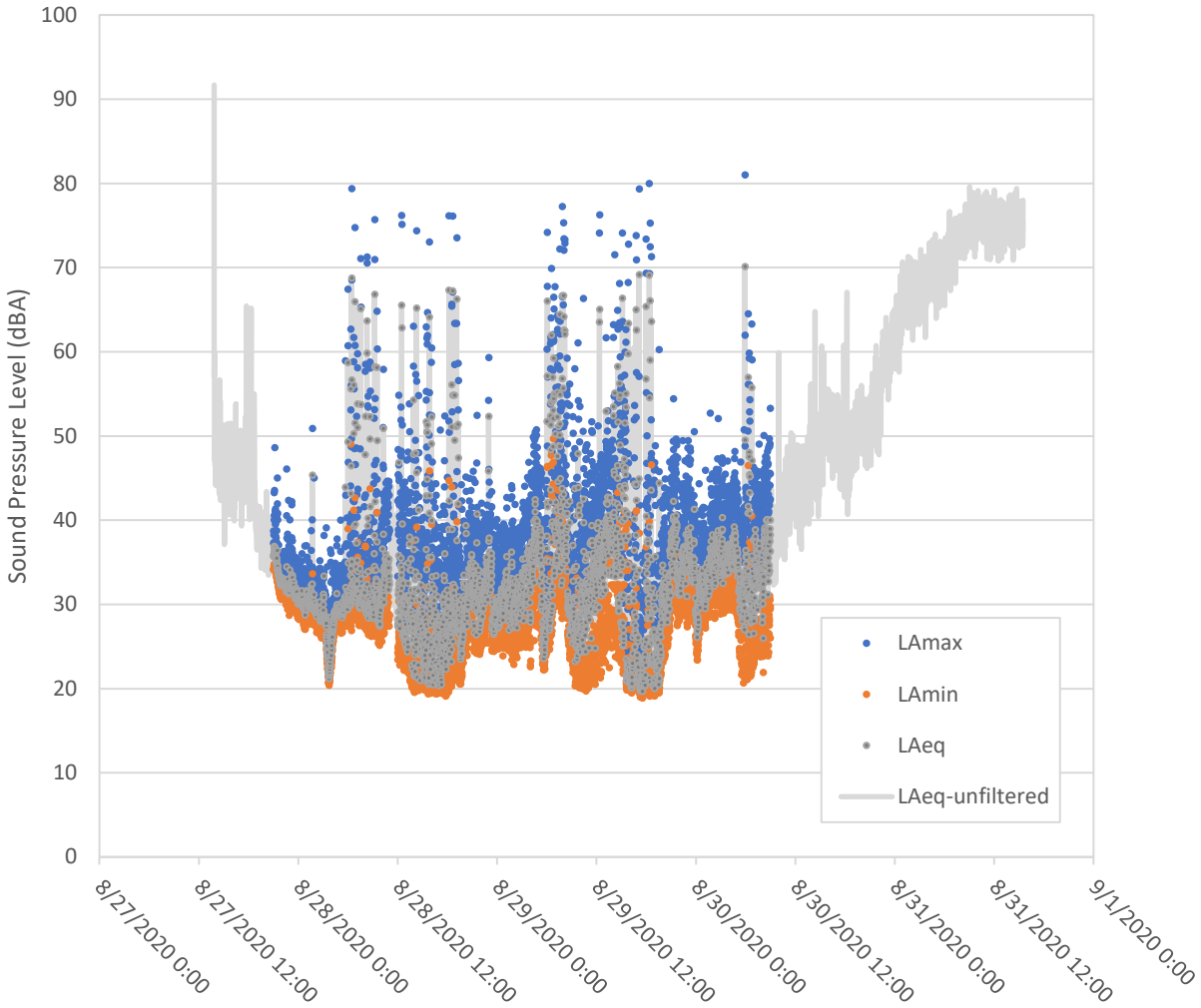

Figure 7. 1-min L_{max}, L_{min}, and L_{eq} values recorded at site NPOR008 during monitoring event 2.

3.3 NPOR014

No construction or operational activity is currently occurring in the area of NPOR014, so monitoring was not conducted in 2020, in accordance with the Noise Abatement and Monitoring Plan.

3.4 NPOR017A

Recorded 1-min L_{eq} values over monitoring events 1 and 2 at NPOR017a are shown in Figures 9 and 10. Invalid data points removed from analyses after filtering as described in Section 2.4 are indicated (LA_{eq}-unfiltered). For event 1 at station NPOR017a (August 5 - 8), 72 h of monitoring were conducted, and 60 h of valid data were available after filtering. For event 2 at NPOR017a (August 10 - 13), 65 h of monitoring were conducted, and 50 h of valid data were available after filtering. For this station, data was only filtered out on the basis of recorded weather conditions. No review of sound recordings or secondary filtering was required.

This station is located 150 m from the all-weather road. Noise sources noted in the field log include light vehicles, transport trucks, ATVs, and possible animal noises.

After initial data filtering, the calculated 24-h L_{eq} value for events 1 and 2 were 38.9 dBA and 38.3 dBA, respectively. These values do not exceed the FEIS prediction of 43.4 dBA, or the noise monitoring criterion for “non-significant impacts” (45 dBA).

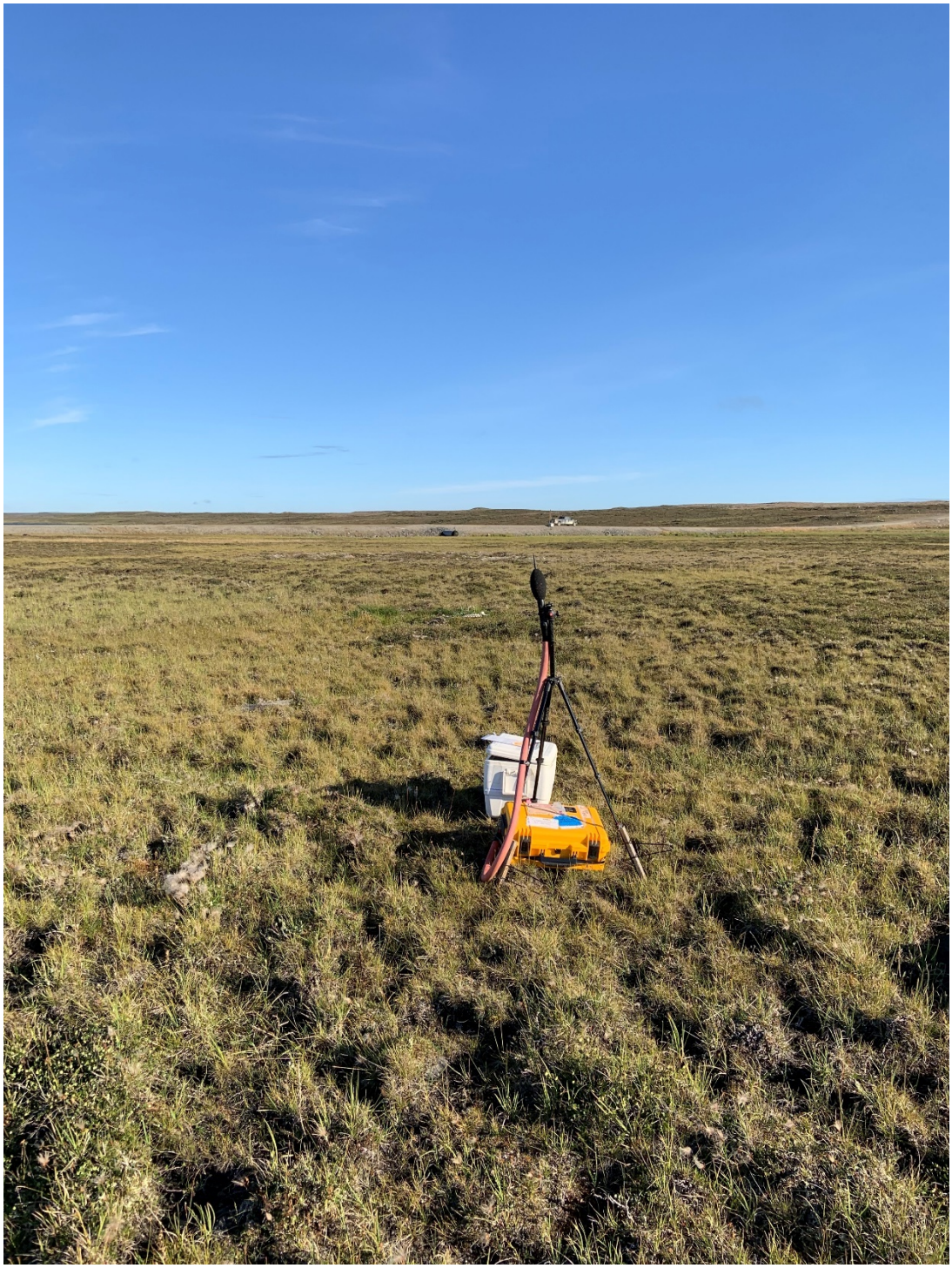

Figure 8. Noise monitoring location NPOR017a (August 13, 2020). AWAR in background.

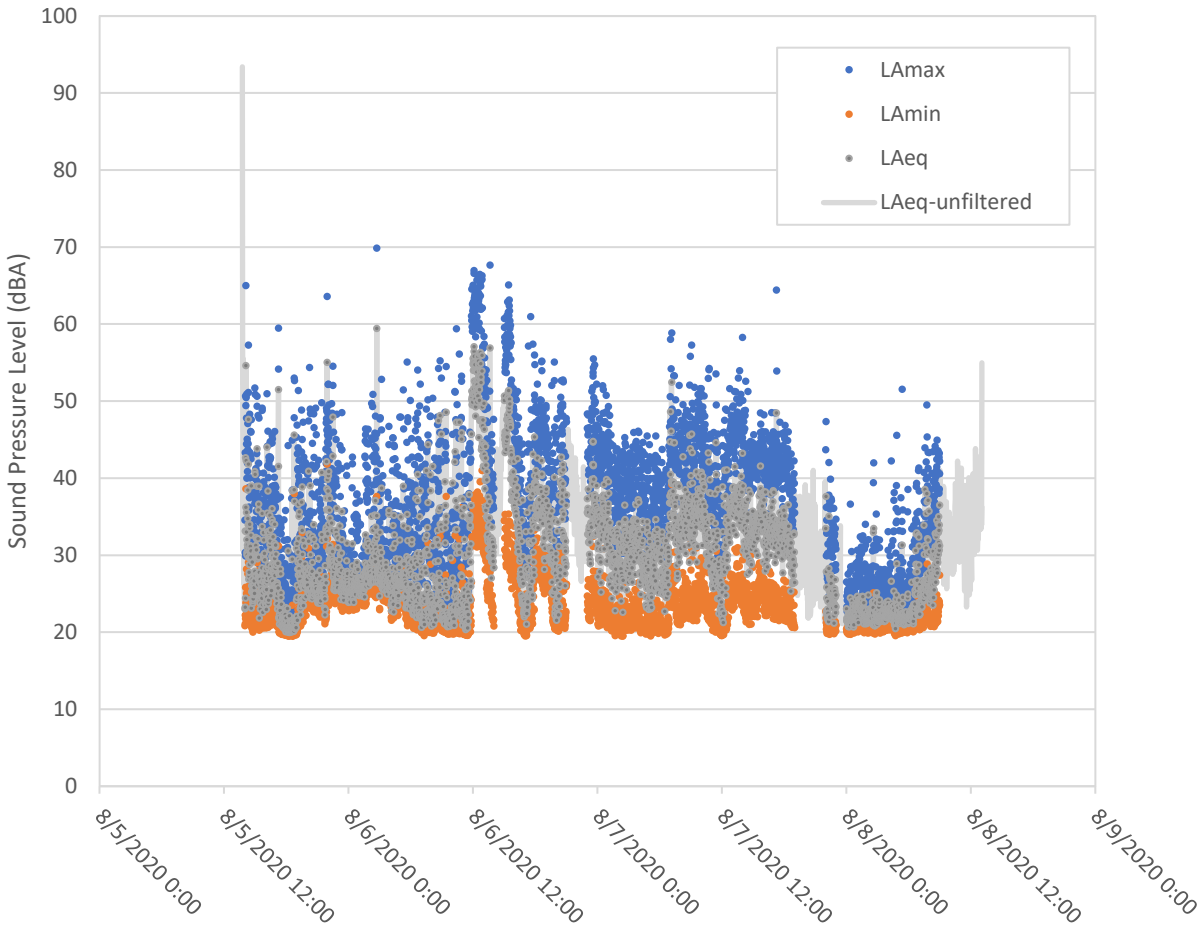

Figure 9. 1-min L_{max}, L_{min}, and L_{eq} values recorded at site NPOR017a during monitoring event 1.

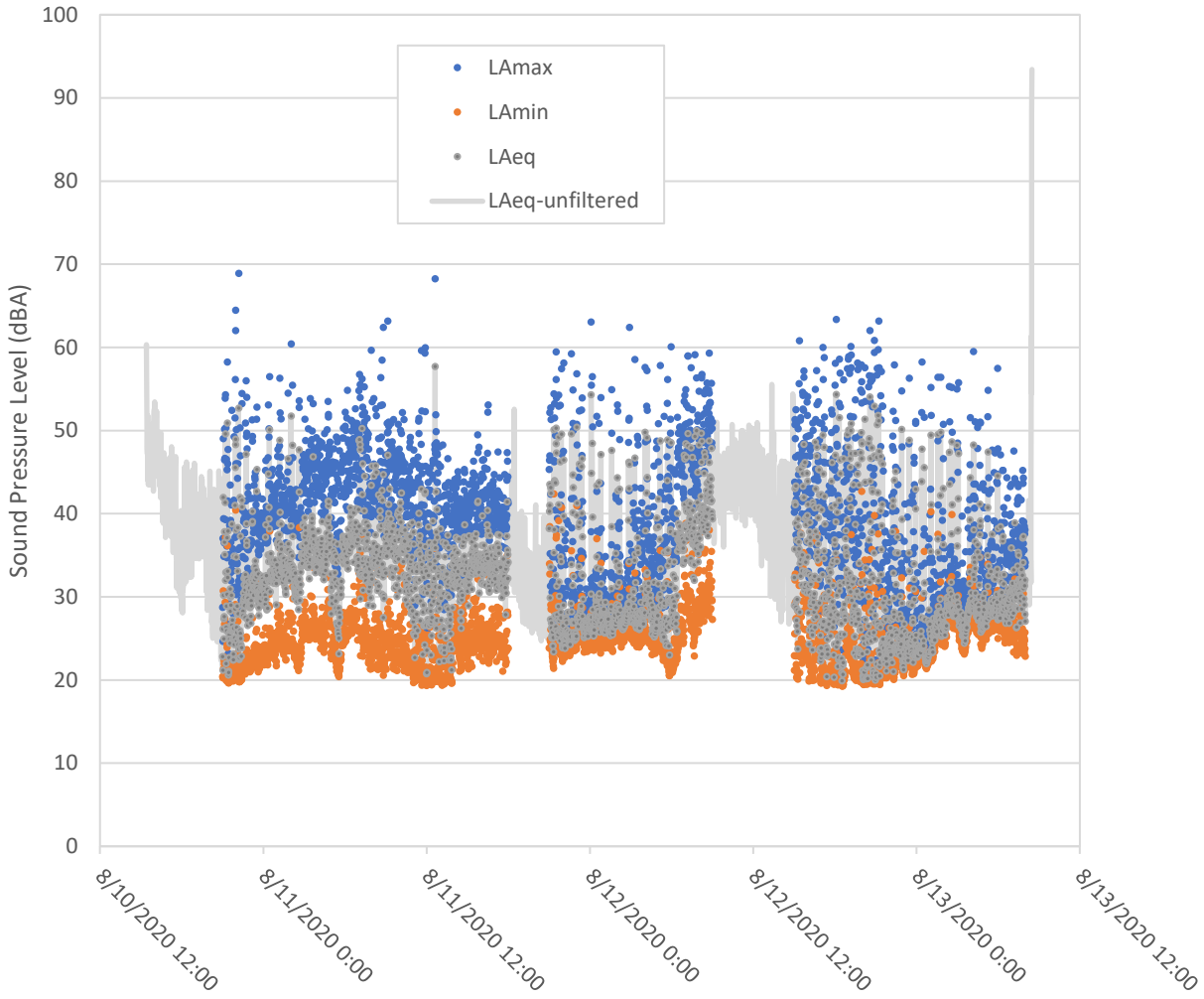

Figure 10. 1-min L_{max}, L_{min}, and L_{eq} values recorded at site NPOR017a during monitoring event 2.

4 HISTORICAL COMPARISON

A historical comparison of all available 24-h L_{eq} values for each monitoring site is provided in Figures 11 - 15.

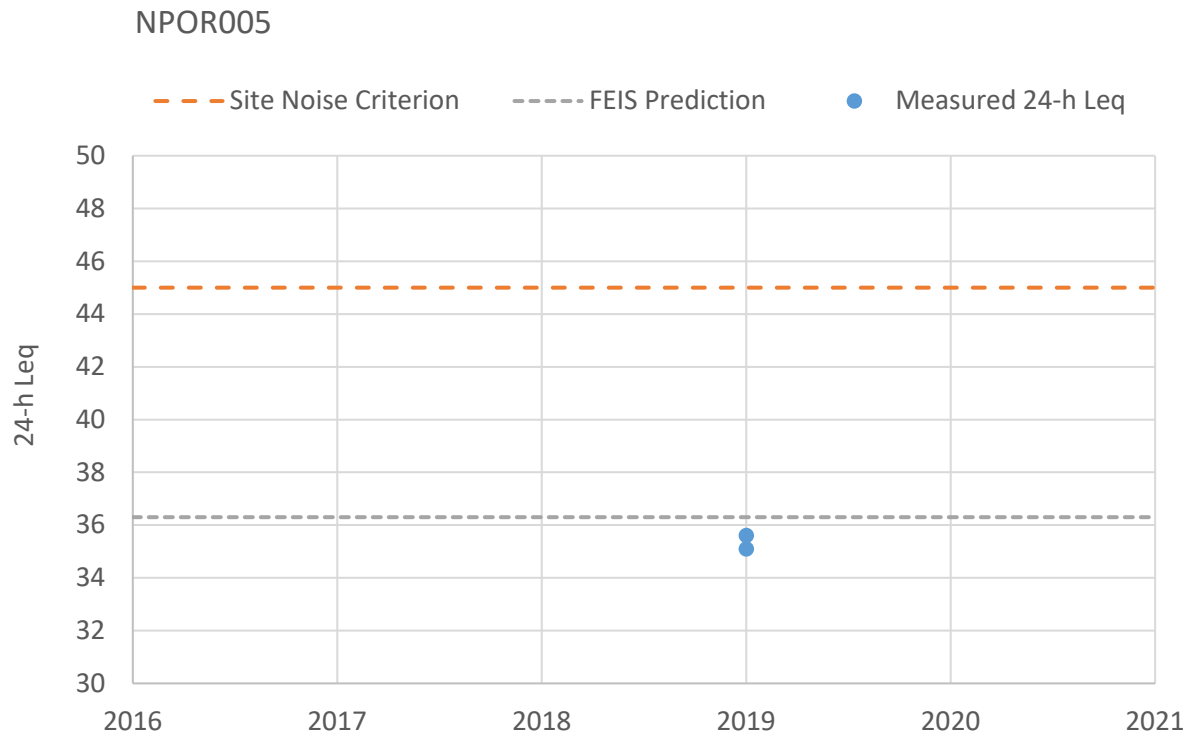

Figure 11. Historical noise monitoring results (24-h L_{eq} values) for site NPOR005. Monitoring at this site has only occurred in 2019.

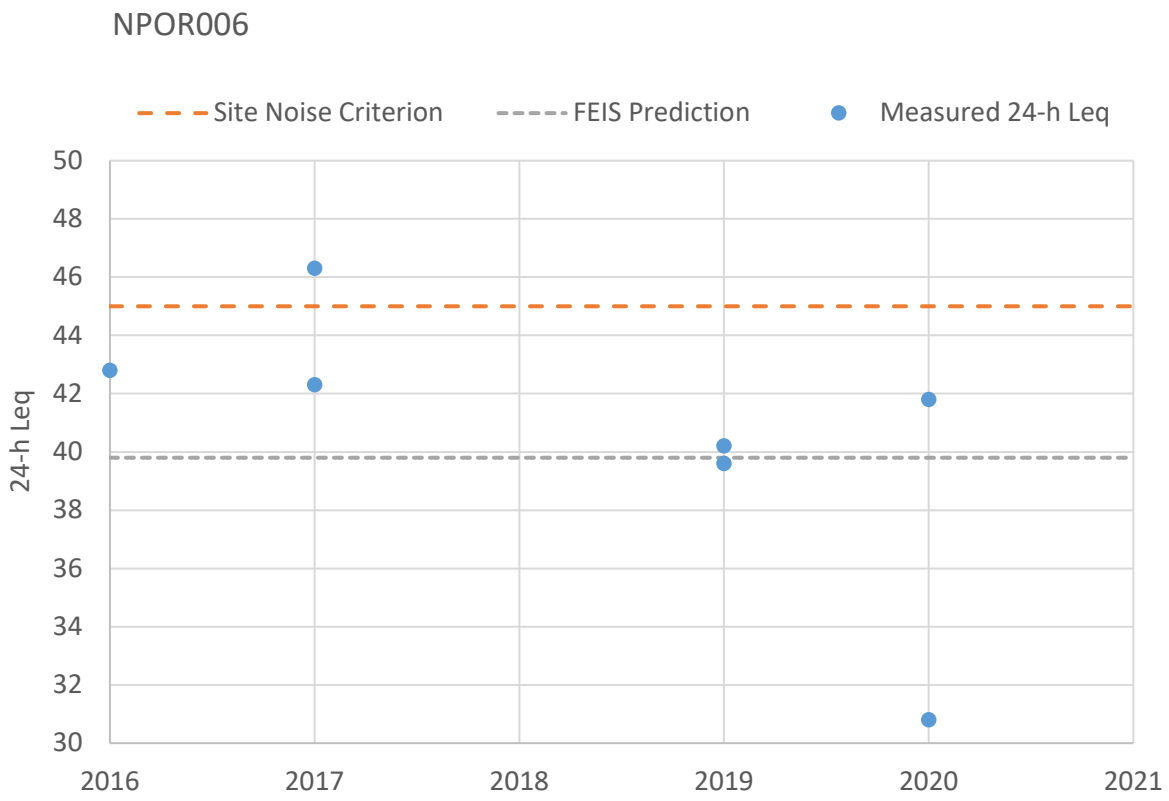

Figure 12. Historical noise monitoring results (24-h L_{eq} values) for site NPOR006 (2016 – 2019) and NPOR006a (2020). In 2016 and 2017, ongoing works at the adjacent cabin may have contributed to an elevated background acoustic environment but sound recording were not available at that time to assist in data filtering. Insufficient valid data was available in 2018 to calculate L_{eq} values.

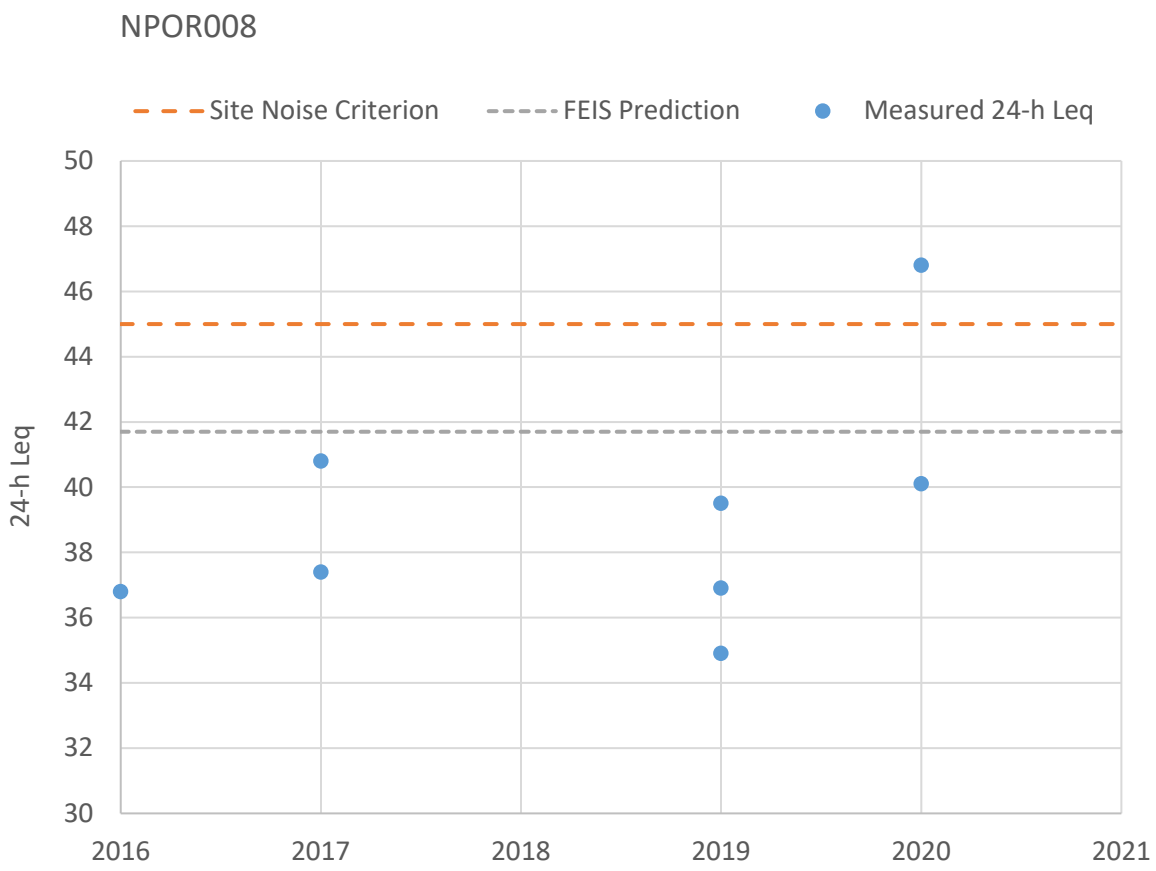

Figure 13. Historical noise monitoring results (24-h L_{eq} values) for site NPOR008. Insufficient valid data was available in 2018 to calculate L_{eq} values. Elevated sound levels during event 2 in 2020 were caused by frequent helicopter fly-overs related to a time-limited operation (fuel tank recovery).

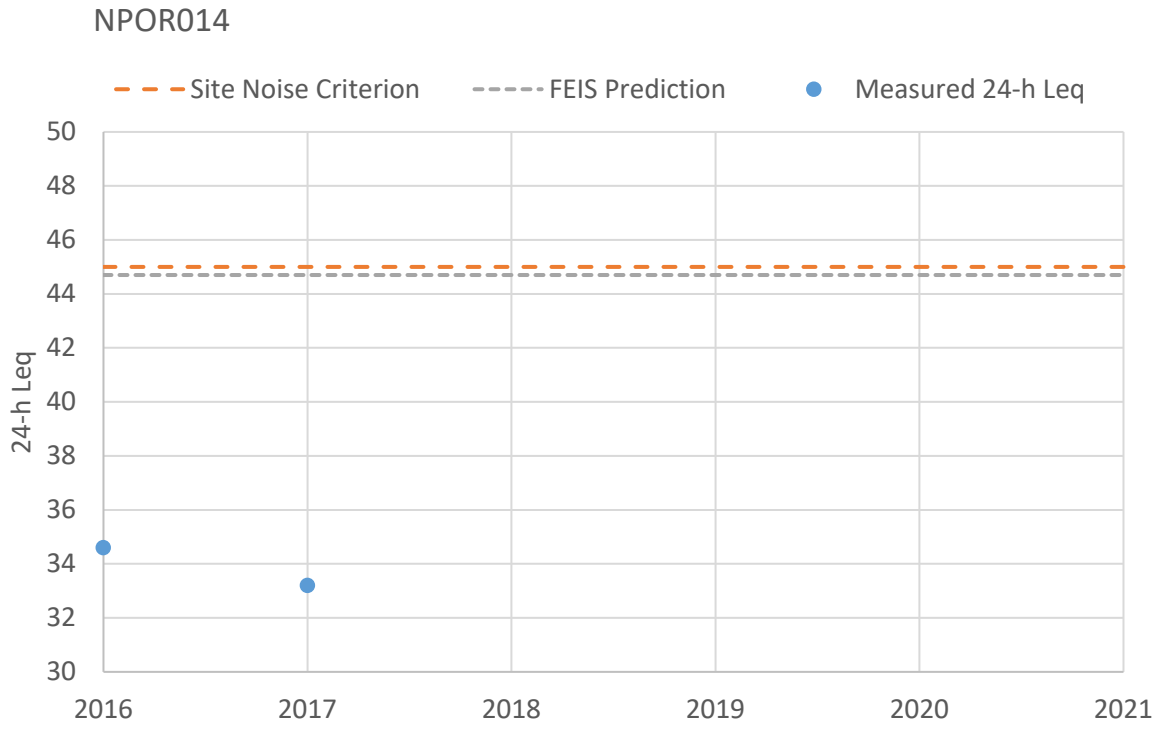

Figure 14. Historical noise monitoring results (24-h Leq values) for site NPOR014. Near-continuous bird calls resulted in a significantly elevated L_{eq} in 2018 (63.5 dBA, not shown). Monitoring was not conducted in 2019 or 2020. No mining activity has yet occurred in this area.

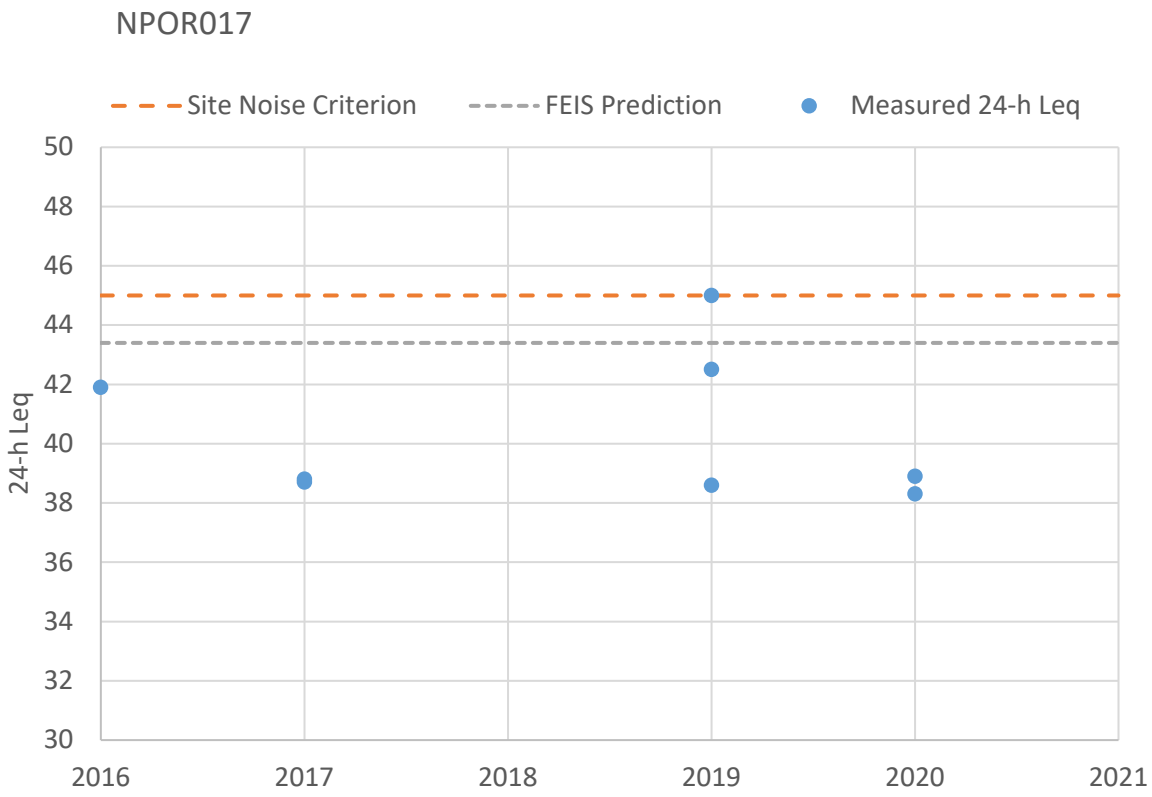

Figure 15. Historical noise monitoring results (24-h L_{eq} values) for site NPOR017 (2016 – 2019) and NPOR017a (2020+). Insufficient valid data was available in 2018 to calculate L_{eq} values.

5 CONCLUSION

The objective of the noise monitoring program at Meliadine is to measure noise levels at previously determined monitoring locations over at least two 24 h periods. In 2020 Agnico Eagle conducted two successful rounds of monitoring for all required stations (NPOR006a, NPOR008, and NPOR017a). In accordance with the Noise Abatement and Monitoring Plan, monitoring was not conducted at NPOR014a, because construction or operational activities related to the Discovery Pit area were not ongoing.

A summary of the noise monitoring results is provided in Table 7.

For all stations, sufficient valid data was available after filtering to calculate 24-h and night-time L_{eq} values for comparison to FEIS predictions and noise monitoring criteria.

For NPOR006a, one 24-h L_{eq} measurement marginally exceeded the FEIS prediction of 39.8 dBA, at 41.8 dBA. Review of sound recordings indicated this was generally due to infrequent aircraft flyovers causing 1 – 2 min elevated noise peaks during 5 of the 57 monitoring hours. Since the exceedance only occurred

during one event and the noise monitoring criterion was not exceeded, the event was not investigated further.

For NPOR008, one exceedance of the site's noise monitoring criterion (45 dBA, 24-h L_{eq}) and night-time design target (40 dBA) occurred, both during monitoring event 2. Elevated sound levels during this event were due to frequent helicopter flyovers (1-2 per hour throughout each day) causing brief (1-2 min) but significant sound peaks. Although no mine-related activity is ongoing in this area, this station is located under the flight path for helicopters between the Exploration Camp and the Discovery Pit area. During monitoring event 2, a fuel tank recovery operation was ongoing, resulting in frequent helicopter flyovers. This is expected to be an isolated incident, and is not representative of the typical sound environment in this area. Historically and during the first 2020 monitoring event at NPOR008, no exceedances have occurred for this site. Sound levels at this location will therefore continue to be observed in 2021 to determine whether a trend towards increasing sound levels is beginning.

For NPOR017a, no measured values exceeded the FEIS prediction or noise monitoring criterion in 2020.

Table 7. Summary of noise monitoring results in 2020. Values exceeding FEIS predictions are in bold. Values exceeding the noise monitoring criterion or design target are underlined. "-" indicates not applicable. "NM" indicates not required to be measured in 2020.

Location	Monitoring Start	Monitoring End	Noise Monitoring Criterion $L_{eq(24\ h)}$ (dBA)	FEIS Prediction $L_{eq(24\ h)}$ (dBA)	Measured $L_{eq(24\ h)}$ (dBA)	Design Target $L_{eq\ (nighttime)}$ (dBA)	Measured $L_{eq\ (nighttime)}$ (dBA)
NPOR006a	08/05/2020 3:03 PM	08/08/2020 3:32 PM	45	39.8	**41.8**	-	-
	08/11/2020 8:25 AM	08/14/2020 10:18 AM			30.8		-
NPOR008	08/01/2020 1:47 PM	08/04/2020 6:58 AM	45	41.7	40.1	40	39.5
	08/27/2020 1:48 PM	08/31/2020 3:29 PM			**<u>46.8</u>**		**<u>44.3</u>**
NPOR014	NM	NM	45	44.7	NM	-	-
NPOR017a	08/05/2020 1:44 PM	08/08/2020 1:03 PM	45	43.4	38.9	-	-
	08/10/2020 3:26 PM	08/13/2020 8:29 AM			38.3		-

6 ACTIONS

No specific supplemental actions were planned for 2020, and none are planned for 2021.

Monitoring will be conducted at alternate monitoring stations NPOR006a and NPOR017a if considerations related to COVID-19 are still warranted.

Special attention will be paid to monitoring results for NPOR008 in 2021 to determine whether a trend towards increasing sound levels is beginning.

No construction or operational activities related to the Discovery Pit are planned in 2021, so monitoring will be conducted at NPOR014a as feasible.

Appendix A: Field Logs

Monitoring Starts

Sample ID:	NPoR06a	Cloud Cover:	a few clouds
Date:	2020-08-05	Height of Clouds:	0-10 000 10 000-25 000 (25 000+)
Operators:	BH/GL/EF	Air Temperature (°C):	25°C
Calibration Completed:	(Y)/N	Wind Speed (km/h):	11 km/h
Sensitivity:	29.78	Wind Direction:	SW
Deviation:	-0.07	Relative Humidity (%):	55%
Time of Calibration:	3:02 pm	Precipitation:	(None) Drizzle Rain
Photographs of Set up:	(Y)/N	Barometric Pressure (kPa):	
Photographs of Surroundings:	(Y)/N	Northing:	0537550
Check Available Memory on SD Card:	(Y)/N	Easting:	699300
Battery Power Check:	(Y)/N	Noise Monitor Start Time:	3:03 pm

General Site Description

Type of Ground Surface:	tundra
Traffic in Area:	No traffic
Human Activities in Area:	600m from the ~~Dynamic centre~~ emulsion plant, 600m from cabin
Animals in Area:	Cranes
Other Noise Sources:	

Monitoring Ends

Sample ID:	NPoR06a	Cloud Cover:	none
Date:	2020-08-08	Height of Clouds:	N/A 0-10 000 10 000-25 000 25 000+
Operators:	BH/GL	Air Temperature (°C):	19.9
Calibration Completed:	(Y)/N	Wind Speed (km/h):	9 km/h
Sensitivity:	29.78	Wind Direction:	SE
Deviation:	-0.07	Relative Humidity (%):	56.0
Time of Calibration:	3:35	Precipitation:	(None) Drizzle Rain
Photographs of Set up:	(Y)/N	Barometric Pressure (kPa):	100.8 kPa
Photographs of Surroundings:	(Y)/N	Northing:	537550
Check Available Memory on SD Card:	(Y)/N	Easting:	699300
Battery Power Check:	(Y)/N	Noise Monitor Start Time:	3:32 pm

END

NBlue Sect

Monitoring Starts

Sample ID: NPOR06a	Cloud Cover: NONE
Date: 2020-08-11	Height of Clouds: — 0-10 000 10 000-25 000 25 000+
Operators: GL/EL	Air Temperature (°C): 15,2
Calibration Completed: (Y)N	Wind Speed (km/h): 6,5
Sensitivity: 29,78	Wind Direction: EAST
Deviation: -0,07	Relative Humidity (%): 77 %
Time of Calibration: 8:20 am	Precipitation: (None) Drizzle Rain
Photographs of Set up: (Y)N	Barometric Pressure (kPa): 100,2
Photographs of Surroundings: (Y)N	Northing: 15V 0537549
Check Available Memory on SD Card: (Y)N	Easting: 6991299
Battery Power Check: (Y)N	Noise Monitor Start Time: 8:25 am

General Site Description

Type of Ground Surface: TUNDRA
Traffic in Area: DYNO ROAD, ATV TRAILS.
Human Activities in Area: DYNO PLANT (EXPLOSIVES) ≈ 500 m.; CABINS.
Animals in Area: BIRDS
Other Noise Sources:

Monitoring Ends

Sample ID: NPOR06a	Cloud Cover: YES
Date: 2020-08-14	Height of Clouds: (0-10 000) 10 000-25 000 25 000+
Operators: GL/EL	Air Temperature (°C): 13
Calibration Completed: (Y)N	Wind Speed (km/h): 35
Sensitivity: 29,78	Wind Direction: SOUTH-EAST
Deviation: -0,07	Relative Humidity (%): 94 %
Time of Calibration: 10:48 am	Precipitation: None Drizzle (Rain)
Photographs of Set up: (Y)N	Barometric Pressure (kPa): 100,6
Photographs of Surroundings: (Y)N	Northing: 15V 0537549
Check Available Memory on SD Card: (Y)N	Easting: 6991299
Battery Power Check: (Y)N	Noise Monitor Start Time: —

Monitoring Starts

Sample ID:	NPOR08	Cloud Cover:	none
Date:	2020-08-01	Height of Clouds:	/ 0-10 000 10 000-25 000 25 000+
Operators:	BH/EF	Air Temperature (°C):	15°C
Calibration Completed:	(Y/N)	Wind Speed (km/h):	19.8
Sensitivity:	30.42	Wind Direction:	SW
Deviation:	-0.01 db	Relative Humidity (%):	52.5
Time of Calibration:	1:42pm	Precipitation:	(None) Drizzle Rain
Photographs of Set up:	(Y/N)	Barometric Pressure (kPa):	101.9 kpa
Photographs of Surroundings:	(Y/N)	Northing:	543707
Check Available Memory on SD Card:	(Y/N)	Easting:	6988727 6
Battery Power Check:	(Y/N)	Noise Monitor Start Time:	1:47pm

General Site Description

Type of Ground Surface:	tundra
Traffic in Area:	2.5 Km from mine site, 2.5 Km from AWAR
Human Activities in Area:	100 m from mel lake, boat traffic bpossible
Animals in Area:	none
Other Noise Sources:	Heard car horn + helicopter flying.

Monitoring Ends

Sample ID:	NPOR08	Cloud Cover:	none
Date:	2020-08-04	Height of Clouds:	/ 0-10 000 10 000-25 000 25 000+
Operators:	BH/EF	Air Temperature (°C):	18.6
Calibration Completed:	(Y/N)	Wind Speed (km/h):	(AV) 16.9
Sensitivity:	30.64	Wind Direction:	SW
Deviation:	0.06 db	Relative Humidity (%):	63
Time of Calibration:	7:01 am	Precipitation:	(None) Drizzle Rain
Photographs of Set up:	(Y/N)	Barometric Pressure (kPa):	101.1
Photographs of Surroundings:	(Y/N)	Northing:	543707
Check Available Memory on SD Card:	(Y/N)	Easting:	6988727 6
Battery Power Check:	(Y/N)	Noise Monitor ~~Start~~ Time:	6:58 am End

Monitoring Starts

Sample ID: NPOR008	Cloud Cover: 100%
Date: 2020-08-27	Height of Clouds: (0-10 000) 10 000-25 000 25 000+
Operators: EF/BH	Air Temperature (°C): 11°C
Calibration Completed: (Y)/N	Wind Speed (km/h): 17Km/h (25Km/h gusts)
Sensitivity: 30.45	Wind Direction: NE
Deviation: 0.03	Relative Humidity (%): 66.5%
Time of Calibration: 13:45	Precipitation: (None) Drizzle Rain
Photographs of Set up: (Y)/N	Barometric Pressure (kPa):
Photographs of Surroundings: (Y)/N	Northing: 543707
Check Available Memory on SD Card: (Y)/N	Easting: 6987278
Battery Power Check: (Y)/N	Noise Monitor Start Time: 13:48

General Site Description

Type of Ground Surface: Tundra

Traffic in Area: Boat - Helicopter - AWAR 2 km away

Human Activities in Area: Under flight path ~~from~~ for heli from explo camp to discovery

Animals in Area: None seen - a few migrating birds around site

Other Noise Sources:

Monitoring Ends

Sample ID: NPOR008	Cloud Cover: 100%
Date: 2020-09-02	Height of Clouds: (0-10 000) 10 000-25 000 25 000+
Operators:	Air Temperature (°C): 10.5°C
Calibration Completed: (Y)/N	Wind Speed (km/h): 3.7 Km/h
Sensitivity: 30.21	Wind Direction: SE
Deviation: -0.07	Relative Humidity (%): 82.8
Time of Calibration: 9:52	Precipitation: None (Drizzle) Rain
Photographs of Set up: (Y)/N	Barometric Pressure (kPa): 98.7
Photographs of Surroundings: (Y)/N	Northing: 543707
Check Available Memory on SD Card: (Y)/N	Easting: 6987278
Battery Power Check: (Y)/N	Noise Monitor ~~Start~~ End Time: 9:50

Monitoring Starts

Sample ID: NPOR17A	Cloud Cover: yes
Date: 2020-08-05	Height of Clouds: 0-10 000 10 000-25 000 (25 000+)
Operators: GL/EF/BH	Air Temperature (°C): 22°C
Calibration Completed: (Y)N	Wind Speed (km/h): 1.2 km/h
Sensitivity: 30.36	Wind Direction:
Deviation: -0.08 db	Relative Humidity (%): 69.9
Time of Calibration: 1:42 pm	Precipitation: None (Drizzle) Rain
Photographs of Set up: (Y)N	Barometric Pressure (kPa):
Photographs of Surroundings: (Y)N	Northing: 546152
Check Available Memory on SD Card: (Y)N	Easting: 6971995
Battery Power Check: (Y)N	Noise Monitor Start Time: 1:44 pm

General Site Description

Type of Ground Surface: Tundra

Traffic in Area: AWAR 150 m to the west

Human Activities in Area: very likely ATV's / locals in area

Animals in Area: none seen

Other Noise Sources:

12 km from airport, possible fly overs

Monitoring Ends

Sample ID: NPOR17a	Cloud Cover: yes
Date: 2020-08-08	Height of Clouds: 0-10 000 (10 000-25 000) 25 000+
Operators: BH/GL	Air Temperature (°C): 16.9
Calibration Completed: (Y)N	Wind Speed (km/h): 12.2 km/h
Sensitivity: 30.35	Wind Direction: S
Deviation: 0.00	Relative Humidity (%): 50.0%
Time of Calibration: 1:04 pm	Precipitation: (None) Drizzle Rain
Photographs of Set up: (Y)N	Barometric Pressure (kPa): 100.8 kPa
Photographs of Surroundings: (Y)N	Northing: 546152
Check Available Memory on SD Card: (Y)N	Easting: 6971995
Battery Power Check: (Y)N	Noise Monitor ~~Start Time~~: 1:03 pm BH

ib

Monitoring Starts

Sample ID: NPORO17a	Cloud Cover: yes
Date: 2020-08-10	Height of Clouds: (0-10 000) 10 000-25 000 25 000+
Operators: BH/GL	Air Temperature (°C): 14.4°C
Calibration Completed: (Y/N)	Wind Speed (km/h): ~~13~~ 22.4
Sensitivity: 30.35	Wind Direction: South
Deviation: 0.15	Relative Humidity (%): 80.2
Time of Calibration: 3:10 pm	Precipitation: None (Drizzle) Rain
Photographs of Set up: (Y/N)	Barometric Pressure (kPa): 99.8
Photographs of Surroundings: (Y/N)	Northing: 5461522
Check Available Memory on SD Card: (Y/N)	Easting: 6971993
Battery Power Check: (Y/N)	Noise Monitor Start Time: 3:26 pm

General Site Description

Type of Ground Surface:	Tundra
Traffic in Area:	Aver 150m ~~away~~ away
Human Activities in Area:	ATV's, transports, pick ups
Animals in Area:	Grand Squirl seen
Other Noise Sources:	airport 2Km away, possible fly overs

Monitoring Ends

Sample ID: NPORO 17a	Cloud Cover: NONE
Date: 2020-08-13	Height of Clouds: —— 0-10 000 10 000-25 000 25 000+
Operators: EL/GL	Air Temperature (°C): 12°C
Calibration Completed: (Y/N)	Wind Speed (km/h): 15
Sensitivity: 30,35	Wind Direction: SOUTH-WEST
Deviation: 0,15	Relative Humidity (%): 88.1
Time of Calibration: 8:26 am	Precipitation: (None) Drizzle Rain
Photographs of Set up: (Y/N)	Barometric Pressure (kPa): 101,9
Photographs of Surroundings: (Y/N)	Northing: 5461522
Check Available Memory on SD Card: (Y/N)	Easting: 6971995
Battery Power Check: (Y/N)	Noise Monitor Start Time: ——

Appendix B: Weather Data and Hourly L_{eq} values

Appx B - Table 1. Weather data recorded from the Meliadine site permanent weather station for noise monitoring dates, and hourly L_{eq} values calculated after data filtering. Asterisk " * " indicates value filtered out during secondary filtering on the basis of L90>35 dBA and no audible mine-related sounds.

Date and Time		Average Air Temperature (°C)	Average Wind Speed (km/h)	Average Wind Direction (°)	Average Relative Humidity (%)	1-h Leq (dBA)		
						NPOR 006	NPOR 008	NPOR 017a
8/01/20	1:00:00 PM	16.45	19.6	355	58			
	2:00:00 PM	17.73	20.1	2	51			39.09
	3:00:00 PM	18.38	20.3	350	48			31.76
	4:00:00 PM	18.94	18.1	345	46			32.04
	5:00:00 PM	19.14	18.5	356	44			34.49
	6:00:00 PM	19.26	17.9	356	41			30.35
	7:00:00 PM	19.22	17.1	356	40			29.80
	8:00:00 PM	18.68	13.1	339	45		36.47	29.58
	9:00:00 PM	17.94	8.7	323	52		26.75	38.38
	10:00:00 PM	16.13	8.5	326	62		27.95	34.81
	11:00:00 PM	15.50	10.6	318	64		28.57	27.79
8/02/20	12:00:00 AM	14.40	9.3	323	73		25.50	26.26
	1:00:00 AM	13.90	9.4	324	78		25.55	27.54
	2:00:00 AM	13.19	7.6	324	83		25.58	41.95
	3:00:00 AM	12.69	7.1	312	90		30.36	28.90
	4:00:00 AM	12.20	5.0	325	92		31.17	27.62
	5:00:00 AM	11.76	4.3	325	94		43.86	28.69
	6:00:00 AM	11.90	3.3	320	91		46.56	30.10
	7:00:00 AM	12.79	3.8	327	89		45.00	31.63
	8:00:00 AM	14.25	3.3	343	80		36.91	35.46
	9:00:00 AM	15.82	4.7	320	66		43.90	32.43
	10:00:00 AM	17.24	6.0	322	50		43.02	36.42
	11:00:00 AM	18.88	4.0	300	46		30.01	43.18
	12:00:00 PM	20.14	5.2	270	40		45.39	52.80
	1:00:00 PM	21.09	6.8	246	35		40.13	42.00
	2:00:00 PM	21.85	9.0	254	34			
	3:00:00 PM	22.35	10.3	240	32		*50.30**	46.16
	4:00:00 PM	22.59	13.4	224	33		*57.37**	33.94
	5:00:00 PM	21.70	23.3	193	41			34.35
	6:00:00 PM	20.95	23.6	197	43			37.22
	7:00:00 PM	19.67	21.9	195	46			33.17
	8:00:00 PM	18.37	18.4	196	49			35.22
	9:00:00 PM	16.69	14.2	194	59		*50.30**	
	10:00:00 PM	14.81	13.3	189	68		*52.68**	
	11:00:00 PM	13.33	12.1	188	77		*54.17**	37.10
8/03/20	12:00:00 AM	13.00	13.2	189	81		*54.70**	34.55
	1:00:00 AM	12.80	14.6	186	82		*51.51**	31.85

Date and Time		Average Air Temperature (°C)	Average Wind Speed (km/h)	Average Wind Direction (°)	Average Relative Humidity (%)	1-h Leq (dBA)		
						NPOR 006	NPOR 008	NPOR 017a
	2:00:00 AM	12.29	12.2	190	88		*48.37**	30.67
	3:00:00 AM	12.23	11.8	197	98		*45.67**	32.58
	4:00:00 AM	11.93	11.1	189	100		40.00	29.55
	5:00:00 AM	11.38	10.8	186	100		39.95	29.55
	6:00:00 AM	11.56	9.1	190	100			30.07
	7:00:00 AM	12.46	11.2	189	100		*47.08**	39.83
	8:00:00 AM	14.16	13.9	192	100		*49.66**	36.53
	9:00:00 AM	16.28	14.7	196	94		*47.20**	37.01
	10:00:00 AM	18.96	13.9	200	79		*48.37**	35.63
	11:00:00 AM	22.04	14.7	207	64		*53.44**	32.12
	12:00:00 PM	24.74	18.5	212	51			34.45
	1:00:00 PM	26.15	19.4	206	47			37.43
	2:00:00 PM	27.71	18.3	226	40			33.79
	3:00:00 PM	28.65	17.4	231	38			35.05
	4:00:00 PM	29.44	17.2	243	34			33.81
	5:00:00 PM	29.64	14.8	259	30		*50.80**	35.07
	6:00:00 PM	29.20	15.1	253	32			31.58
	7:00:00 PM	28.07	16.2	243	38			
	8:00:00 PM	26.40	11.8	239	42		*42.30**	
	9:00:00 PM	23.27	8.6	216	57		*44.80**	
	10:00:00 PM	19.51	11.1	186	82		*45.37**	26.74
	11:00:00 PM	17.44	10.5	185	92		*44.72**	
8/04/20	12:00:00 AM	16.55	9.3	187	97		*45.98**	22.15
	1:00:00 AM	16.44	10.2	189	97		*49.12**	22.97
	2:00:00 AM	16.61	11.8	196	96		*47.42**	23.76
	3:00:00 AM	16.30	9.8	196	99		*47.10**	22.28
	4:00:00 AM	15.77	8.5	190	100		*44.33**	22.93
	5:00:00 AM	15.30	9.9	191	100		*49.18**	22.58
	6:00:00 AM	14.88	10.9	186	100			25.96
	7:00:00 AM	15.35	12.4	187	100			29.82
	8:00:00 AM	16.64	15.3	188	94			29.93
8/05/20	3:00:00 PM	22.36	10.0	310	70			
	4:00:00 PM	23.88	10.5	319	51	30.09		
	5:00:00 PM	24.73	11.0	318	43	29.53		
	6:00:00 PM	25.18	7.6	330	40	20.34		
	7:00:00 PM	25.73	4.8	356	36	32.02		
	8:00:00 PM	25.76	3.3	272	36	35.31		
	9:00:00 PM	23.75	4.9	207	45	34.15		
	10:00:00 PM	20.42	8.2	192	69	32.80		

Date and Time		Average Air Temperature (°C)	Average Wind Speed (km/h)	Average Wind Direction (°)	Average Relative Humidity (%)	1-h Leq (dBA)		
						NPOR 006	NPOR 008	NPOR 017a
	11:00:00 PM	18.26	9.5	192	80	26.35		
8/06/20	12:00:00 AM	17.11	7.0	196	87	23.51		
	1:00:00 AM	16.58	3.9	242	88	21.55		
	2:00:00 AM	17.63	3.4	253	74	24.38		
	3:00:00 AM	16.07	5.6	220	90	24.24		
	4:00:00 AM	16.20	5.0	225	96	33.66		
	5:00:00 AM	15.80	0.6	27	95	25.79		
	6:00:00 AM	15.06	0.8	318	100	25.70		
	7:00:00 AM	16.03	1.1	141	98	25.45		
	8:00:00 AM	17.61	2.9	58	95	25.49		
	9:00:00 AM	20.65	3.5	280	71	50.07		
	10:00:00 AM	19.30	8.1	297	83			
	11:00:00 AM	19.30	9.8	330	76	50.59		
	12:00:00 PM	21.38	6.6	24	67	42.00		
	1:00:00 PM	21.56	12.5	117	65	36.70		
	2:00:00 PM	19.54	18.6	150	70			
	3:00:00 PM	19.82	10.3	100	68	55.68		
	4:00:00 PM	20.61	15.0	157	67	49.53		
	5:00:00 PM	21.04	13.3	156	64	25.16		
	6:00:00 PM	21.33	8.4	123	61	29.41		
	7:00:00 PM	21.06	10.6	117	62	32.70		
	8:00:00 PM	18.81	11.7	107	73	39.47		
	9:00:00 PM	14.68	15.2	104	94			
	10:00:00 PM	12.85	15.2	97	100			
	11:00:00 PM	12.53	14.1	102	100	31.41		
8/07/20	12:00:00 AM	12.36	12.8	97	100	31.83		
	1:00:00 AM	12.24	11.4	91	100	30.40		
	2:00:00 AM	12.30	11.8	89	100	30.56		
	3:00:00 AM	12.06	11.2	75	100	32.05		
	4:00:00 AM	11.86	11.7	90	100	30.87		
	5:00:00 AM	11.71	10.2	91	100	30.66		
	6:00:00 AM	11.70	9.2	93	100	35.76		
	7:00:00 AM	11.61	11.8	86	100	32.83		
	8:00:00 AM	11.75	11.3	108	99	31.52		
	9:00:00 AM	12.13	10.4	101	97	31.17		
	10:00:00 AM	12.79	9.9	104	93	33.80		
	11:00:00 AM	13.52	9.8	103	87	30.69		
	12:00:00 PM	14.67	8.8	101	82	30.50		
	1:00:00 PM	14.93	9.7	117	78	29.92		
	2:00:00 PM	15.28	10.0	129	76	29.36		

Date and Time		Average Air Temperature (°C)	Average Wind Speed (km/h)	Average Wind Direction (°)	Average Relative Humidity (%)	1-h Leq (dBA)		
						NPOR 006	NPOR 008	NPOR 017a
	3:00:00 PM	15.94	9.8	135	69	27.82		
	4:00:00 PM	16.15	9.9	160	65	28.51		
	5:00:00 PM	16.06	12.8	181	63	29.14		
	6:00:00 PM	15.73	14.5	180	64	30.92		
	7:00:00 PM	14.78	16.3	179	72			
	8:00:00 PM	13.67	15.9	171	81			
	9:00:00 PM	12.28	15.5	169	93			
	10:00:00 PM	10.77	14.2	166	100	31.50		
	11:00:00 PM	9.58	15.7	160	100			
8/08/20	12:00:00 AM	9.32	13.4	161	100	30.15		
	1:00:00 AM	9.27	13.5	158	100	29.77		
	2:00:00 AM	9.45	11.4	174	100	28.58		
	3:00:00 AM	9.66	10.4	184	100	27.74		
	4:00:00 AM	9.42	11.3	183	100	29.15		
	5:00:00 AM	9.18	10.6	182	100	28.98		
	6:00:00 AM	9.28	11.3	184	100	33.23		
	7:00:00 AM	9.39	13.7	184	100	32.15		
	8:00:00 AM	9.50	13.7	181	100	35.39		
	9:00:00 AM	10.03	16.9	178	100			
	10:00:00 AM	10.40	17.0	188	100			
	11:00:00 AM	11.11	15.5	192	100			
	12:00:00 PM	12.45	15.2	194	100			
	1:00:00 PM	14.38	16.2	188	99			
	2:00:00 PM	14.97	18.4	184	94			
	3:00:00 PM	15.48	19.7	182	89			
8/10/20	3:00:00 PM	13.13	17.7	83	100			
	4:00:00 PM	13.17	16.1	93	100			
	5:00:00 PM	13.48	17.6	97	97			
	6:00:00 PM	14.45	18.6	94	83			
	7:00:00 PM	15.41	18.9	95	73			
	8:00:00 PM	14.98	15.8	88	72			
	9:00:00 PM	14.29	13.3	90	75			39.27
	10:00:00 PM	12.74	7.3	92	82			37.69
	11:00:00 PM	11.03	4.2	69	89			34.00
	12:00:00 AM	11.25	5.7	85	90			36.44
	1:00:00 AM	10.96	6.0	80	98			37.07
	2:00:00 AM	10.34	6.5	57	94			38.46
	3:00:00 AM	9.27	8.5	26	98			36.95
	4:00:00 AM	8.65	7.7	16	100			36.23

Date and Time		Average Air Temperature (°C)	Average Wind Speed (km/h)	Average Wind Direction (°)	Average Relative Humidity (%)	1-h Leq (dBA)		
						NPOR 006	NPOR 008	NPOR 017a
	5:00:00 AM	9.09	11.5	17	100			33.26
	6:00:00 AM	9.04	11.3	13	100			37.00
	7:00:00 AM	10.36	9.9	20	89			40.69
8/11/20	8:00:00 AM	11.71	10.0	35	80			37.81
	9:00:00 AM	13.78	11.2	53	70	28.50		37.71
	10:00:00 AM	14.63	12.4	79	69	28.08		35.81
	11:00:00 AM	15.21	9.4	95	67	25.22		34.52
	12:00:00 PM	16.05	8.7	85	59	26.41		40.83
	1:00:00 PM	16.64	10.9	92	47	25.64		31.50
	2:00:00 PM	16.99	9.5	100	41	23.96		33.61
	3:00:00 PM	17.58	7.8	105	38	23.83		34.86
	4:00:00 PM	18.21	6.2	94	34	31.62		34.51
	5:00:00 PM	18.25	5.5	95	35	28.98		33.94
	6:00:00 PM	16.48	17.0	176	59			
	7:00:00 PM	15.30	15.0	175	56			
	8:00:00 PM	14.04	16.0	175	58			
	9:00:00 PM	12.47	14.0	178	66	35.54		41.08
	10:00:00 PM	10.92	10.8	188	76	34.86		35.85
	11:00:00 PM	10.00	11.1	205	93	30.79		37.19
8/12/20	12:00:00 AM	9.54	11.6	210	100	29.60		39.34
	1:00:00 AM	9.26	10.9	211	100	29.20		32.26
	2:00:00 AM	8.83	11.0	197	100	29.19		35.52
	3:00:00 AM	9.61	8.1	218	100	26.86		32.15
	4:00:00 AM	9.99	7.4	247	100	25.77		36.90
	5:00:00 AM	9.91	7.2	278	100	23.20		37.53
	6:00:00 AM	10.42	9.3	311	100	41.39		36.98
	7:00:00 AM	11.82	11.7	336	99	36.43		41.90
	8:00:00 AM	12.31	13.2	350	95	30.70		42.98
	9:00:00 AM	13.19	15.4	346	81			
	10:00:00 AM	14.63	17.4	348	64			
	11:00:00 AM	15.46	16.5	344	56			
	12:00:00 PM	15.99	16.0	339	53			
	1:00:00 PM	16.28	16.0	328	52			
	2:00:00 PM	16.78	15.3	327	51			
	3:00:00 PM	17.15	11.6	331	49	27.34		40.27
	4:00:00 PM	17.42	11.1	345	49	24.85		38.71
	5:00:00 PM	17.29	11.8	337	50	25.52		37.85
	6:00:00 PM	17.16	12.2	340	50	29.32		41.51
	7:00:00 PM	16.98	9.4	331	50	25.97		42.35
	8:00:00 PM	16.98	6.3	311	50	22.40		42.32

Date and Time		Average Air Temperature (°C)	Average Wind Speed (km/h)	Average Wind Direction (°)	Average Relative Humidity (%)	1-h Leq (dBA)		
						NPOR 006	NPOR 008	NPOR 017a
	9:00:00 PM	16.32	4.1	302	55	20.85		40.71
	10:00:00 PM	14.62	3.4	302	69	25.54		35.92
	11:00:00 PM	13.79	4.0	299	71	21.18		33.52
8/13/20	12:00:00 AM	13.08	2.3	284	72	24.61		33.60
	1:00:00 AM	10.39	3.5	185	97	27.13		37.80
	2:00:00 AM	9.65	4.1	180	100	29.46		36.67
	3:00:00 AM	9.75	2.7	184	99	32.99		33.87
	4:00:00 AM	8.99	0.7	158	100	34.17		34.40
	5:00:00 AM	8.59	3.5	151	100	32.47		34.19
	6:00:00 AM	8.22	3.9	153	100	29.69		30.54
	7:00:00 AM	9.47	6.5	152	100	35.17		31.77
	8:00:00 AM	11.08	11.5	154	100	33.63		
	9:00:00 AM	12.53	15.7	161	100			
	10:00:00 AM	13.61	19.6	169	90			
	11:00:00 AM	14.65	21.6	166	76			
	12:00:00 PM	13.46	23.4	169	81			
	1:00:00 PM	12.36	22.8	166	92			
	2:00:00 PM	12.68	23.7	166	88			
	3:00:00 PM	11.10	22.7	158	100			
	4:00:00 PM	11.58	22.1	155	100			
	5:00:00 PM	11.38	25.7	161	100			
	6:00:00 PM	11.46	24.4	158	100			
	7:00:00 PM	12.10	23.5	155	100			
	8:00:00 PM	11.88	22.4	150	100			
	9:00:00 PM	11.47	20.3	141	100			
	10:00:00 PM	11.22	22.0	144	100			
	11:00:00 PM	11.12	22.5	145	100			
8/14/20	12:00:00 AM	11.06	23.7	142	100			
	1:00:00 AM	10.98	25.0	141	100			
	2:00:00 AM	10.99	28.2	142	100			
	3:00:00 AM	10.93	29.6	144	100			
	4:00:00 AM	10.67	26.5	143	100			
	5:00:00 AM	10.68	28.2	140	100			
	6:00:00 AM	10.49	27.4	138	100			
	7:00:00 AM	10.60	33.7	133	100			
	8:00:00 AM	10.60	30.1	142	100			
	9:00:00 AM	10.81	28.6	150	100			
	10:00:00 AM	10.37	27.3	152	100			
8/27/20	1:00:00 PM	10.07	19.7	158	82			

Date and Time		Average Air Temperature (°C)	Average Wind Speed (km/h)	Average Wind Direction (°)	Average Relative Humidity (%)	1-h Leq (dBA)		
						NPOR 006	NPOR 008	NPOR 017a
	2:00:00 PM	10.04	21.7	159	88			
	3:00:00 PM	10.19	23.3	163	86			
	4:00:00 PM	10.45	23.2	162	78			
	5:00:00 PM	10.42	23.1	163	80			
	6:00:00 PM	10.12	23.4	163	80			
	7:00:00 PM	9.84	21.5	164	87			
	8:00:00 PM	9.43	18.1	159	98			
	9:00:00 PM	8.14	12.2	147	100		34.69	
	10:00:00 PM	7.43	10.5	147	100		32.33	
	11:00:00 PM	7.20	9.8	147	100		31.86	
8/28/20	12:00:00 AM	6.59	8.1	144	100		30.25	
	1:00:00 AM	6.88	10.8	135	100		32.21	
	2:00:00 AM	6.38	7.9	149	100		29.16	
	3:00:00 AM	6.14	6.9	154	100		26.91	
	4:00:00 AM	6.32	6.4	151	100		28.68	
	5:00:00 AM	6.44	8.1	142	100		41.37	
	6:00:00 AM	5.98	6.3	149	100		53.42	
	7:00:00 AM	6.53	7.2	139	100		48.28	
	8:00:00 AM	7.69	8.6	138	100		48.11	
	9:00:00 AM	8.66	10.4	146	100		50.22	
	10:00:00 AM	9.51	12.5	155	100		36.36	
	11:00:00 AM	10.26	16.0	167	100			
	12:00:00 PM	10.78	14.7	168	93		49.72	
	1:00:00 PM	11.68	13.4	175	83		38.16	
	2:00:00 PM	11.76	13.8	178	80		47.60	
	3:00:00 PM	11.88	12.0	176	75		47.29	
	4:00:00 PM	12.15	10.3	172	74		36.89	
	5:00:00 PM	12.23	9.6	181	78		27.67	
	6:00:00 PM	12.34	11.3	185	79		53.00	
	7:00:00 PM	11.76	13.0	177	82		48.85	
	8:00:00 PM	10.51	10.6	185	89		32.22	
	9:00:00 PM	8.16	7.6	193	100		32.33	
	10:00:00 PM	7.36	7.4	186	100		37.01	
	11:00:00 PM	6.82	7.7	193	100		31.79	
8/29/20	12:00:00 AM	6.57	8.3	189	100		30.15	
	1:00:00 AM	6.00	6.8	197	100		31.59	
	2:00:00 AM	5.94	6.3	195	100		30.43	
	3:00:00 AM	5.31	5.6	189	100		33.31	
	4:00:00 AM	6.23	6.7	194	100		37.22	
	5:00:00 AM	6.94	6.2	205	100		33.46	

Date and Time		Average Air Temperature (°C)	Average Wind Speed (km/h)	Average Wind Direction (°)	Average Relative Humidity (%)	1-h Leq (dBA)		
						NPOR 006	NPOR 008	NPOR 017a
	6:00:00 AM	7.03	5.6	199	100		52.44	
	7:00:00 AM	7.44	6.2	200	100		52.27	
	8:00:00 AM	8.04	7.5	202	100		53.25	
	9:00:00 AM	8.70	9.4	209	100		35.42	
	10:00:00 AM	9.60	8.9	209	100		31.88	
	11:00:00 AM	10.87	9.7	216	100		33.41	
	12:00:00 PM	11.57	11.1	214	100		49.76	
	1:00:00 PM	11.69	14.9	195	100		40.12	
	2:00:00 PM	11.43	13.6	207	100		47.03	
	3:00:00 PM	10.45	7.3	328	100		51.56	
	4:00:00 PM	10.53	3.4	12	100		50.14	
	5:00:00 PM	10.99	2.0	261	100		53.09	
	6:00:00 PM	11.36	2.9	256	100		54.17	
	7:00:00 PM	10.79	5.6	226	100		30.08	
	8:00:00 PM	10.50	6.9	199	100		32.02	
	9:00:00 PM	10.34	9.2	191	100		37.18	
	10:00:00 PM	9.53	8.8	186	100		34.57	
	11:00:00 PM	9.21	9.6	184	100		35.68	
8/30/20	12:00:00 AM	8.95	8.8	200	100		31.28	
	1:00:00 AM	8.78	7.2	200	100		33.68	
	2:00:00 AM	8.55	7.1	187	100		35.94	
	3:00:00 AM	8.32	11.6	180	100		35.65	
	4:00:00 AM	8.02	11.1	184	100		36.54	
	5:00:00 AM	8.20	11.0	196	100		52.43	
	6:00:00 AM	8.27	12.4	194	100		43.19	
	7:00:00 AM	7.99	12.3	200	100		34.17	
	8:00:00 AM	7.93	12.2	195	100		36.73	
	9:00:00 AM	8.15	15.0	188	100			
	10:00:00 AM	8.12	16.1	183	100			
	11:00:00 AM	8.39	18.6	175	100			
	12:00:00 PM	8.77	20.4	176	100			
	1:00:00 PM	9.28	21.7	173	100			
	2:00:00 PM	9.82	23.8	166	100			
	3:00:00 PM	9.95	25.0	166	100			
	4:00:00 PM	10.10	24.8	165	100			
	5:00:00 PM	10.04	26.6	167	100			
	6:00:00 PM	9.68	25.4	164	100			
	7:00:00 PM	9.25	21.2	151	100			
	8:00:00 PM	8.85	19.4	145	100			
	9:00:00 PM	8.39	18.5	144	100			

Date and Time		Average Air Temperature (°C)	Average Wind Speed (km/h)	Average Wind Direction (°)	Average Relative Humidity (%)	1-h Leq (dBA)		
						NPOR 006	NPOR 008	NPOR 017a
	10:00:00 PM	8.13	19.1	143	100			
	11:00:00 PM	8.15	19.1	141	100			
8/31/20	12:00:00 AM	8.31	20.9	137	100			
	1:00:00 AM	8.47	23.3	138	100			
	2:00:00 AM	8.67	24.7	139	100			
	3:00:00 AM	8.75	24.8	138	100			
	4:00:00 AM	8.83	27.4	135	100			
	5:00:00 AM	8.83	31.0	135	100			
	6:00:00 AM	8.56	28.8	137	100			
	7:00:00 AM	8.57	30.6	139	100			
	8:00:00 AM	8.76	34.1	139	100			
	9:00:00 AM	8.91	35.8	139	100			
	10:00:00 AM	9.26	38.8	138	100			
	11:00:00 AM	9.59	40.1	136	100			
	12:00:00 PM	9.89	39.0	132	100			
	1:00:00 PM	10.03	37.9	132	100			
	2:00:00 PM	10.02	38.9	130	100			
	3:00:00 PM	10.00	40.1	130	100			