



Appendix B.2

Noise Impact Assessment Technical Report - January 13, 2021 as
Completed for the Updated 2021 Beaver Dam Mine EIS



Updated Noise Impact Assessment Technical Report

Atlantic Mining NS Inc.
Beaver Dam Mine Project
Nova Scotia

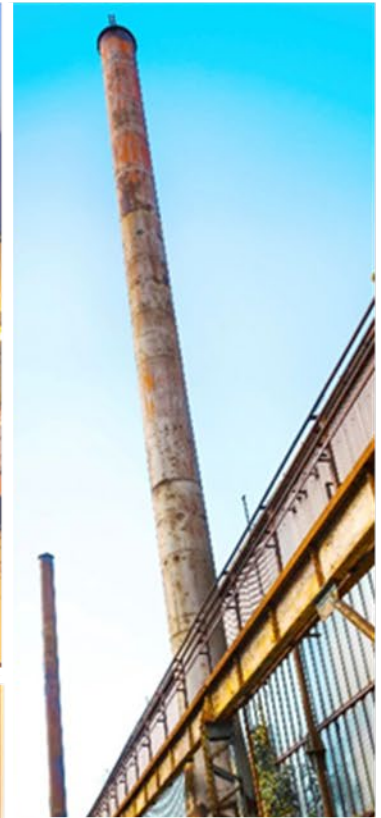




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1. Introduction

GHD Limited (GHD) updated the Noise Impact Study (GHD 2018) for the Beaver Dam Mine Project (Project), based on updates to the project description (AMNS 2021a) and in responses to information requests (IRs) (CEAA 2019). This Updated Noise Impact Assessment Technical Report summarizes updated noise modelling results, assessments, and mitigation measures, based on the current infrastructure design, planned operations, and schedule for the Project. The effects of the following key project changes are summarized in this report:

- Duration of Construction Phase reduced to <1 year (previously 1 to 2 years)
- Duration of Operation Phase extended to 5 years (previously 3 to 4 years)
- Maximum daily volume of Project truck traffic on the haul road reduced to 95 trips per day (previously 190 trips per day)
- Two options for raw material processing considered at the Beaver Dam Mine Site (Option A: jaw crusher at crusher pad; and Option B: secondary blasting and rock breaking in the pit)

The specific noise related IRs from the Canadian Environmental Effects Assessment Agency (CEAA) 2019 review (CEAA 2019) are included in Table 1.1.



Table 1.1 Canadian Environmental Assessment Agency Round 2, Part 1 Information Requests

Information Request Reference Number	Regulatory Agency/Indigenous Community/Public Community	Revised EIS Reference	Context and Rationale	The Proponent is Required to ...	Information Request Response Location
CEAA-2-27	CEAA, KMKNO, ESW, Save Caribou	Section 8.5 Cumulative Effects Assessment of the Valued Components	Section 8 of the revised EIS does not contain a cumulative effects assessment for noise.	Provide a cumulative effects assessment for noise, including the reasonably foreseeable projects: Fifteen Mile Stream Gold and Cochrane Hill Gold Projects.	Section 3.3
CEAA-2-27	CEAA, KMKNO, ESW, Save Caribou	Section 8.5 Cumulative Effects Assessment of the Valued Components	The proponent states that residual adverse effects from noise will remain after the application of mitigations. Residual effects of other past, present and reasonably foreseeable projects noted in the revised EIS have the potential to interact with the residual effects of the Beaver Dam Mine Project, both spatially and temporally (Table 8.4-4). Specifically, the proposed Beaver Dam Mine, Fifteen Mile Stream Gold and Cochrane Hill Gold Projects will be operating concurrently and using the same Haul Roads to transport ore to the existing Touquoy Mine and Facility for final processing.	Provide a worst-case scenario for noise along the Haul Road in consideration of Beaver Dam, Fifteen Mile Stream Gold, and Cochrane Hill Gold Projects and forestry operations.	Section 3.3



Information Request Reference Number	Regulatory Agency/Indigenous Community/Public Community	Revised EIS Reference	Context and Rationale	The Proponent is Required to ...	Information Request Response Location
CEAA-2-27	CEAA, KMKNO, ESWF, Save Caribou	Section 8.5 Cumulative Effects Assessment of the Valued Components	<p>The proponent's rationale for not carrying noise into the cumulative effects assessment is that the residual effects from noise are anticipated to revert back to baseline conditions upon completion of the Project.</p> <p>The Agency notes that noise levels were close to or exceeded thresholds during the assessment of direct Project effects. As such, the Agency requires that noise be carried forward into the cumulative effects assessment.</p> <p>In addition to Fifteen Mile Stream Gold and Cochrane Hill Gold Projects, the proponent has identified forestry operations as an ongoing project in the area. Although sporadic, the proponent indicated that there is a potential for cumulative effects between forestry and the other mining projects, and stated that an overlap of these projects will likely occur.</p>	Update the direct and cumulative effects assessment of related valued components as appropriate and include additional mitigation to reflect this scenario.	Section 3.3
CEAA-2-30	HC	Section 6.1.9, p223; Appendix B.1 - Section 2.0 Methodology	<p>The EIS states that during construction "noise will be elevated above baseline for limited periods but for a short duration (12-24 months)". According to Section 6.3.1 of Health Canada (2016), construction noise lasting longer than one year should be assessed as operational noise. The methods to evaluate operational noise are also presented in Health Canada (2016). Guidance for Evaluating Human Health Impacts in Environmental Assessment: NOISE. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.</p>	Provide a quantitative evaluation of construction noise as operational noise using the approach described in Health Canada (2016) given the expected duration of the construction phase (up to 2 years).	GHD 2021 (Technical Memorandum - Beaver Dam Mine Construction Noise Assessment)



Information Request Reference Number	Regulatory Agency/Indigenous Community/Public Community	Revised EIS Reference	Context and Rationale	The Proponent is Required to ...	Information Request Response Location
CEAA-2-31	HC	Appendix B.1 Section 6.1; Section 6.1.3.2, p211	<p>Noise</p> <p>Given that the Nova Scotia (NSE) Noise Guidelines are intended not only for dwellings but also for recreational areas, any area used for recreational or traditional purposes by Indigenous peoples located closer to the project site should be included in the noise assessment. This is particularly relevant because of the predicted exceedances of the provincial noise guidelines at the Beaver Dam Mine site property boundary.</p>	Provide further justification for the conclusion that the noise limits in the NSE Pit and Quarry Guidelines (1999) are not valid at the property boundary of the Beaver Dam Mine Site .	Section 3.2
CEAA-2-31	HC	Appendix B.1 - Section 6.2	<p>In terms of noise, section 6.1 of Appendix B.1 states that “the Nova Scotia Guidelines for Environmental Noise Measurement and Assessment state that their guideline limit values are intended to be applied where people normally live, work, or take part in recreation”. According to section 6.1.7.3 of the EIS, “activities in the project site area include recreational use (hunting, ATVs, etc)”. According to Table 6.14-1, “Mi’kmaq families also enjoy camps in the area for recreational purposes.”</p>	Provide additional mitigation measures that reduce noise at the property boundary given the predicted exceedances.	Section 3.2, Section 4
CEAA-2-31	HC	Section 6.2.6.4, p235	<p>Additionally, the EIS states that “the highest predicted noise levels at the property boundaries of the Beaver Dam Mine Site exceed the criteria NSE Pit and Quarry Guidelines (1999) for all time periods While the limits stated in these guidelines are clear and specific, they are not considered practical to meet for open pit mines with operations located close to property lines.”</p>	Update any monitoring or follow up programs at the property boundary to verify predicted noise levels and evaluate the level of conservatism used in the modelling .	Section 3.2



Information Request Reference Number	Regulatory Agency/Indigenous Community/Public Community	Revised EIS Reference	Context and Rationale	The Proponent is Required to ...	Information Request Response Location
CEAA-2-32	HC	Section 2.3.2.2, p127	Section 6.1.8 states that “traffic on the Haul Road will generally be restricted to 16 hours per day during the operational phase. This will minimize noise along the Haul Road during evening hours.”	Confirm that the truck traffic for the noise assessment has been adjusted to reflect 16 hours rather than 12 hours. If noise levels are likely to be elevated during the evening/overnight period, provide a discussion of any additional mitigation measures that may be employed to reduce noise levels at the nearest receptor locations.	Section 3.2

Source: CEAA (2019), AMNS (2021b).



2. Noise Assessment Methodology Update

The acoustic modelling has been updated to reflect the current infrastructure for the Project and current estimates of truck traffic on the Haul Road, which are provided in Appendix B. The updated noise analysis results presented herein include all identified worst-case human receptor locations (R1 to R9). Specific non-residential locations of traditional land use and recreation have not been identified for inclusion in the analysis; however, it is understood that traditional and recreational uses such as hunting may occur in areas close to the Project Area. The noise isopleths provided in Figures 3A to 3K indicate the predicted noise levels produced by the Project.

Figures 3A and 3B are used to assess the effects on traditional uses and wildlife (AMNS 2021a, Sections 6.12 to 6.17).

The updated analysis also includes the effects of haul truck traffic from the Project only (Direct Effects), and haul truck traffic on the Haul Road from other projects as well as forestry operations (Cumulative Effects).

2.1 Construction Phase

This Technical Report does not contain a detailed assessment of noise impacts resulting from the Construction Phase of the Project, which now has a planned duration of less than one year (i.e., short duration). A separate Technical Memorandum has been prepared to summarize the noise assessment of the Construction Phase (GHD 2021).

2.2 Operation Phase

The equipment and activities planned for the Operation Phase have been assessed with respect to the applicable Nova Scotia Environment and Labour (NSEL) noise guidelines (NSEL 1990, NSEL 1999). The NSEL (1990) guidelines apply to residential receptors, and at property lines of mine sites and the Haul Road.

2.2.1 Residential Receptors

Predicted noise impacts during the Operation Phase were assessed at all of the identified worst-case residential receptors using the NSEL "Guidelines for Environmental Noise Measurement and Assessment" (NSEL 1990). This guideline includes the following criteria:

- $L_{eq} \leq 65$ dBA between 7:00 AM and 7:00 PM
- $L_{eq} \leq 60$ dBA between 7:00 PM and 11:00 PM
- $L_{eq} \leq 55$ dBA between 11:00 PM and 7:00 AM

Nine worst-case human receptor locations have been identified for assessment (R1 to R9). These receptor locations are listed below and shown in Figures 1A to 1D:

- R1 – 9 Beaver Dam Mine Road (Marlborough Property)
- R2 – 4112 Highway 224 (Beaver Lake IR 17)



- R3 – 4115 Highway 224 (Cottage on Crown Land)
- R4 – 3492 Highway 224 (Hobbs Property)
- R5 – 3379 Highway 224 (McLeod Property)
- R6 – 3373 Highway 224 (Smith Property)
- R7 – Tangier River (Deepwood Estates Property)
- R8 – Tanger River (Musquodoboit Lumber Co. Ltd. Property/John Dickson Lease)
- R9 – 5579 Mooseland Road (Lloy Property)

2.2.2 Property Lines

Predicted noise levels were also evaluated at the property lines for the Operation Phase. The NSEL regulates noise levels at the property lines of mines using noise level limits contained in the "Pit and Quarry Guidelines" (NSEL 1999). The noise level criteria contained in this guideline are as follows:

- $L_{eq} \leq 65$ dBA between 7:00 AM and 7:00 PM
- $L_{eq} \leq 60$ dBA between 7:00 PM and 11:00 PM
- $L_{eq} \leq 55$ dBA between 11:00 PM and 7:00 AM

2.2.3 Haul Roads – Direct and Cumulative Effects

Direct impacts from the Project and Cumulative Effects have been analysed to evaluate the total cumulative noise levels from Project truck traffic on the Haul Road, as well as truck traffic associated with other projects and industries.

Trucks transporting gold concentrate from the Cochrane Hill and Fifteen Mile Stream mine sites (both more than 15 km from the Project) to the Touquoy Mine Site will pass through the Project Area, and have the potential to increase the cumulative noise levels at the receptors along the Haul Road. Truck traffic from forestry industry operations in the area is also expected to operate on the Haul Road.

Direct impacts from the Project and cumulative truck traffic was evaluated to determine potential noise impacts on receptors, using the criteria for residential receptors presented in Section 2.2.1.

3. Project Activities and Noise Assessment Update

The Project will operate as a satellite open pit mine. Crushed ore from the Project will be transported by truck via the Haul Road to the existing and fully permitted Touquoy Mine. Processing of ore from the Beaver Dam gold deposit at the existing the Beaver Dam Mine Site is anticipated to begin construction in 2022, come into production in 2023, cease operations in 2027 and then be reclaimed.

The Touquoy Mine is currently in operation and has been assessed as such. The primary effect of the continued use of the Touquoy Mine Site is the continued generation of noise due to haul truck traffic on the site, and processing of ore from the proposed Beaver Dam Mine. There are no new or



additional effects from noise anticipated to be caused by the processing of ore and the management of tailings (exhausted pit) from the Project, as no new construction or disturbance, aside from upgrades to the process plant, is required at the Touquoy Mine related to the processing of ore from the Beaver Dam Mine Site.

Relevant Project activities during the Operation Phase is summarized in Table 3.1.

Table 3.1 Potential Noise Interactions with Project Activities During the Operation Phase

Location	Duration	Relevant Project Activity
Beaver Dam Mine Site	5 years	<ul style="list-style-type: none"> • Rock blasting to access and extract ore • Management of waste rock produced from crushing and/or blasting and preparing ore for transport • Petroleum products management • Site maintenance and repairs • Equipment to power lighting at Mine and along roads • General management of wastes derived from operation activities
Along Haul Road	5 years	<ul style="list-style-type: none"> • Ore transport • Road lighting • Equipment to power lighting at Mine Sites and along road • Haul road maintenance and repairs
Touquoy Mine Site	5 years	<ul style="list-style-type: none"> • Ore management and processing • Lighting equipment for on-site facilities and Mine roads

There are two alternatives currently under consideration by Atlantic Mining NS Inc. (AMNS) for the processing of raw materials at the Beaver Dam Mine Site during the Operation Phase. These alternatives are summarized as follows:

- **Option A:** A jaw crusher (noise model source ID: S120) will be used at the crusher pad of the Beaver Dam Mine. This is consistent with the project activities summarized in this Technical Report.
- **Option B:** Mined material from the pit will be further processed with additional blasting and rock breaking using an excavator-mounted rock breaker, without the need for a crusher at the Beaver Dam Mine. As per the NSEL Pit and Quarry Guidelines (1999), noise due to blasting activities is subject to separate noise level requirements, which are outside of the scope of this Technical Report. However, an explosive management plan is being developed and will be submitted as part of the permitting process to assess and mitigate impacts from the use of explosives. An excavator-mounted rock breaker (noise model source ID: S131) will also be used within the pit, which is a source of noise and has been included in this assessment.

These alternatives have been evaluated separately as part of this Technical Report.



3.1 Operation Phase Noise Impacts at the Residential Receptors

During the Operation Phase, predicted noise levels at each of the identified residential receptors are summarized in Table 3.2. The predicted noise levels include equipment and activities at the Beaver Dam Mine Site, the Haul Road, and the Touquoy Mine Site.

Table 3.2 Predicted Noise Effects at the Residential Receptors

Receptor ID	Receptor Description	Noise Level (dBA) (Day / Evening / Night)	Sound Level Limit ^(a) (dBA) (Day / Evening / Night)	Compliance
R1	9 Beaver Dam Mine Road (Marlborough Property)	48 / 48 / 27	65 / 60 / 55	Yes
R2	4112 Highway 224 (Beaver Lake IR 17)	30 / 30 / 28	65 / 60 / 55	Yes
R3	4115 Highway 224 (Cottage on Crown land)	32 / 32 / 28	65 / 60 / 55	Yes
R4	3492 Highway 224 (Hobbs Property)	50 / 50 / 27	65 / 60 / 55	Yes
R5	3379 Highway 224 (McLeod Property)	39 / 39 / 27	65 / 60 / 55	Yes
R6	3373 Highway 224 (Smith Property)	37 / 37 / 27	65 / 60 / 55	Yes
R7	Tangier River (Deepwood Estates Property)	53 / 53 / 20	65 / 60 / 55	Yes
R8	Tangier River (Musquodoboit Lumber Co Ltd. Property/John Dickson Lease)	42 / 42 / 20	65 / 60 / 55	Yes
R9	5579 Mooseland Road (Lloy Property)	50 / 50 / 27	65 / 60 / 55	Yes

(a) NSEL 1990

Predicted noise effects during the Operation Phase of the Project are within the applicable sound level limits at all the identified receptors (Table 3.2). Most notably, predicted noise levels during the nighttime period are at least 27 dBA below the applicable nighttime sound level limit at all identified receptors.

Table 3.2 includes both Option A and Option B for raw material processing at the Beaver Dam Mine Site and includes the effects of required noise mitigation measures.

3.2 Property Line Assessment

Noise levels were evaluated at the property boundaries of the Beaver Dam Mine, Haul Road, and Touquoy Mine Site (Figures 2A to 2D). All of the noise sources from the Operations at both mine sites and on the Haul Road were used in the property line noise level predictions.

Operations, infrastructure, and property boundaries for the Beaver Dam Mine have been updated to mitigate predicted noise levels at the property line. The current proposed property line at the Beaver



Dam Mine and the noise source locations are identified in Figures 2B and 2C, with source sound levels and operating conditions summarized in Appendices A and D. The following noise mitigation measures are incorporated into the current design of the Beaver Dam Mine:

- The pit entrance/exit has been relocated to the west side of the pit, farther from the northeast property boundary.
- No more than **four drills** will operate concurrently during any day, evening, or nighttime hour.
- Increase the height of the safety berm along the north boundary of the pit:
 - For **Option A**, the safety berm should be considered. It is recommended that the berm be at least 138.3 metres above sea level (approximately 7.3 metres above existing grade) along the northeast boundary of the pit, and at least 139 metres above sea level (approximately 4.0 metres above existing grade) along the northwest boundary of the pit (Figure 2B).
 - For **Option B**, the safety berm should be considered. It is recommended that the berm be at least 143 metres above sea level (i.e., approximately 13.0 metres above existing grade) along the entire north boundary of the pit (Figure 2C).

The maximum predicted noise levels at the property lines of the Beaver Dam Mine during Operations with the mitigations are presented in Table 3.3.

Table 3.3 Worst-Case Noise Levels at Property Lines

Property Line Description	Maximum Noise Level (dBA) (Day / Evening / Night)	Sound Level Limit (dBA) ^(a) (Day / Evening / Night)	Compliance
Beaver Dam Mine Site Property, Option A	55 / 55 / 55	65 / 60 / 55	Yes
Beaver Dam Mine Site Property, Option B	55 / 55 / 55	65 / 60 / 55	Yes
Haul Road (30 m from centerline of road)	59 / 59 / --	65 / 60 / 55	Yes
Touquoy Mine Site Property	54 / 54 / 54	65 / 60 / 55	Yes

^(a) NSEL 1999

Predicted noise levels at the property line of the Beaver Dam Mine, along the length of the Haul Road, and the Touquoy Mine Site are within the sound level limits specified in the NSEL Pit and Quarry Guidelines (NSEL 1999) provided that the recommended mitigation measures for Option A or Option B are applied at Beaver Dam Mine Site (Table 3.3). Figures 3A to 3K show the applicable noise level isopleths in areas of residential receptors, and at the Beaver Dam Mine Site, Touquoy Mine Site, and Haul Road.

3.3 Haul Road Direct and Cumulative Effects

Truck traffic from other projects operating on the Haul Road, in addition to truck traffic from the Project, have the potential to produce increased cumulative effects noise levels at the identified receptors. As such, a Cumulative Effects analysis has been conducted to determine the potential Cumulative Effects of truck traffic from the proposed Fifteen Mile Stream Gold Project, Cochrane Hill



Gold Project and Forestry operations that may use the Haul Road concurrently with trucks from the Beaver Dam Mine Site.

Truck traffic volumes used in the Direct (i.e., Project only) and Cumulative Effects analysis are summarized in Table 3.4 below.

Table 3.4 Summary of Estimated Truck Traffic on Haul Road

Originating Facility / Industry	Truck Traffic Volume (round trips per day, 7:00 AM to 11:00 PM)	
	Direct Effects	Cumulative Effects
Project (Beaver Dam Mine Site)	95	95
Cochrane Hill Mine	-	11
Fifteen Mine Stream Mine	-	11
Forestry	-	7
Total	95	124

Truck traffic from the Project will operate on the Haul Road 16 hours per day, during day and evening time periods only (7:00 AM to 11:00 PM). It is assumed that trucks originating from the other projects and industries will operate during the same hours for the purposes of the Cumulative Effects analysis.

In addition to the heavy truck traffic summarized above, it is estimated 3/4-ton service trucks would make up to approximately 20 round trips per day on the haul roads. Noise emissions from these service trucks have also been included in the cumulative effects noise model.

Table 3.5 shows the predicted cumulative effects of truck traffic for noise during the Operation Phase of the Project are within the applicable sound level limits at all of the identified residential receptors, including noise emissions from equipment and activities at the Beaver Dam Mine Site, Touquoy Mine Site, and Haul Road (Figures 4A to 4F).

Table 3.5 Operation Phase Predicted Cumulative Noise Effects

Receptor ID	Receptor Description	Noise Level (dBA) (Day / Evening / Night)	Sound Level Limit ^(a) (dBA) (Day / Evening / Night)	Compliance?
R1	9 Beaver Dam Mine Road (Marlborough Property)	50 / 50 / 27	65 / 60 / 55	Yes
R2	4112 Highway 224 (Beaver Lake IR 17)	31 / 31 / 28	65 / 60 / 55	Yes
R3	4115 Highway 224 (Cottage on Crown land)	33 / 33 / 28	65 / 60 / 55	Yes
R4	3492 Highway 224 (Hobbs Property)	56 / 56 / 27	65 / 60 / 55	Yes
R5	3379 Highway 224 (McLeod Property)	51 / 51 / 27	65 / 60 / 55	Yes
R6	3373 Highway 224 (Smith Property)	51 / 51 / 27	65 / 60 / 55	Yes



Table 3.5 Operation Phase Predicted Cumulative Noise Effects

Receptor ID	Receptor Description	Noise Level (dBA) (Day / Evening / Night)	Sound Level Limit ^(a) (dBA) (Day / Evening / Night)	Compliance?
R7	Tangier River (Deepwood Estates Property)	55 / 55 / 20	65 / 60 / 55	Yes
R8	Tangier River (Musquodoboit Lumber Co Ltd. Property/John Dickson)	44 / 44 / 20	65 / 60 / 55	Yes
R9	5579 Mooseland Road (Lloy Property)	52 / 52 / 27	65 / 60 / 55	Yes

(a) NSEL 1990

The tables in Appendix B indicate noise levels from each noise source for each of the residential receptors for the Direct Effects and Cumulative Effects scenarios, with Option A and Option B. Table 3 in Appendix C documents compliance with the applicable sound level limits for each scenario.

4. Mitigation Measures Update

Equipment that lack effective mufflers are significant sources of noise. Procurement of equipment that meets best practices in terms of noise emissions, and regular maintenance of the equipment will reduce noise levels. Site workers will be trained to ensure equipment is used in ways that minimize noise and are maintained regularly. As part of the workplace health and safety program, noise monitors may be attached to workers from time to time to measure and monitor noise exposure over a shift.

The majority of mining operations will occur in the pit well below ground surface thereby providing noise shielding and blasting will be restricted to daytime hours, per the NSEL Pit and Quarry Guidelines (NSEL 1999). Additionally, traffic on the Haul Road will generally be restricted to 12 to 16 hours per day during the Operation phase, which will minimize noise along the Haul Road during nighttime hours. The dense forest surrounding the Beaver Dam Mine Site and the Haul Road will also provide noise attenuation, which is not accounted for in the noise model to be conservative. Topography and distance from receptors also contribute to a reduction of Project-generated sound at greater distances, and topographical elevation data has been included in the model to account for this effect.

This combination of measures will adequately mitigate potential noise impacts. The mitigation procedures may vary as long as noise levels are in accordance with the regulatory approval.

Additionally, noise and vibration monitoring must be completed during each blasting event, as required by the NSEL Pit and Quarry Guidelines (NSEL 1999). Monitoring and mitigations explicit to blasting will be described in the Explosive Management Plan that will be submitted as part of the permitting process. Elements of this plan will include site specific monitoring triggers and mitigations.



An Engagement Plan (AMNS 2021a) will be implemented and based on feedback additional mitigations will be considered. Table 4.1 provides a summary mitigations measures being considered in the Explosive Management Plan to reduce noise.

Table 4.1 Mitigation for Noise

VC	Project Phase	Mitigation Measure
Noise	OP	Blasting will not be undertaken on Sundays, statutory holidays, or any day between the hours of 1800 hours and 0800 hours (NSEL 1999)
	OP	Construct a large safety berm along the entire north boundary of the pit, dependent on how raw materials are processed at the Beaver Dam Mine Site: <ul style="list-style-type: none"> <u>Option A:</u> It is recommended that the berm be at least 138.3 metres above sea level (approximately 7.3 metres above existing grade) at the northeast boundary of the pit, and at least 139 metres above sea level (approximately 4.0 metres above existing grade) along the northwest boundary of the pit. <u>Option B:</u> It is recommended that the berm be at least 143 metres above sea level (i.e., approximately 13.0 metres above existing grade) along the entire north boundary of the pit.
	OP	Operating hours for trucking on the Haul Road will be restricted to the day and evening periods only
	OP	Maximum 4 drills will operate at the Beaver Dam Mine Site pit at any time during the Operation Phase of the Project
	OP	Regular check by site manager for excessive noise on site and in relation to sensitive receptors so that resolution can be timely
	OP, DEC	Implement preventative maintenance plans for all mobile and stationary equipment
	PC	Noise-reduction as criteria in equipment selection
	OP	Speed reduction
	OP	Use equipment that meets appropriate noise emission standards for off-road diesel equipment
	OP	Subcontractor agreements will include an obligation to comply with environmental protection including noise reduction
	OP	Site design to reduce need for reversing and vehicle reversing alarms
	OP	A procedure, including a response plan, will be available for public to be able to register complaints regarding noise concerns

5. Proposed Compliance and Effects Monitoring Program Update

Noise monitoring will be completed as directed by regulators or feedback received from engagement.



6. Conclusions

In general, mining operations often produce elevated noise levels that have the potential to impact the surrounding environment. Thus, noise levels produced by equipment at the proposed Beaver Dam Mine Project have been assessed at the identified worst-case receptors to determine the future impact on residents of the nearest communities. This is not intended to preclude residents at farther distances but rather is presented to document those residence that are closest and represent a worst-case scenario. The predicted noise levels produced by worst-case activities during the Operation of the Project, including noise emissions from the Beaver Dam Mine Site, the Haul Road, and the Touquoy Mine Site, are within the applicable guideline limits for all identified receptors. Based on these predictions, noise levels at nearby residential receptors are expected to be within the NSEL noise level limits, provided the mitigation measures identified in this report are followed.

Trucks from other projects and forestry operations on the Haul Road have the potential to increase the Cumulative Effect of noise at the receptors. However, noise levels due to Cumulative Effects of trucks on the Haul Road were assessed, and the predicted noise levels remain within the applicable NSEL sound level limits at all identified residential receptors.

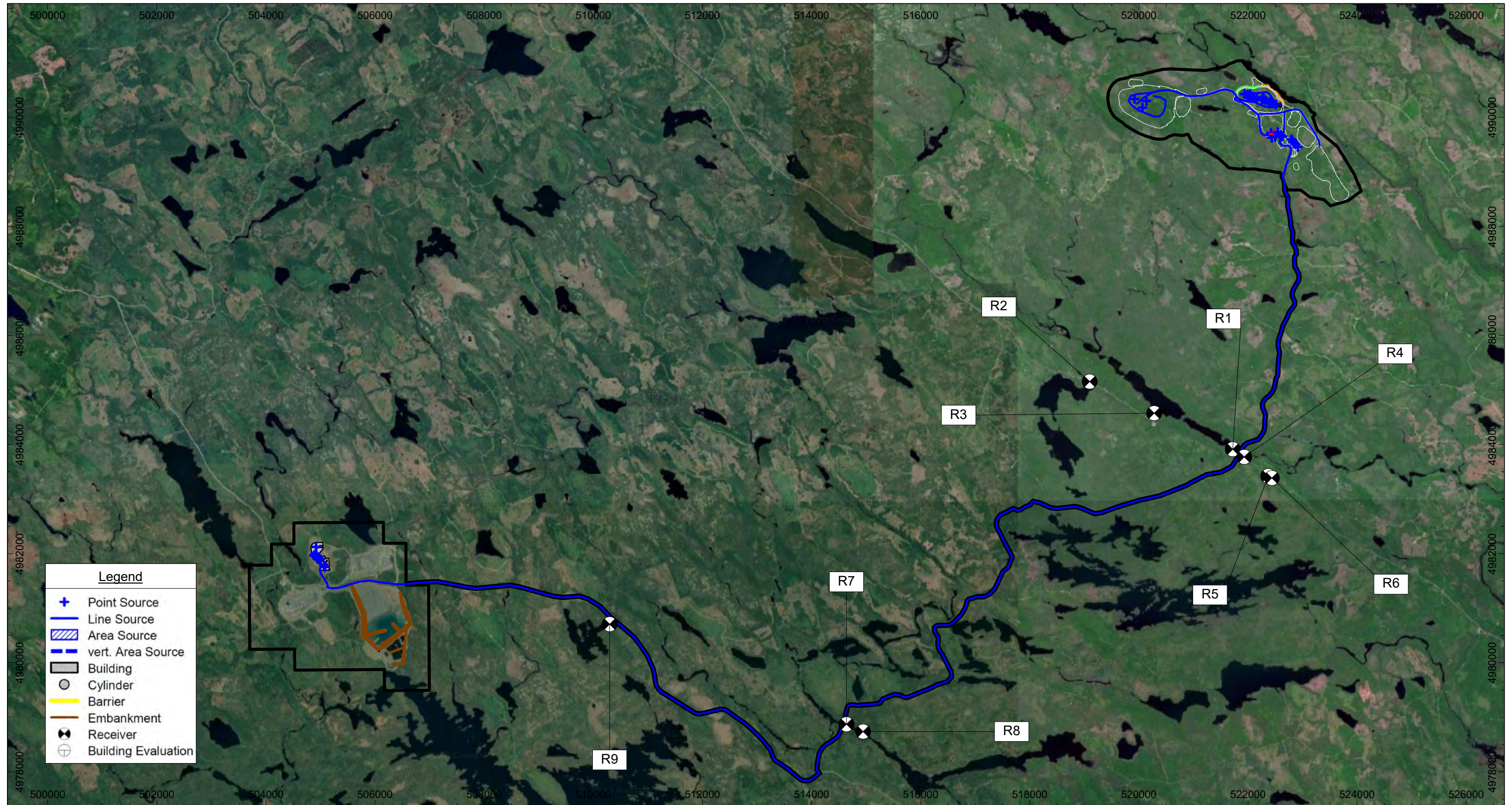
The NSEL Pit and Quarry Guidelines also include noise level criteria for assessment at the property boundaries (NSEL 1999). The predicted noise levels from the Project meet the NSEL limits at all locations on the property boundaries of the Beaver Dam Mine Site, the Haul Road, and the Touquoy Mine Site, provided the mitigation measures identified in this report are followed.

Baseline ambient sound level monitoring was conducted at several locations in the Project Area between January 2007 and September 2016 (GHD 2018). Based on the data obtained from these sound level monitors, ambient sound levels in some parts of the Study Area are low, as expected for a characteristically rural environment. Specific non-residential locations of traditional land use and recreation have not been identified for inclusion in the analysis; however, it is understood that traditional uses such as hunting may occur in areas close to the Project Area. The noise isopleths provided in Figures 3A and 3B attached indicate the expected noise levels produced by the Project and may be used to determine where Project noise levels may impact traditional uses and wildlife.



7. References

- AMNS (Atlantic Mining NS Inc.). 2019. *Revised Environmental Impact Statement – February 28, 2019*. Submitted to the Canadian Environmental Assessment Agency and Nova Scotia Environment. February 2019. NS.
- AMNS. 2021a. *Updated Environmental Impact Statement – 2021*. Submitted to the Canadian Environmental Assessment Agency and Nova Scotia Environment. 2021. NS.
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- CEAA (Canadian Environmental Assessment Agency). 2019. *Beaver Dam Mine Project – Round 2, Part 1 Information Requirements*. May 8, 2019. Halifax, NS.
- GHD (GHD Limited). 2018. *Noise Impact Study*. Beaver Dam Mine Project. Prepared for the Atlantic Gold Beaver Dam Mine Project Revised Environmental Impact Statement – February 28, 2019, Appendix B.1. Prepared by GHD. January 2, 2018. Waterloo, ON.
- GHD. 2021. *Technical Memorandum - Beaver Dam Mine Construction Noise Assessment*. Prepared by GHD. 2021. Waterloo, ON.
- NSEL (Nova Scotia Environment and Labour). 1990. *Guidelines for Environmental Noise Measurement and Assessment*. <http://www.noise-ordinances.com/wp-content/uploads/2015/09/EnvironmentalNoiseMeasurement.pdf>, accessed September 2017.
- NSEL. 1999. *Pit and Quarry Guidelines*. https://novascotia.ca/nse/issues/docs/Pit_and_Quarry_Guidelines.pdf, accessed November 2017.



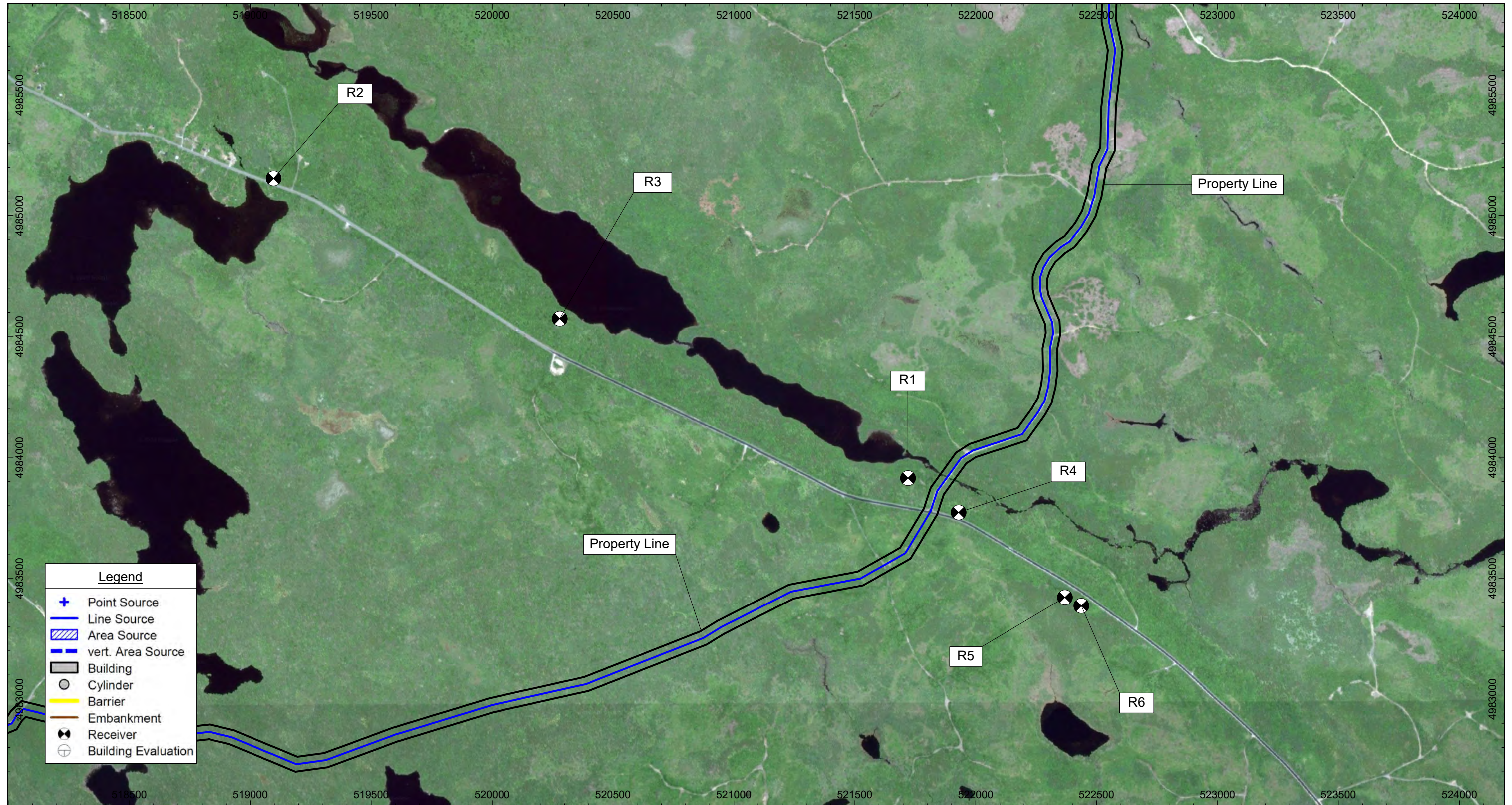
Source: Google Satellite



NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS
 RECEPTOR LOCATIONS

088664
 07.01.2021

FIGURE 1A



Source: Google Satellite



NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS

RECEPTOR LOCATIONS - R1 to R6 ENLARGED

088664
 07.01.2021

FIGURE 1B



Source: Google Satellite



NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS

RECEPTOR LOCATIONS - R7 & R8 ENLARGE

088664
 07.01.2021

FIGURE 1C



Source: Google Satellite

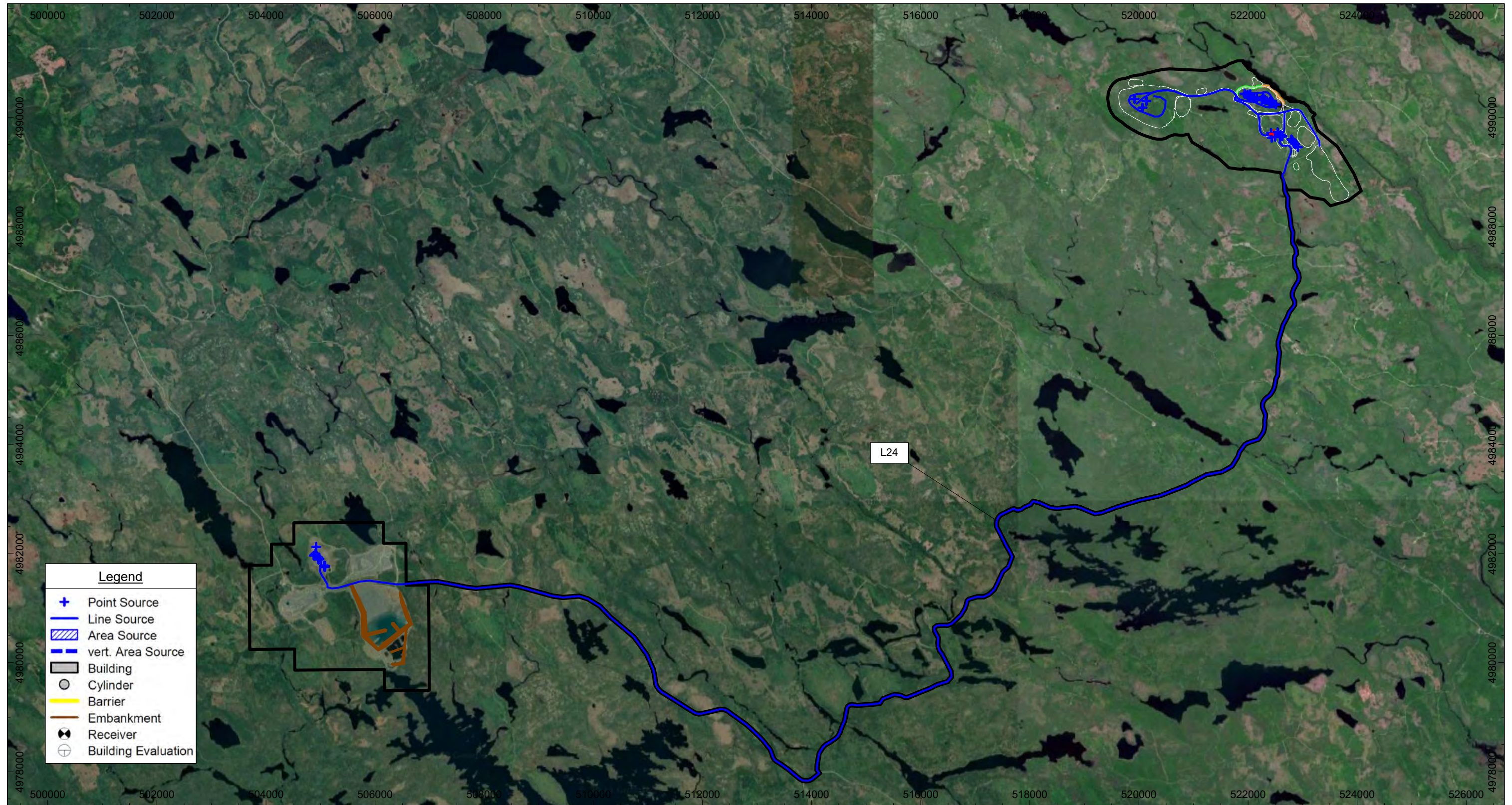


NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS

RECEPTOR LOCATIONS - R9 ENLARGED

088664
 07.01.2021

FIGURE 1D



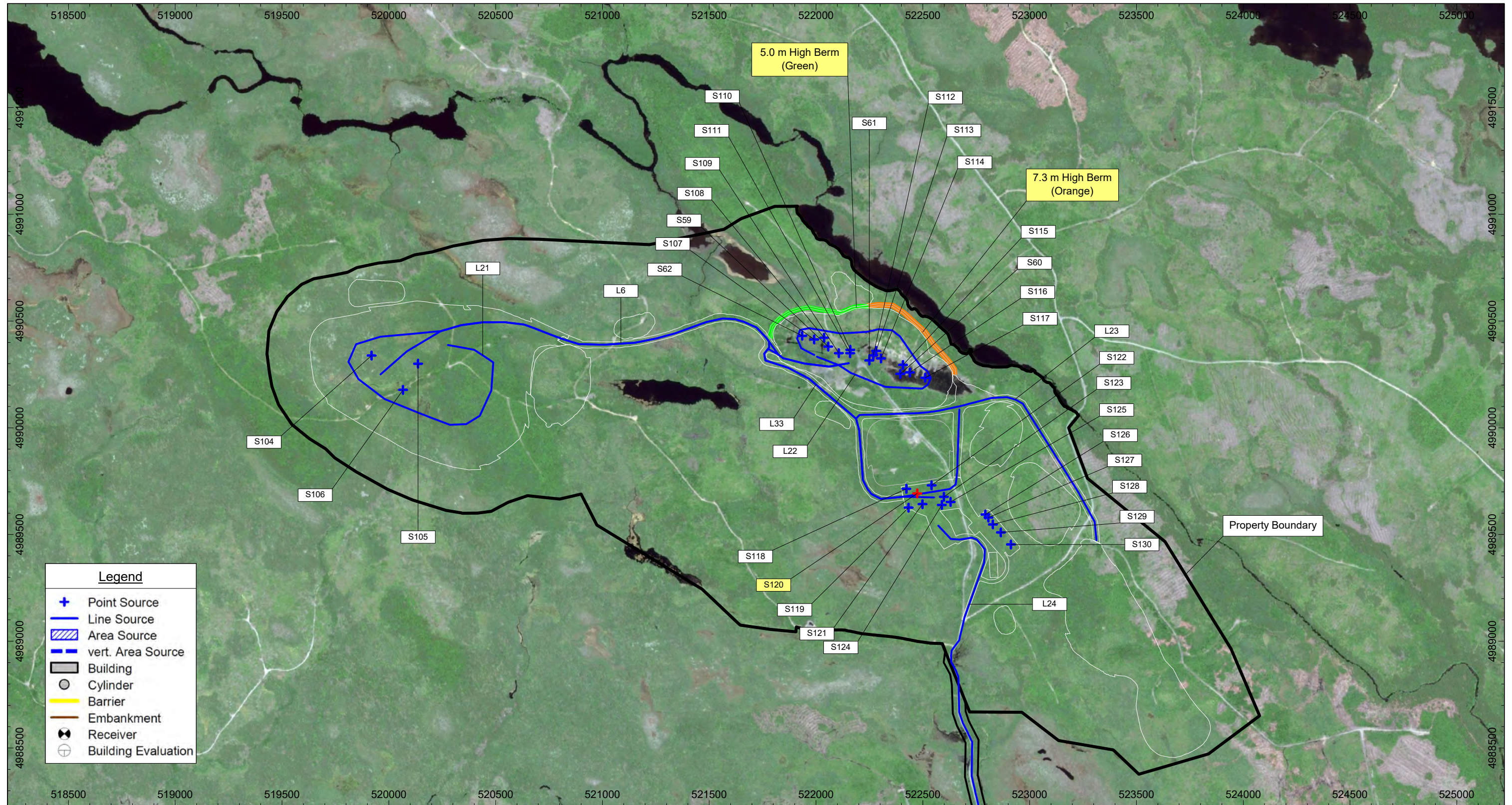
Source: Google Satellite



NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS
 SOURCE LOCATIONS

088664
 07.01.2021

FIGURE 2A



Source: Google Satellite

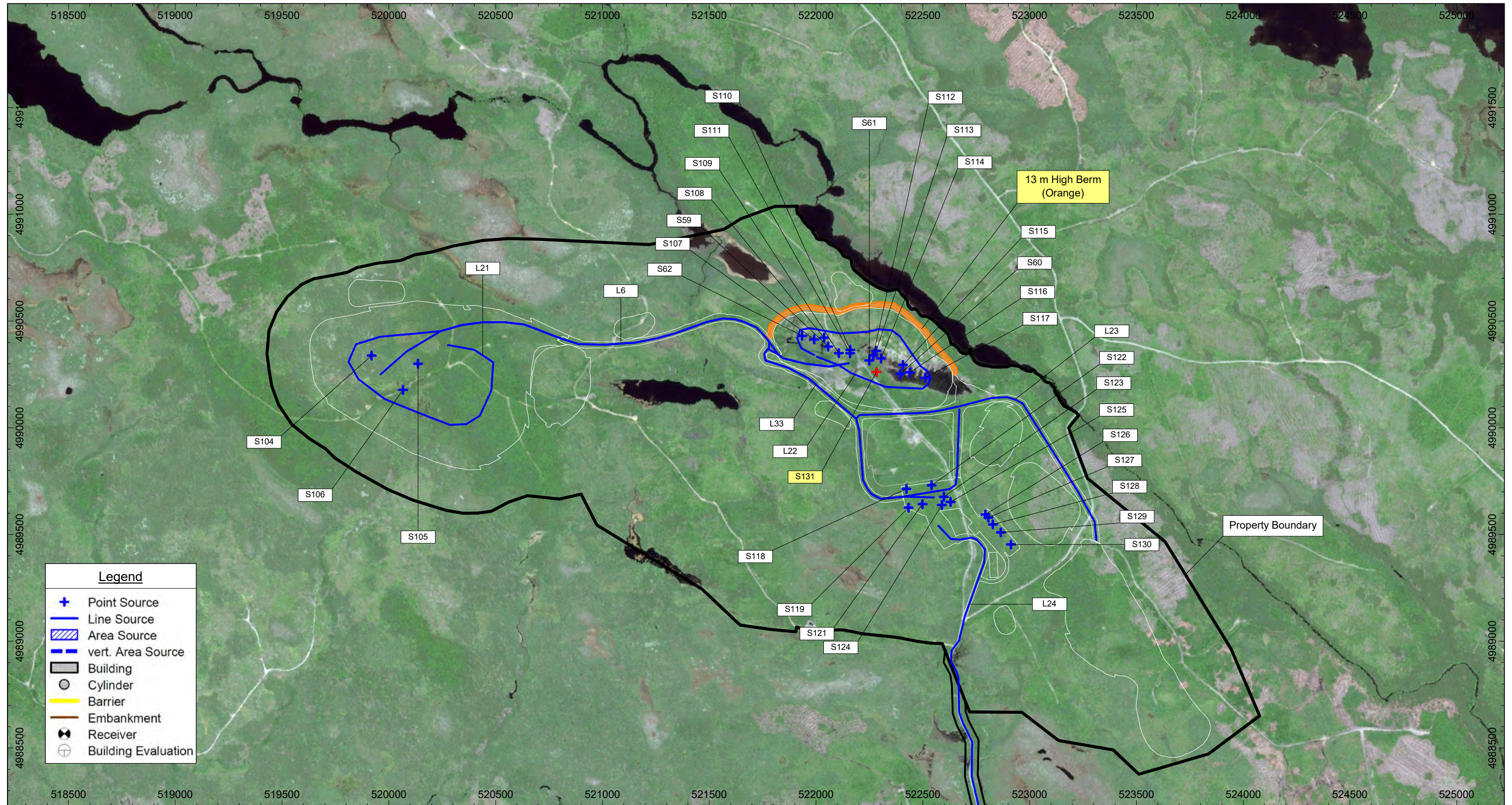


NOISE TECHNICAL REPORT
ATLANTIC GOLD
BEAVER DAM MINE, HALIFAX, NS

SOURCE LOCATIONS - BEAVER DAM MINE SITE ENLARGED, OPTION A

088664
07.01.2021

FIGURE 2B



Source: Google Satellite



NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS

SOURCE LOCATIONS - BEAVER DAM MINE SITE ENLARGED, OPTION B

088664
 07.01.2021

FIGURE 2C



Source: Google Satellite

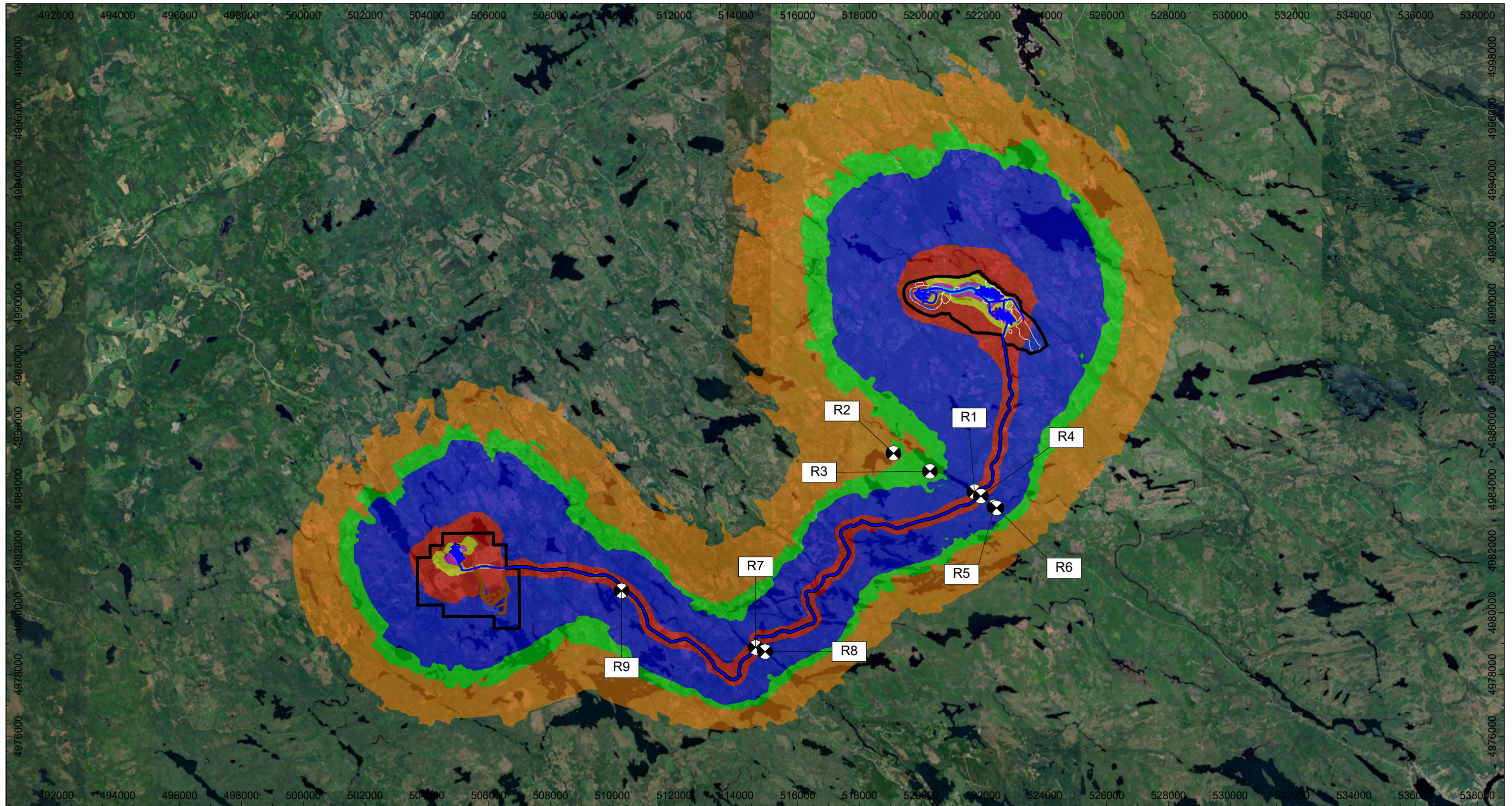


NOISE TECHNICAL REPORT
ATLANTIC GOLD
BEAVER DAM MINE, HALIFAX, NS

SOURCE LOCATIONS - TOUQUOY MINE SITE ENLARGED

088664
07.01.2021

FIGURE 2D



Source: Google Satellite



- > 27 dBA
- > 31 dBA
- > 33 dBA
- > 45 dBA
- > 55 dBA
- > 60 dBA
- > 65 dBA

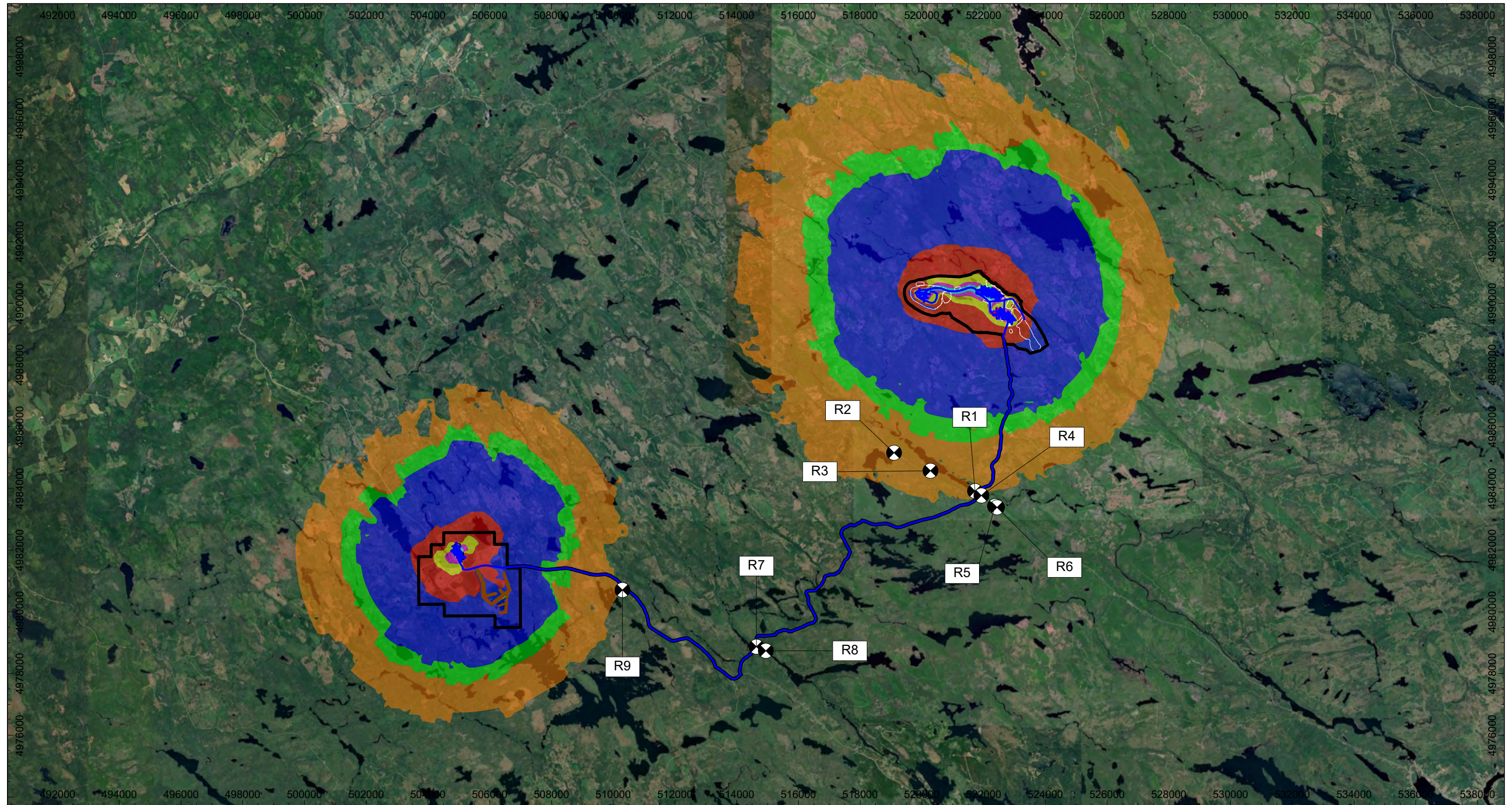


NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS

NOISE CONTOUR PLOT - OVERALL STUDY AREA (DAY/EVENING, 1.5 m A.G.)

088664
 07.01.2021

FIGURE 3A



Source: Google Satellite



- > 27 dBA
- > 31 dBA
- > 33 dBA
- > 45 dBA
- > 55 dBA
- > 60 dBA
- > 65 dBA

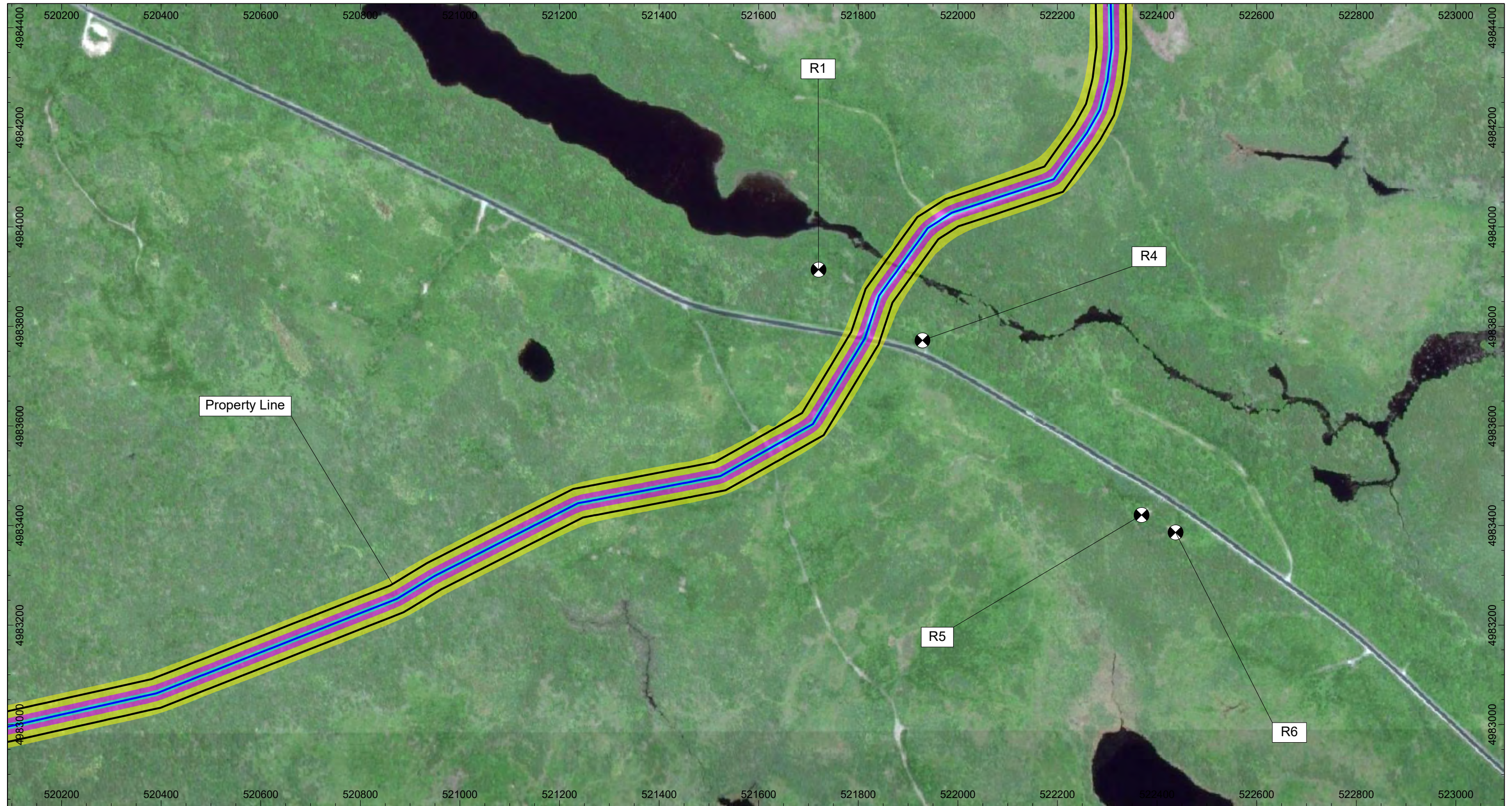


NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS

NOISE CONTOUR PLOT - OVERALL STUDY AREA (NIGHT, 1.5 m A.G.)

088664
 07.01.2021

FIGURE 3B



Source: Google Satellite



- > 55 dBA
- > 60 dBA
- > 65 dBA

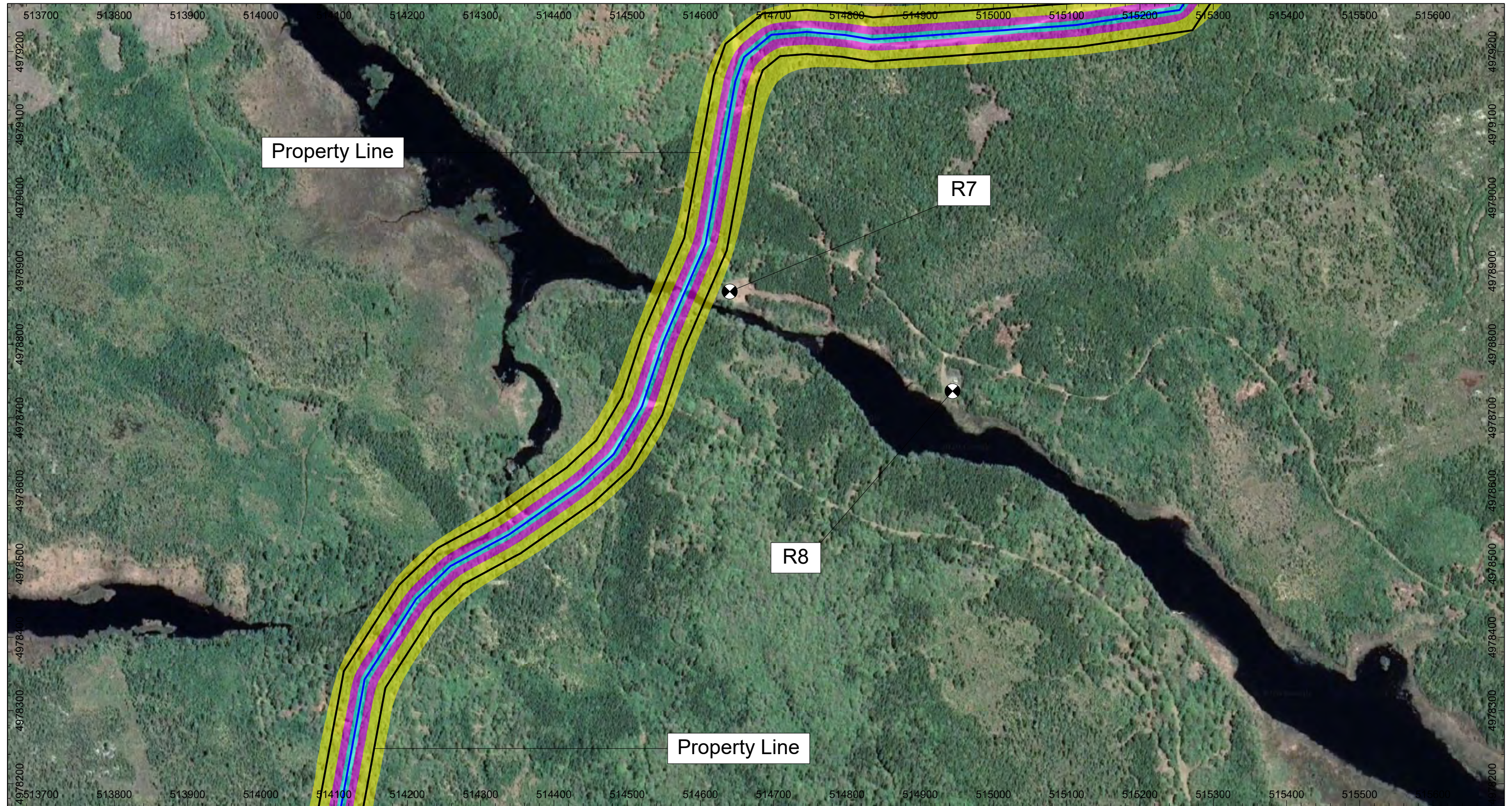


NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS

NOISE CONTOUR PLOT - R1, R4, R5, AND R6 ENLARGED (DAY/EVENING, 1.5 m A.G.)

088664
 07.01.2021

FIGURE 3C



Source: Google Satellite



- > 55 dBA
- > 60 dBA
- > 65 dBA

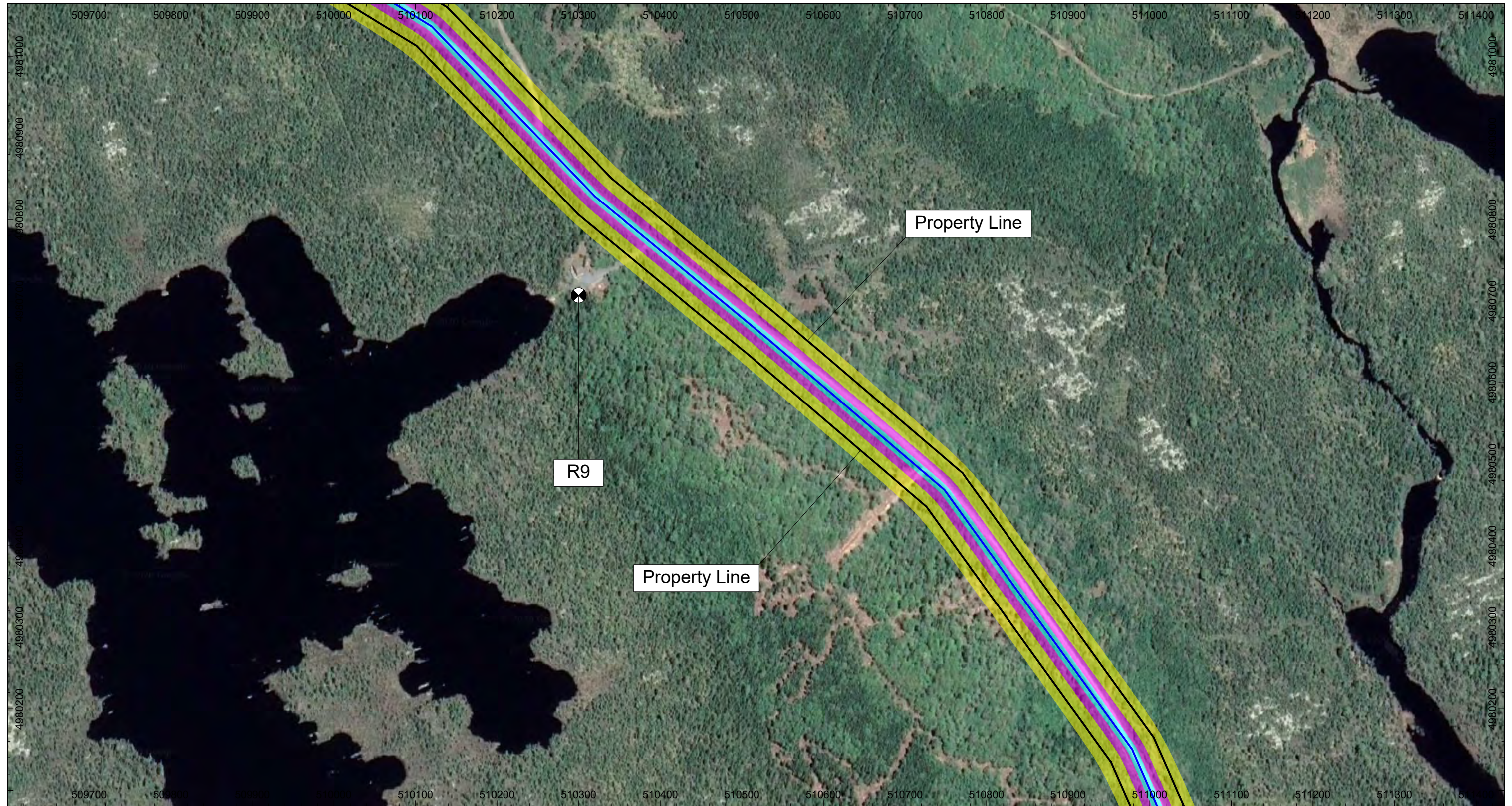


NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS

NOISE CONTOUR PLOT - R7 AND R8 ENLARGED (DAY/EVENING, 1.5 m A.G.)

088664
 07.01.2021

FIGURE 3D



Source: Google Satellite



- > 55 dBA
- > 60 dBA
- > 65 dBA

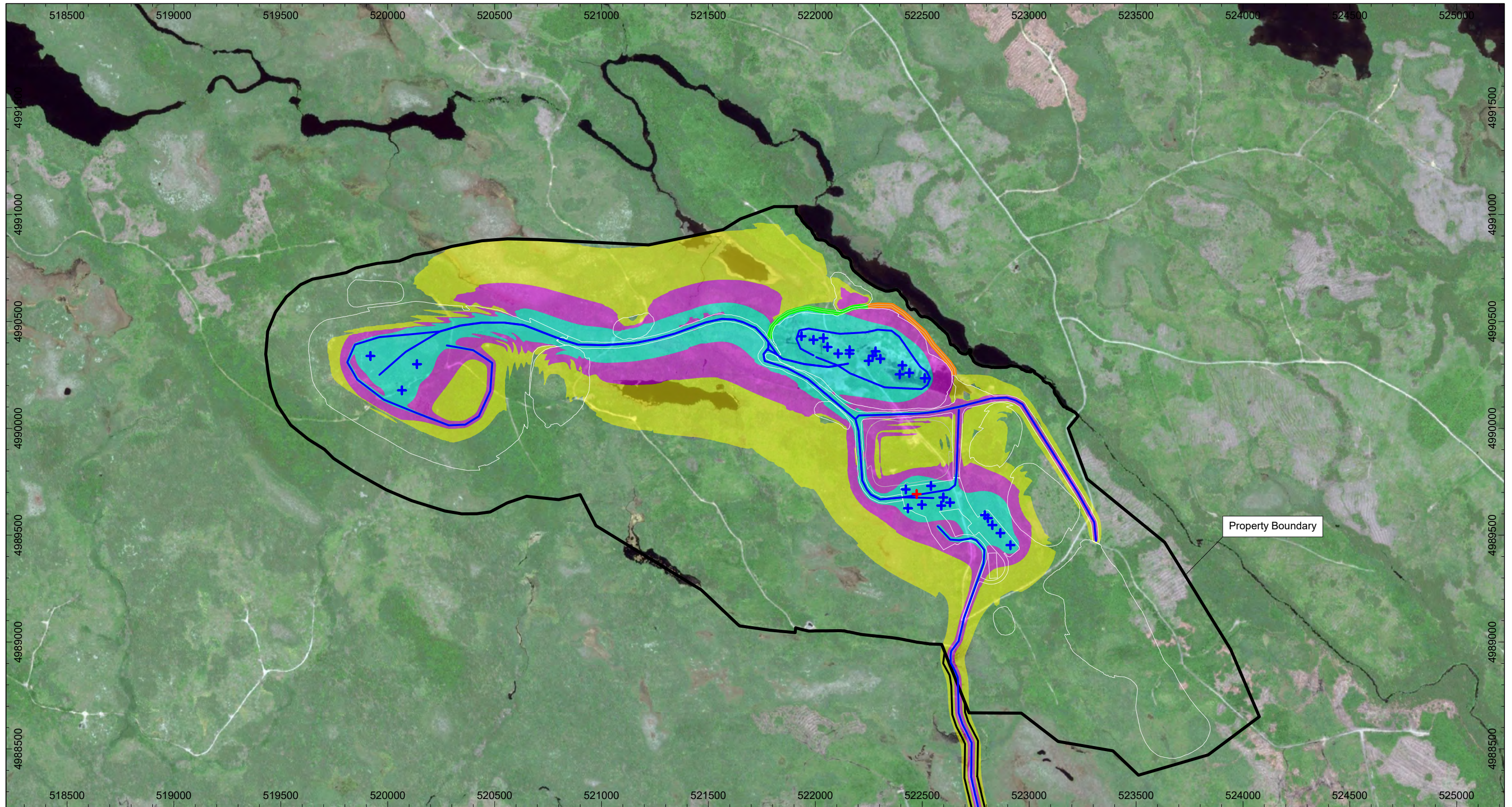


NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS

NOISE CONTOUR PLOT - R9 ENLARGED (DAY/EVENING, 1.5 m A.G.)

088664
 07.01.2021

FIGURE 3E



Source: Google Satellite



- > 55 dBA
- > 60 dBA
- > 65 dBA

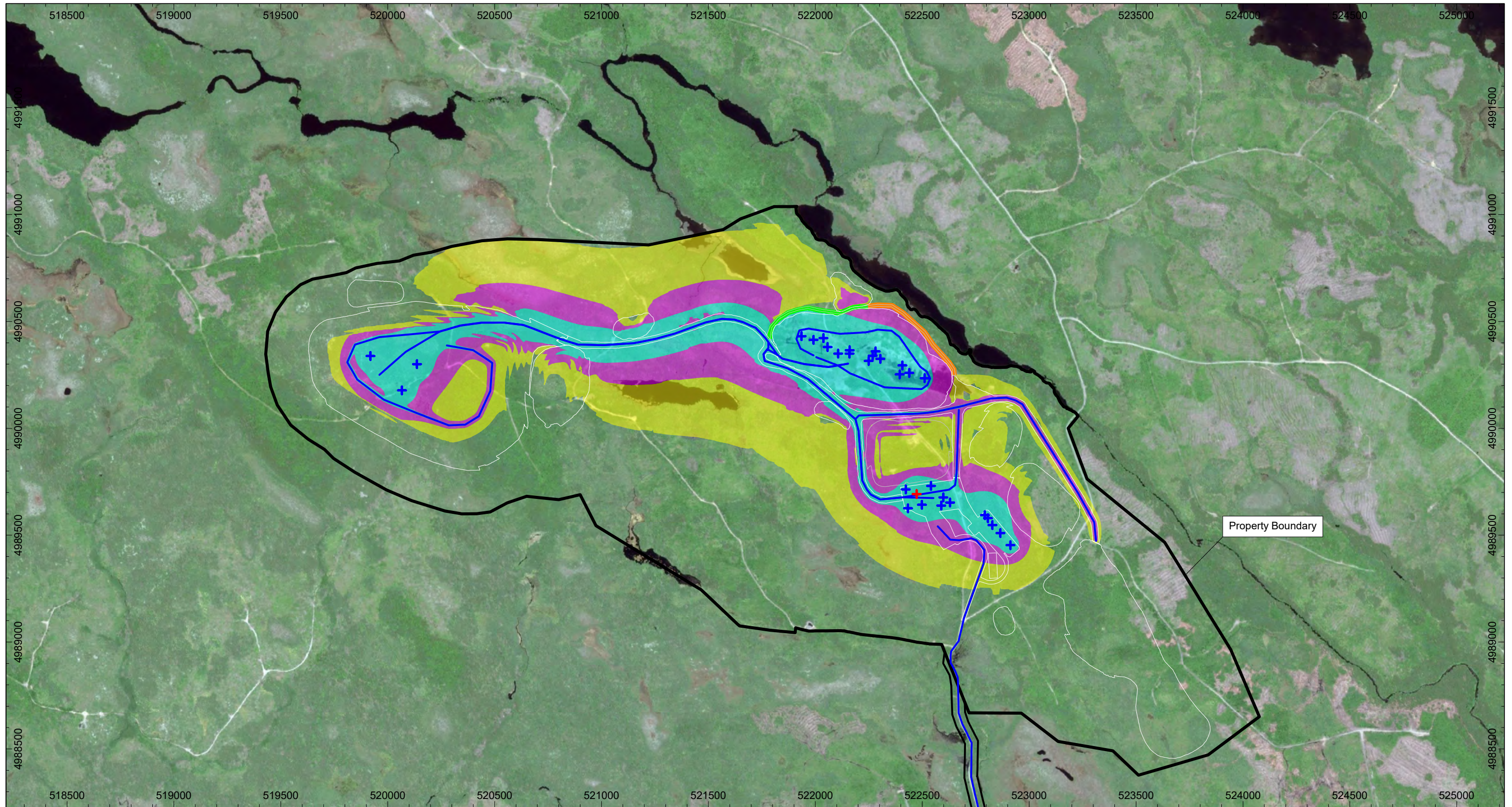


NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS

NOISE CONTOUR PLOT - BEAVER DAM SITE ENLARGED, OPTION A (DAY/EVENING, 1.5 m A.G.)

088664
 07.01.2021

FIGURE 3F



Source: Google Satellite



- > 55 dBA
- > 60 dBA
- > 65 dBA

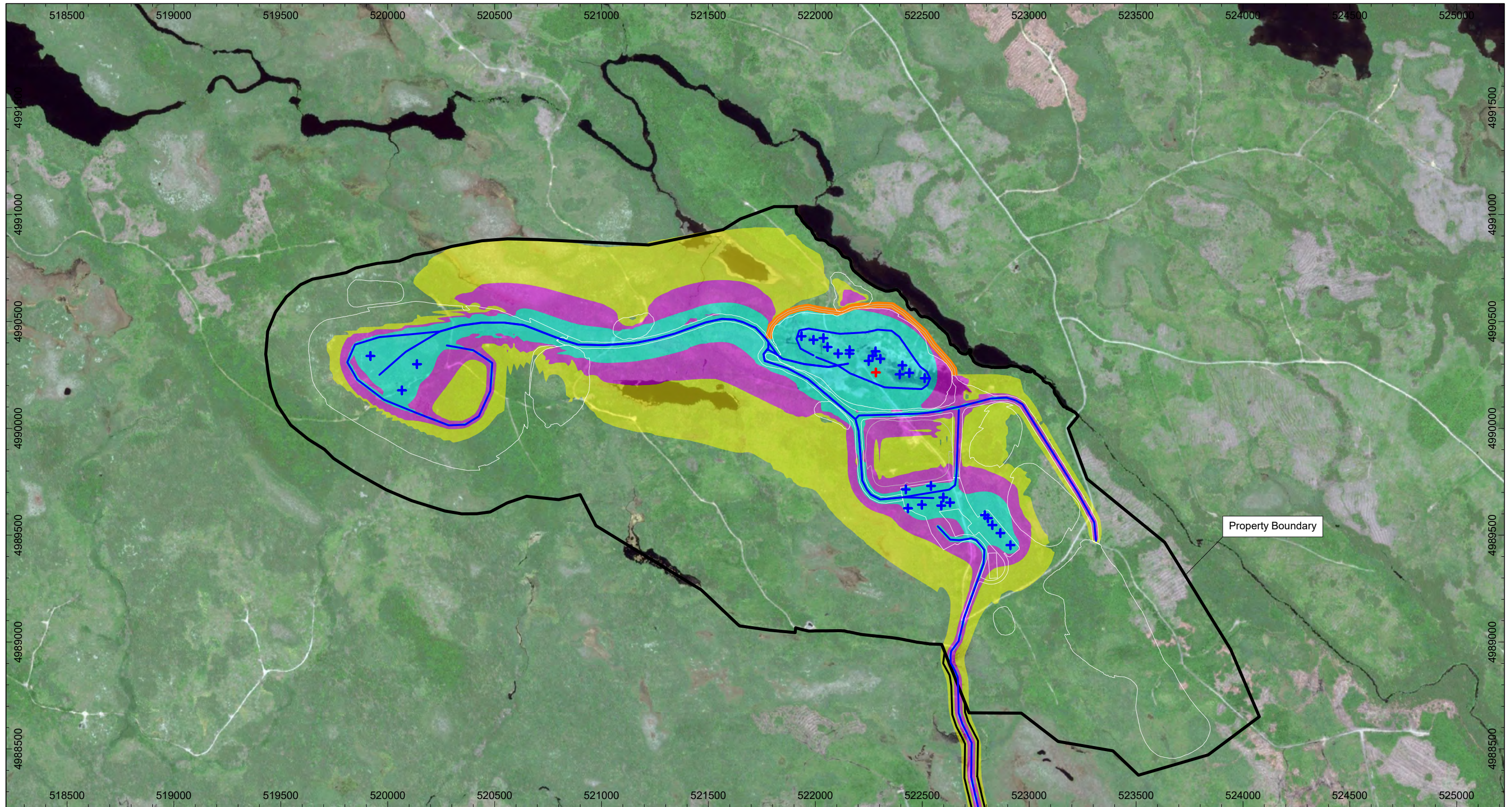


NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS

NOISE CONTOUR PLOT - BEAVER DAM SITE ENLARGED, OPTION A (NIGHT, 1.5 m A.G.)

088664
 07.01.2021

FIGURE 3G



Source: Google Satellite



- > 55 dBA
- > 60 dBA
- > 65 dBA

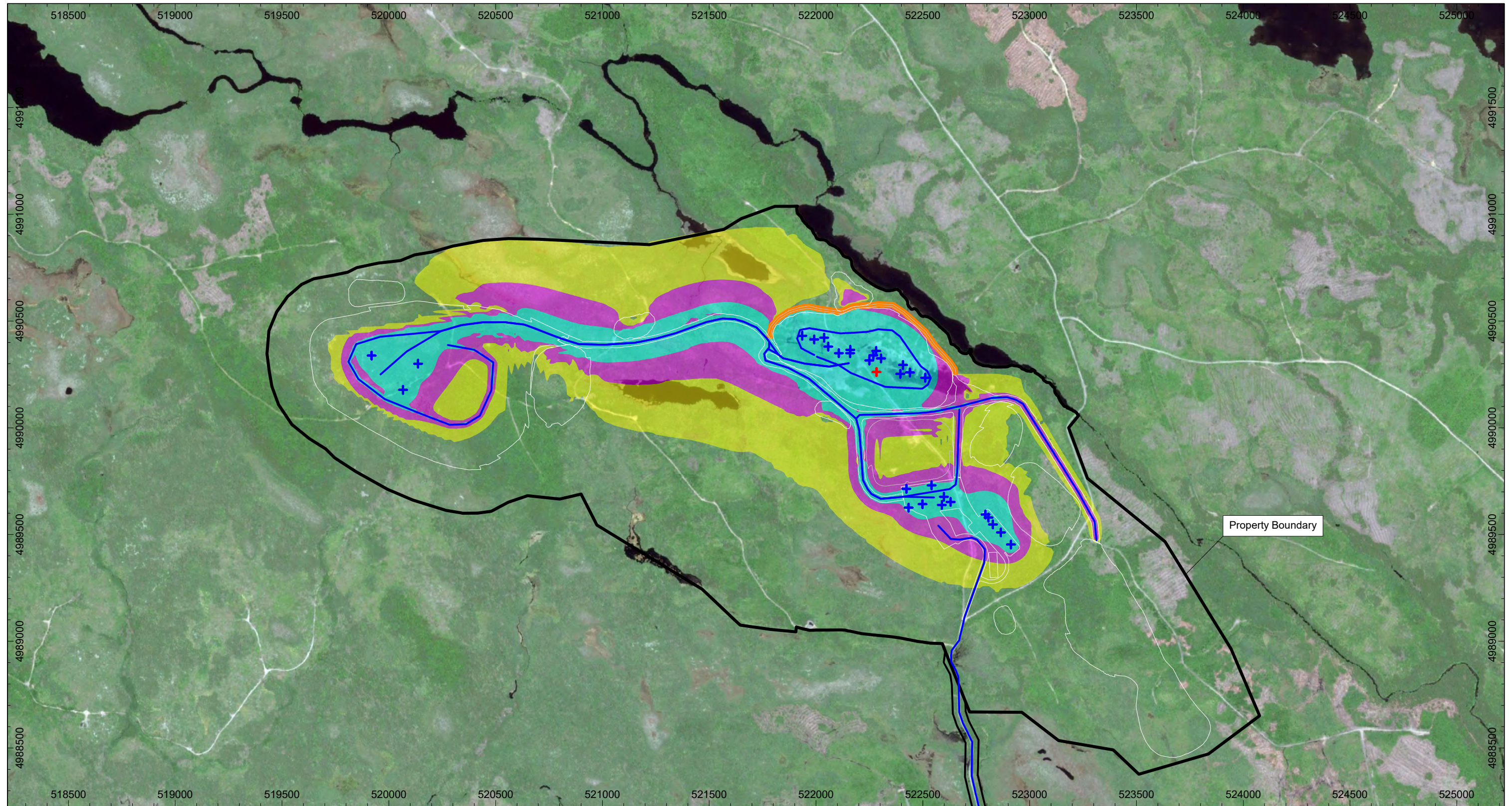


NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS

NOISE CONTOUR PLOT - BEAVER DAM SITE ENLARGED, OPTION B (DAY/EVENING, 1.5 m A.G.)

088664
 07.01.2021

FIGURE 3H



Source: Google Satellite



- > 55 dBA
- > 60 dBA
- > 65 dBA

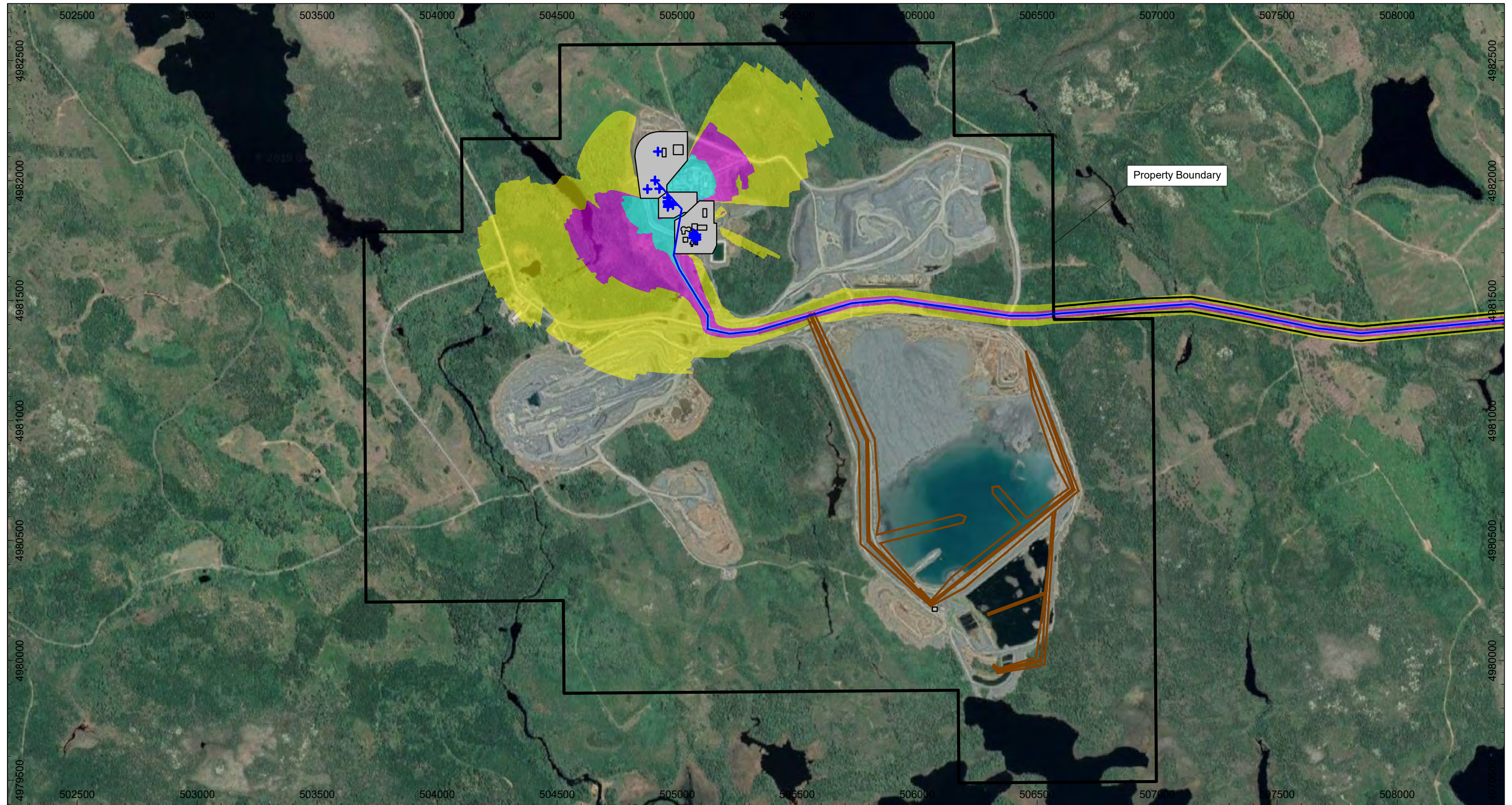


NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS

NOISE CONTOUR PLOT - BEAVER DAM SITE ENLARGED, OPTION B (NIGHT, 1.5 m A.G.)

088664
 07.01.2021

FIGURE 31



Source: Google Satellite



- > 55 dBA
- > 60 dBA
- > 65 dBA

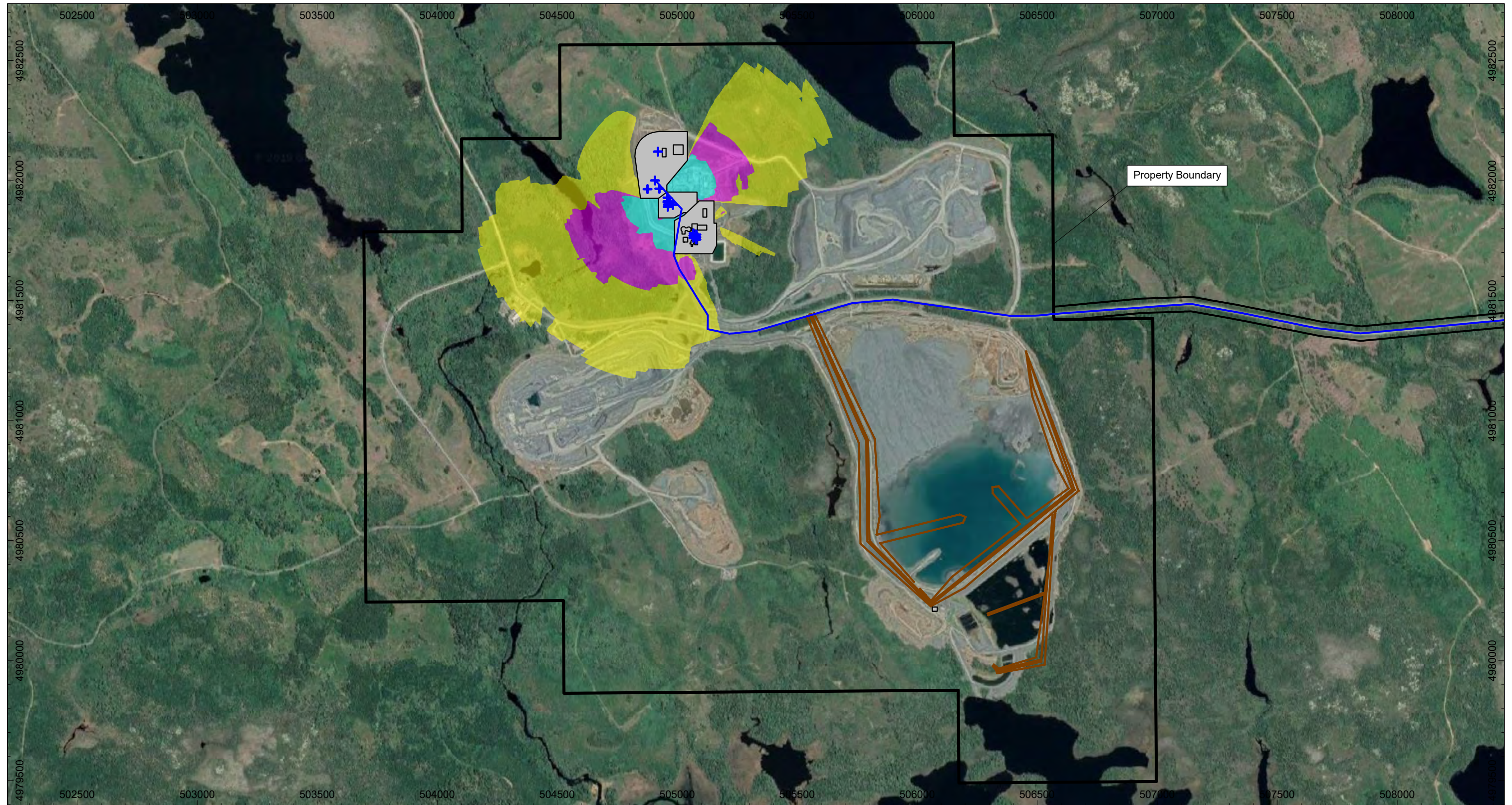


NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS

NOISE CONTOUR PLOT - TOUQUOY ENLARGED (DAY/EVENING, 1.5 m A.G.)

088664
 07.01.2021

FIGURE 3J



Source: Google Satellite



- > 55 dBA
- > 60 dBA
- > 65 dBA

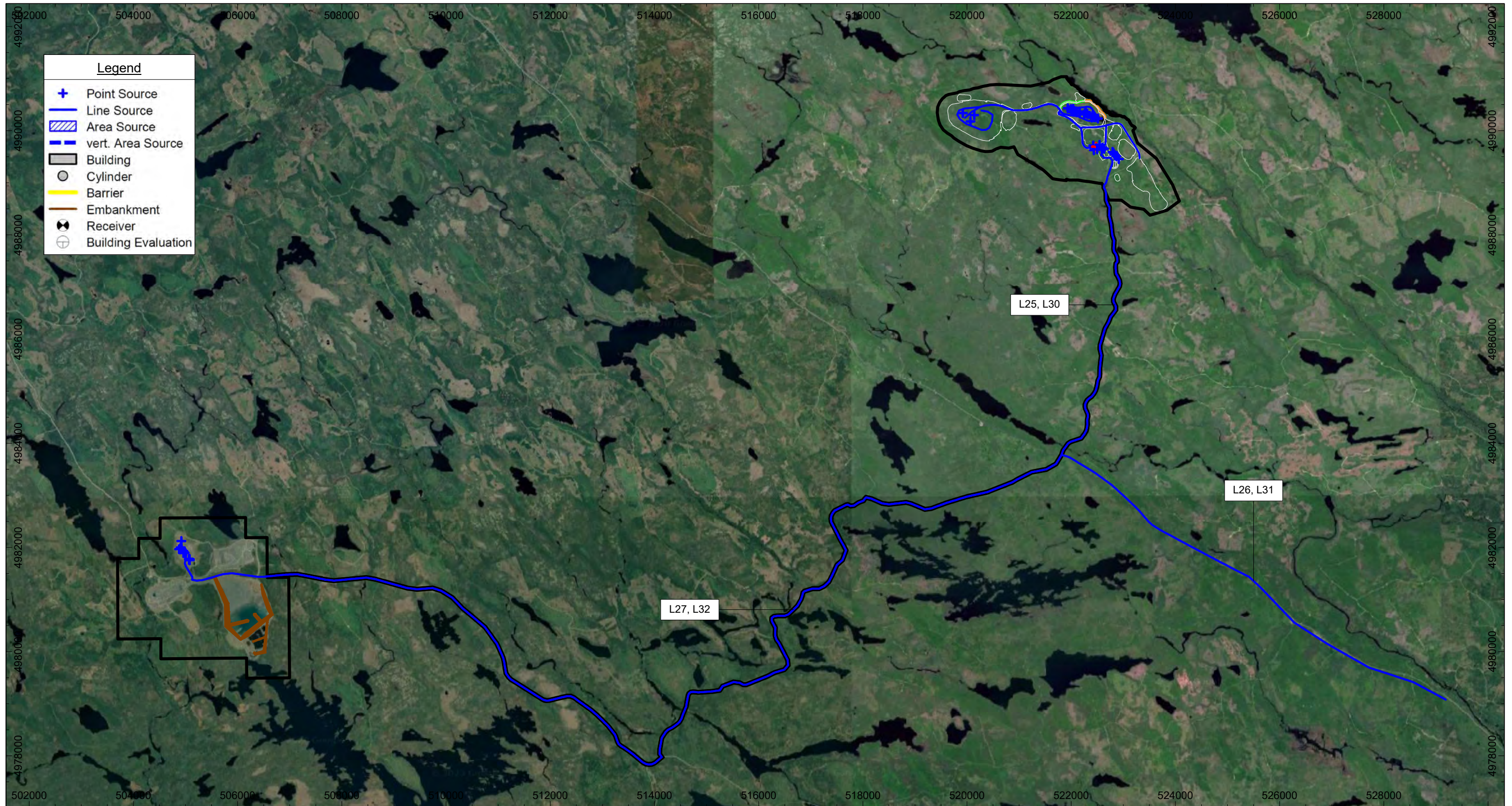


NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS

NOISE CONTOUR PLOT - TOUQUOY SITE ENLARGED (NIGHT, 1.5 m A.G.)

088664
 07.01.2021

FIGURE 3K



Source: Google Satellite

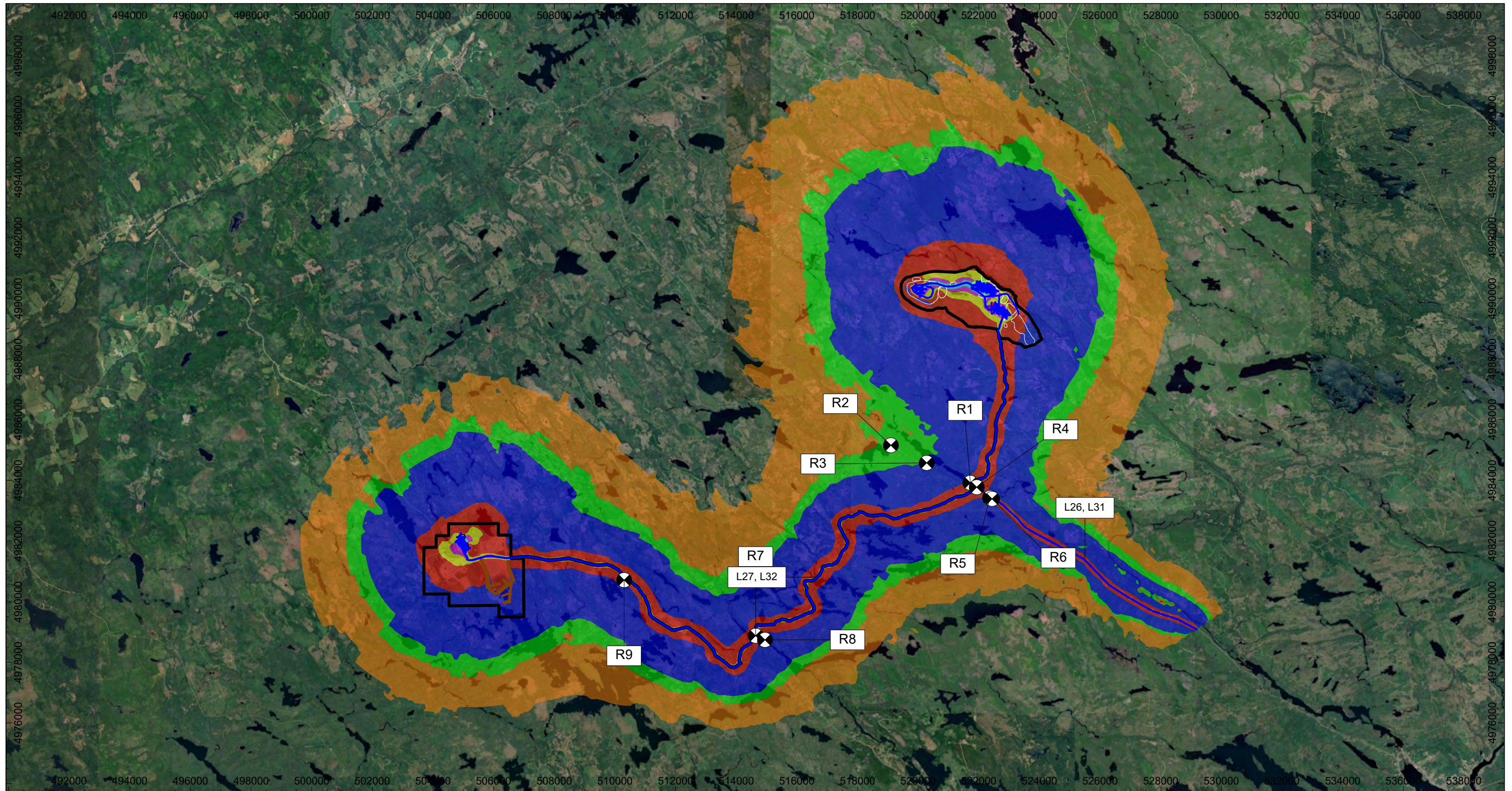


NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS

SOURCE LOCATIONS - CUMULATIVE TRUCK TRAFFIC

088664
 07.01.2021

FIGURE 4A



Source: Google Satellite



- █ > 27 dBA
- █ > 31 dBA
- █ > 33 dBA
- █ > 45 dBA
- █ > 55 dBA
- █ > 60 dBA
- █ > 65 dBA

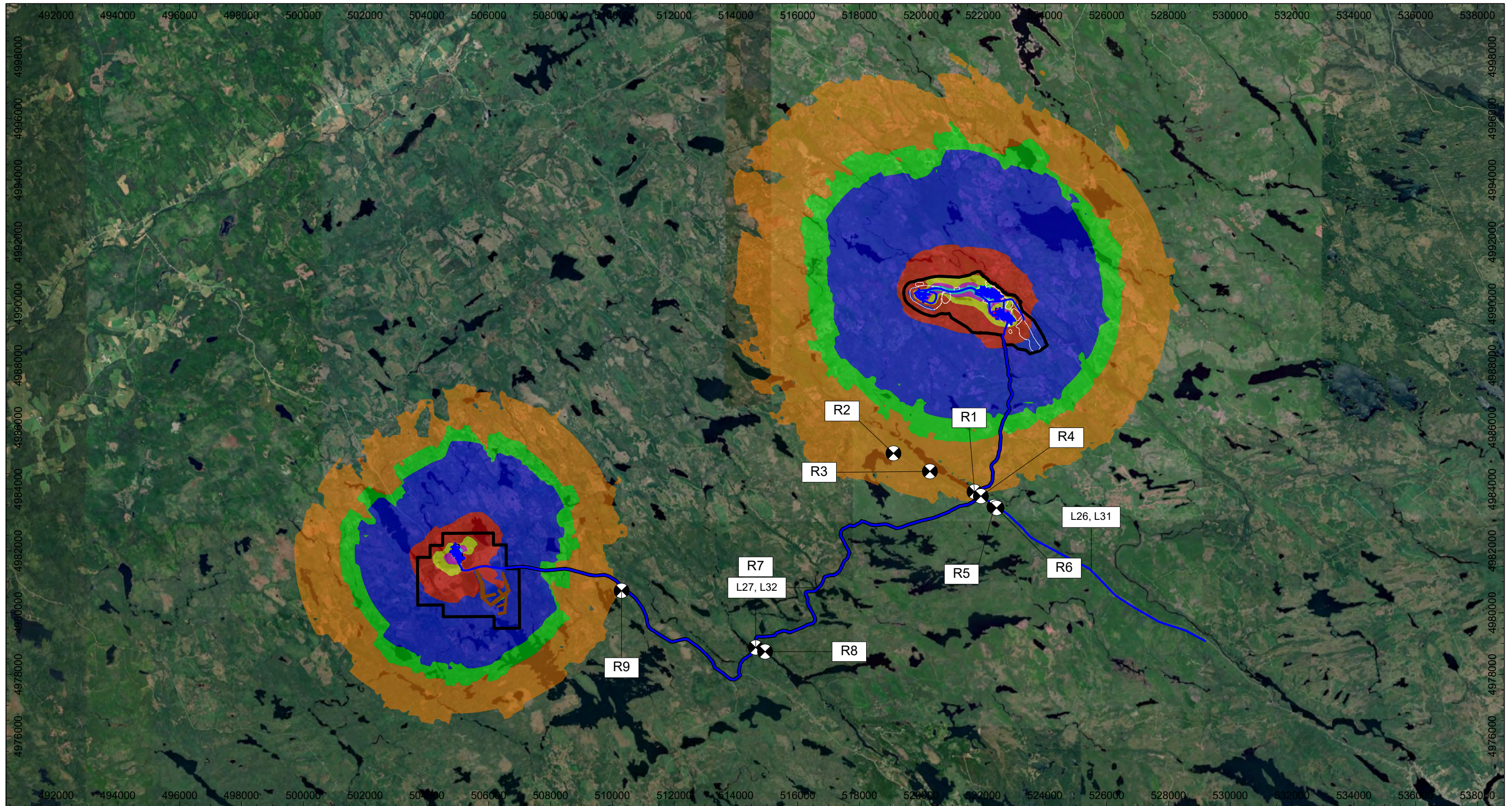


NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS

CUMULATIVE EFFECTS NOISE CONTOUR PLOT - OVERALL STUDY AREA
 (DAY/EVENING, 1.5 m A.G.)

088664
 07.01.2021

FIGURE 4B



Source: Google Satellite



- > 27 dBA
- > 31 dBA
- > 33 dBA
- > 45 dBA
- > 55 dBA
- > 60 dBA
- > 65 dBA

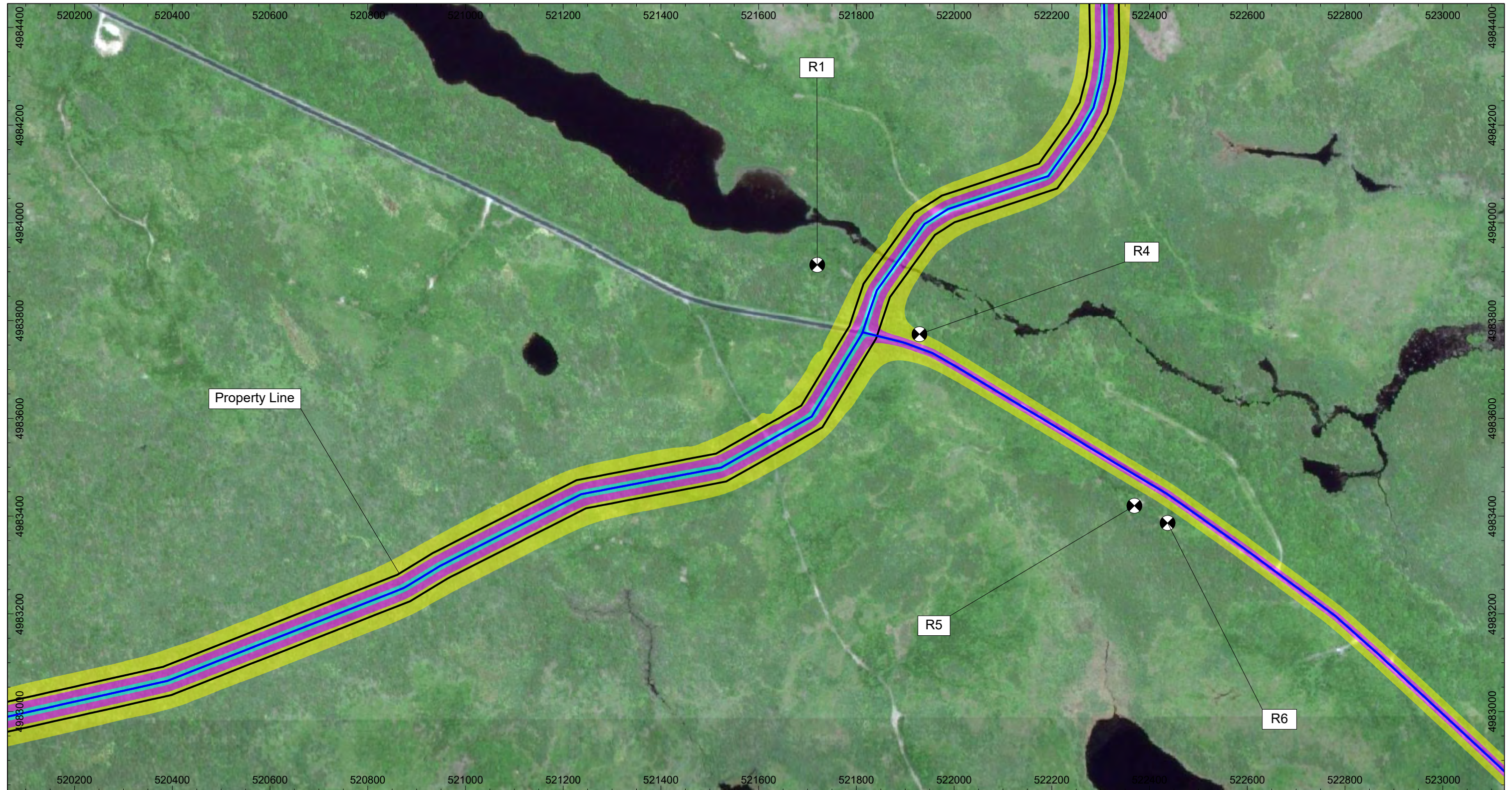


NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS

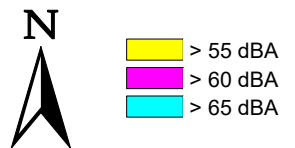
CUMULATIVE EFFECTS NOISE CONTOUR PLOT - OVERALL STUDY AREA (NIGHT, 1.5 m A.G.)

088664
 07.01.2021

FIGURE 4C



Source: Google Satellite

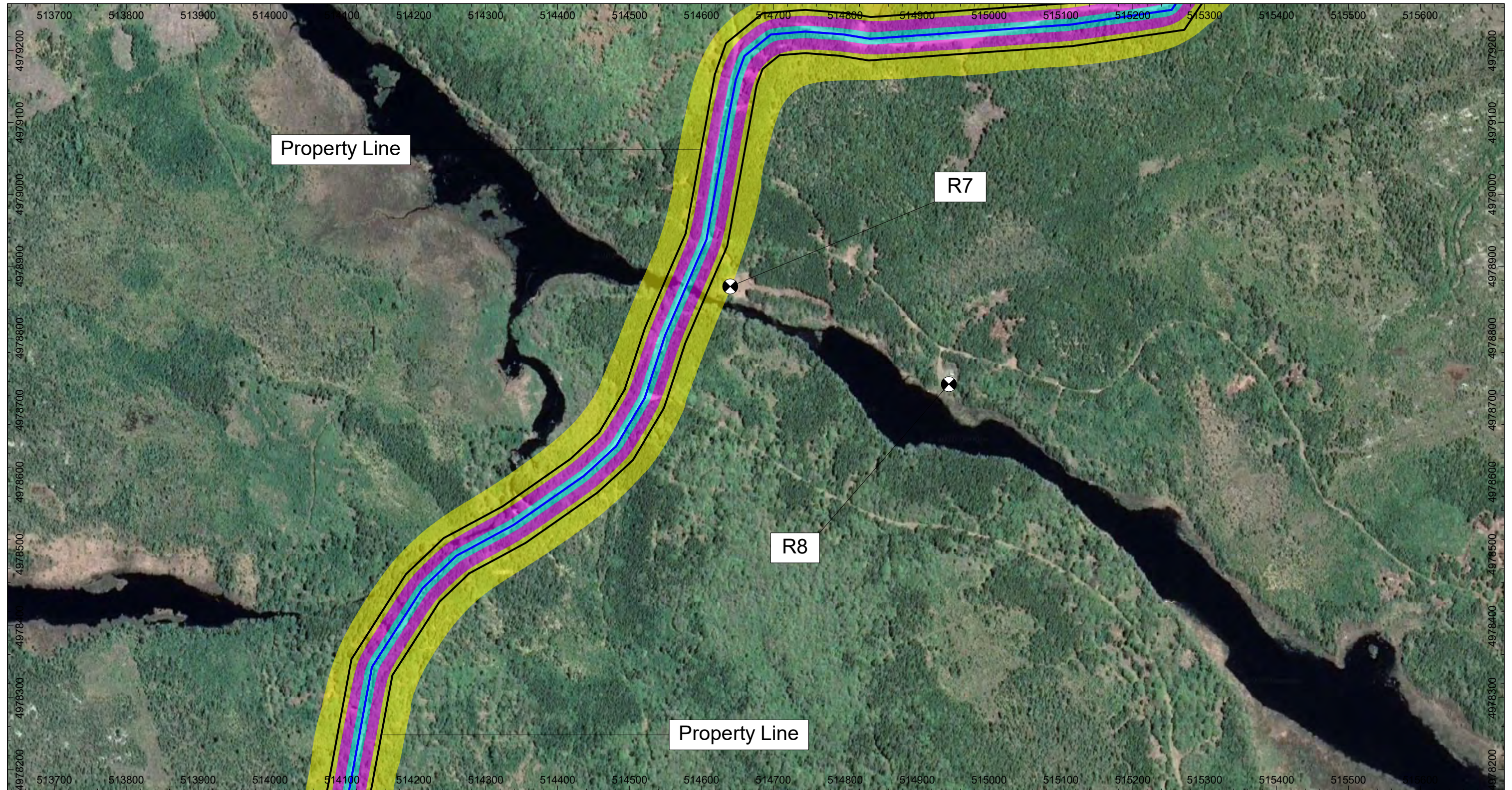


NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS

CUMULATIVE EFFECTS NOISE CONTOUR PLOT - R1, R4, R5, AND R6 ENLARGED
 (DAY/EVENING, 1.5 m A.G.)

088664
 07.01.2021

FIGURE 4D



Source: Google Satellite



- > 55 dBA
- > 60 dBA
- > 65 dBA



NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS

CUMULATIVE EFFECTS NOISE CONTOUR PLOT - R7 AND R8 ENLARGED
 (DAY/EVENING, 1.5 m A.G.)

088664
 07.01.2021

FIGURE 4E



Source: Google Satellite



- > 55 dBA
- > 60 dBA
- > 65 dBA



NOISE TECHNICAL REPORT
 ATLANTIC GOLD
 BEAVER DAM MINE, HALIFAX, NS

CUMULATIVE EFFECTS NOISE CONTOUR PLOT - R9 ENLARGED (DAY/EVENING, 1.5 m A.G.)

088664
 07.01.2021

FIGURE 4F

Appendices

Appendix A

Noise Source Summary

Table 1
Noise Source Summary
Atlantic Mining NS Inc.
Beaver Dam Mine, Halifax, NS

Cadna A ID	Source Description	Sound Power Level ¹ (dBA)	Source Characteristics ²	Source Location ³	Noise Control Measures ⁴	Source Type
Touquoy Mine Site						
S41	Loader - Transport of Material	116.0	S	O	U	Point
S42	Truck - Unloading Ore	110.2	S	O	U	Point
S43	Loader - Face Shovel	120.9	S	O	U	Point
S44	Truck - Hopper Discharge	115.5	S	O	U	Point
S45	Heavy Duty Hopper	121.5	S	O	U	Point
S46	Jaw Crusher	121.1	S	O	U	Point
S47	Heavy Duty Belt Feeder Hopper	100.2	S	O	U	Point
S48	Cone Crusher	121.1	S	O	U	Point
S49	Twin Screen Plant	112.1	S	O	U	Point
S50	Tunnel Conveyor	107.8	S	O	U	Point
S51	Cone Crusher	121.1	S	O	U	Point
S52	CIL Tank - Electric Motor	97.4	S	O	U	Point
S53	CIL Tank - Electric Motor	97.4	S	O	U	Point
S54	CIL Tank - Electric Motor	97.4	S	O	U	Point
S55	CIL Tank - Electric Motor	97.4	S	O	U	Point
S56	CIL Tank - Electric Motor	97.4	S	O	U	Point
S57	CIL Tank - Electric Motor	97.4	S	O	U	Point
Haul Road						
L24	Truck - Project Traffic on Ore Transport Route	120.8	S	O	U	Line
L25	Truck - Cumulative Traffic on Ore Transport Route	120.8	S	O	U	Line
L26	Truck - Cumulative Traffic on Ore Transport Route	120.8	S	O	U	Line
L27	Truck - Cumulative Traffic on Ore Transport Route	120.8	S	O	U	Line
L30	3/4 Ton Service Truck - Cumulative Traffic	115.8	S	O	U	Line
L31	3/4 Ton Service Truck - Cumulative Traffic	115.8	S	O	U	Line
L32	3/4 Ton Service Truck - Cumulative Traffic	115.8	S	O	U	Line
Beaver Dam Mine Site						
L6	Truck - Haul Roads	120.8	S	O	U	Line
L21	Grader - Haul Roads	119.6	S	O	U	Line
L22	Grader - Haul Roads	119.6	S	O	U	Line
L23	Grader - Haul Roads	119.6	S	O	U	Line
S57	Tracked Mobile Drill	117.8	S	O	U	Point
S60	Tracked Mobile Drill	117.8	S	O	U	Point
S61	Tracked Mobile Drill	117.8	S	O	U	Point
S62	Tracked Mobile Drill	117.8	S	O	U	Point
S104	Tracked Dozer	115.1	S	O	U	Point
S105	Tracked Dozer	115.1	S	O	U	Point
S106	Tracked Dozer	115.1	S	O	U	Point
S107	3m Light Tower	96.5	S	O	U	Point
S108	Hydraulic Excavator	109.8	S	O	U	Point
S109	Wheel Loader	114.2	S	O	U	Point
S110	Dewatering Pump	110.4	S	O	U	Point
S111	Dewatering Pump	110.4	S	O	U	Point
S112	Hydraulic Excavator	109.8	S	O	U	Point
S113	3m Light Tower	96.5	S	O	U	Point
S114	Hydraulic Excavator	109.8	S	O	U	Point
S115	Wheel Loader	114.2	S	O	U	Point
S116	Hydraulic Excavator	109.8	S	O	U	Point
S117	3m Light Tower	96.5	S	O	U	Point
S118	8m Light Tower	96.5	S	O	U	Point
S119	8m Light Tower	96.5	S	O	U	Point
S120	Jaw Crusher	114.7	S	O	U	Point
S121	Wheel Loader	114.2	S	O	U	Point
S122	8m Light Tower	96.5	S	O	U	Point
S123	Truck Unloading	110.2	S	O	U	Point
S124	Wheeled Backhoe Loader	97.8	S	O	U	Point
S125	Skid Steer	109.1	S	O	U	Point
S126	Generator	118.1	S	O	U	Point
S127	Mobile Crane	112.5	S	O	U	Point
S128	Forklift	99.5	S	O	U	Point
S129	Fuel & Lube Truck	107.5	S	O	U	Point
S130	Fuel & Lube Truck	107.5	S	O	U	Point
S131	Excavator-Mounted Breaker	124.0	S	O	U	Point

Notes:

¹ Sound Power Level (PWL) in dBA, excludes +5 dBA total penalty if applicable.

² Sound characteristics:

- S – Steady
- Q – Quasi-steady impulsive
- I – Impulsive
- B – Buzzing
- T – Tonal
- C – Cyclic

³ Source location:

- O – Outside of building
- I – Inside of building

⁴ Noise control measures:

- S – Silencer, acoustic louvre, muffler
- A – Acoustic lining, plenum
- B – Barrier, berm, screening
- L – Lagging
- E – Acoustic enclosure
- O – Other
- U – Uncontrolled
- AC – Administrative control

Appendix B
Point of Reception Noise Impact –
Direct Effects and Cumulative Effects for
Option A and Option B

Table 2a
Point of Reception Noise Impact – Direct Effects, Option A
Atlantic Mining NS Inc.
Beaver Dam Mine, Halifax, NS

Cadna A ID	Source Description	Beaver Dam Mine Road (Marlborough Property)			4112 Highway 224 (Beaver Lake IR 17)			4115 Highway 224 (Cottage on Crown Land)			3492 Highway 224 (Hobbs Property)			3379 Highway 224 (McLeod Property)			3373 Highway 224 (Smith Property)			Tangier River (Deepwood Estate Property)			Musquodoboit Lumber Co Ltd. Property/John C			5579 Mooseland Road (Lloy Property)											
		R1			R2			R3			R4			R5			R6			R7			R8			R9											
		Distance (m)	Partial Sound Levels ¹ (dBA)			Distance (m)	Partial Sound Levels ¹ (dBA)			Distance (m)	Partial Sound Levels ¹ (dBA)			Distance (m)	Partial Sound Levels ¹ (dBA)			Distance (m)	Partial Sound Levels ¹ (dBA)			Distance (m)	Partial Sound Levels ¹ (dBA)			Distance (m)	Partial Sound Levels ¹ (dBA)										
	Day	Evening	Night		Day	Evening	Night		Day	Evening	Night		Day	Evening	Night		Day	Evening	Night		Day	Evening	Night		Day	Evening	Night										
	7am-7pm	7pm-11pm	11pm-7am	7am-7pm	7pm-11pm	11pm-7am	7am-7pm	7pm-11pm	11pm-7am	7am-7pm	7pm-11pm	11pm-7am	7am-7pm	7pm-11pm	11pm-7am	7am-7pm	7pm-11pm	11pm-7am	7am-7pm	7pm-11pm	11pm-7am	7am-7pm	7pm-11pm	11pm-7am	7am-7pm	7pm-11pm	11pm-7am										
Touquoy Mine Site																																					
S41	Loader - Transport of Material	16896	—	—	—	14499	1.8	1.8	1.8	15555	0.6	0.6	0.6	17090	—	—	—	17498	—	—	—	17563	—	—	—	10249	7.9	7.9	7.9	10581	7.3	7.3	7.3	5564	17.3	17.3	17.3
S42	Truck - Unloading Ore	16921	—	—	—	14536	—	—	—	15586	—	—	—	17113	—	—	—	17519	—	—	—	17584	—	—	—	10223	2.2	2.2	2.2	10554	1.7	1.7	1.7	5545	8.4	8.4	8.4
S43	Loader - Face Shovel	16956	—	—	—	14574	1.4	1.4	1.4	15623	0.4	0.4	0.4	17148	—	—	—	17553	—	—	—	17618	—	—	—	10242	6.7	6.7	6.7	10573	6.2	6.2	6.2	5567	17.7	17.7	17.7
S44	Truck - Hopper Discharge	16907	—	—	—	14526	—	—	—	15574	—	—	—	17099	—	—	—	17504	—	—	—	17569	—	—	—	10195	3.2	3.2	3.2	10526	2.7	2.7	2.7	5520	14.0	14.0	14.0
S45	Heavy Duty Hopper	16878	—	—	—	14501	—	—	—	15548	—	—	—	17070	—	—	—	17474	—	—	—	17538	—	—	—	10152	5.8	5.8	5.8	10483	4.9	4.9	4.9	5479	20.2	20.2	20.2
S46	Jaw Crusher	16880	1.0	1.0	1.0	14505	3.0	3.0	3.0	15550	2.1	2.1	2.1	17071	0.8	0.8	0.8	17475	0.5	0.5	0.5	17540	0.5	0.5	0.5	10147	8.0	8.0	8.0	10478	7.6	7.6	7.6	5475	17.6	17.6	17.6
S47	Heavy Duty Belt Feeder Hopper	16880	—	—	—	14505	—	—	—	15551	—	—	—	17071	—	—	—	17475	—	—	—	17540	—	—	—	10146	—	—	—	10477	—	—	—	5474	—	—	—
S48	Cone Crusher	16870	0.3	0.3	0.3	14495	2.8	2.8	2.8	15540	0.9	0.9	0.9	17061	0.4	0.4	0.4	17465	0.3	0.3	0.3	17529	0.3	0.3	0.3	10135	7.8	7.8	7.8	10466	7.3	7.3	7.3	5464	17.3	17.3	17.3
S49	Twin Screen Plant	16879	—	—	—	14505	—	—	—	15550	—	—	—	17070	—	—	—	17473	—	—	—	17538	—	—	—	10140	—	—	—	10471	—	—	—	5469	9.1	9.1	9.1
S50	Tunnel Conveyor	16859	—	—	—	14486	—	—	—	15530	—	—	—	17050	—	—	—	17453	—	—	—	17518	—	—	—	10121	—	—	—	10452	—	—	—	5450	—	—	—
S51	Cone Crusher	16881	0.4	0.4	0.4	14508	2.8	2.8	2.8	15552	1.1	1.1	1.1	17072	0.5	0.5	0.5	17475	0.3	0.3	0.3	17540	0.3	0.3	0.3	10139	7.7	7.7	7.7	10470	7.3	7.3	7.3	5469	17.3	17.3	17.3
S52	CIL Tank - Electric Motor	16788	—	—	—	14429	—	—	—	15467	—	—	—	16979	—	—	—	17379	—	—	—	17443	—	—	—	10005	—	—	—	10335	—	—	—	5341	—	—	—
S53	CIL Tank - Electric Motor	16777	—	—	—	14419	—	—	—	15456	—	—	—	16967	—	—	—	17367	—	—	—	17431	—	—	—	10005	—	—	—	10322	—	—	—	5328	—	—	—
S54	CIL Tank - Electric Motor	16790	—	—	—	14432	—	—	—	15469	—	—	—	16980	—	—	—	17380	—	—	—	17444	—	—	—	10002	—	—	—	10332	—	—	—	5340	—	—	—
S55	CIL Tank - Electric Motor	16778	—	—	—	14421	—	—	—	15458	—	—	—	16968	—	—	—	17368	—	—	—	17432	—	—	—	10002	—	—	—	10318	—	—	—	5326	—	—	—
S56	CIL Tank - Electric Motor	16791	—	—	—	14434	—	—	—	15470	—	—	—	16981	—	—	—	17381	—	—	—	17445	—	—	—	10005	—	—	—	10330	—	—	—	5338	—	—	—
S57	CIL Tank - Electric Motor	16780	—	—	—	14424	—	—	—	15459	—	—	—	16969	—	—	—	17369	—	—	—	17434	—	—	—	10005	—	—	—	10316	—	—	—	5324	—	—	—
Haul Road																																					
L24	Truck - Project Traffic on Ore Transport Route	137	48.2	48.2	—	2306	26.4	26.4	—	1441	29.5	29.5	—	112	49.8	49.8	—	660	38.3	38.3	—	736	36.3	36.3	—	56	53.3	53.3	—	389	42.1	42.1	—	106	49.7	49.7	—
Beaver Dam Mine Site																																					
L21	Grader - Haul Roads	5784	5.0	5.0	5.0	5007	6.9	6.9	6.9	5441	6.5	6.5	6.5	5908	4.7	4.7	4.7	6247	4.7	4.7	4.7	6283	4.5	4.5	4.5	12465	—	—	—	12462	—	—	—	13496	—	—	—
L22	Grader - Haul Roads	6307	—	—	—	5938	—	—	—	5978	0.1	0.1	0.1	6432	—	—	—	6764	—	—	—	6798	—	—	—	13617	—	—	—	13573	—	—	—	15123	—	—	—
L23	Grader - Haul Roads	5786	—	—	—	5795	—	—	—	5765	0.2	0.2	0.2	5870	0.2	0.2	0.2	6129	—	—	—	6153	—	—	—	13493	—	—	—	13440	—	—	—	15127	—	—	—
L33	Truck - Haul Roads	5784	14.8	14.8	14.8	5529	15.7	15.7	15.7	5482	15.9	15.9	15.9	5908	15.0	15.0	15.0	6247	14.4	14.4	14.4	6283	14.3	14.3	14.3	13233	6.2	6.2	6.2	13173	6.5	6.5	6.5	14957	5.3	5.3	5.3
L6	Truck - Haul Roads	6382	23.8	23.8	23.8	5225	25.2	25.2	25.2	5731	25.3	25.3	25.3	6517	23.8	23.8	23.8	6874	23.7	23.7	23.7	6912	23.7	23.7	23.7	12628	15.7	15.7	15.7	12626	16.4	16.4	16.4	13652	15.6	15.6	15.6
S104	Tracked Dozer	6672	12.6	12.6	12.6	5248	15.8	15.8	15.8	5776	14.5	14.5	14.5	6867	12.2	12.2	12.2	7338	13.2	13.2	13.2	7394	13.1	13.1	13.1	12623	3.6	3.6	3.6	12624	3.6	3.6	3.6	13612	2.5	2.5	2.5
S105	Tracked Dozer	6580	12.8	12.8	12.8	5250	15.8	15.8	15.8	5728	14.6	14.6	14.6	6770	12.4	12.4	12.4	7232	13.4	13.4	13.4	7287	13.3	13.3	13.3	12682	3.6	3.6	3.6	12677	3.6	3.6	3.6	13740	2.4	2.4	2.4
S106	Tracked Dozer	6479	13.0	13.0	13.0	5116	16.1	16.1	16.1	5608	14.9	14.9	14.9	6671	12.6	12.6	12.6	7138	13.6	13.6	13.6	7194	13.5	13.5	13.5	12541	3.7	3.7	3.7	12536	3.7	3.7	3.7	13604	2.6	2.6	2.6
S107	3m Light Tower	6506	—	—	—	6003	—	—	—	6086	—	—	—	6643	—	—	—	7003	—	—	—	7042	—	—	—	13684	—	—	—	13640	—	—	—	15196	—	—	—
S108	Hydraulic Excavator	6516	4.6	4.6	4.6	6032	5.7	5.7	5.7	6107	5.5	5.5	5.5	6651	4.5	4.5	4.5	7009	3.8	3.8	3.8	7047	3.7	3.7	3.7	13716	—	—	—	13671	—	—	—	15237	—	—	—
S109	Wheel Loader	6447	9.7	9.7	9.7	6003	11.4	11.4	11.4	6057	11.3	11.3	11.3	6580	9.9	9.9	9.9	6933	9.1	9.1	9.1	6971	9.0	9.0	9.0	13692	—	—	—	13644	—	—	—	15244	—	—	—
S110	Dewatering Pump	6466	1.0	1.0	1.0	6044	1.8	1.8	1.8	6089	1.8	1.8	1.8	6597	0.9	0.9	0.9	6947	0.3	0.3	0.3	6985	0.3	0.3	0.3	13735	—	—	—	13686	—	—	—	15295	—	—	—
S111	Dewatering Pump	6451	0.9	0.9	0.9	6031	1.8	1.8	1.8	6074	1.8	1.8	1.8	6582	0.9	0.9	0.9	6932	0.3	0.3	0.3	6969	0.3	0.3	0.3	13722	—	—	—	13673	—	—	—	15285	—	—	—
S112	Hydraulic Excavator	6449	4.7	4.7	4.7	6078	5.5	5.5	5.5	6099	5.5	5.5	5.5	6577	4.6	4.6	4.6	6920	3.9	3.9	3.9	6956	3.9	3.9	3.9	13773	—	—	—	13722	—	—	—	15363	—	—	—
S113	3m Light Tower	6471	—	—	—	6102	—	—	—	6123	—	—	—	6598	—	—	—	6940																			

Table 2b

Point of Reception Noise Impact – Direct Effects, Option B
Atlantic Mining NS Inc.
Beaver Dam Mine, Halifax, NS

Cadna A ID	Source Description	Beaver Dam Mine Road (Marlborough Property)									4112 Highway 224 (Beaver Lake IR 17)			4115 Highway 224 (Cottage on Crown Land)			3492 Highway 224 (Hobbs Property)			3379 Highway 224 (McLeod Property)			3373 Highway 224 (Smith Property)			Tangier River (Deepwood Estate Property)			Musquodoboit Lumber Co Ltd. Property/John C			5579 Mooseland Road (Lloy Property)					
		R1			R2			R3			R4			R5			R6			R7			R8			R9											
		Distance (m)	Partial Sound Levels ¹ (dBA)			Distance (m)	Partial Sound Levels ¹ (dBA)			Distance (m)	Partial Sound Levels ¹ (dBA)			Distance (m)	Partial Sound Levels ¹ (dBA)			Distance (m)	Partial Sound Levels ¹ (dBA)			Distance (m)	Partial Sound Levels ¹ (dBA)			Distance (m)	Partial Sound Levels ¹ (dBA)										
	Day	Evening	Night		Day	Evening	Night		Day	Evening	Night		Day	Evening	Night		Day	Evening	Night		Day	Evening	Night		Day	Evening	Night		Day	Evening	Night						
	7am-7pm	7pm-11pm	11pm-7am	7am-7pm	7pm-11pm	11pm-7am	7am-7pm	7pm-11pm	11pm-7am	7am-7pm	7pm-11pm	11pm-7am	7am-7pm	7pm-11pm	11pm-7am	7am-7pm	7pm-11pm	11pm-7am	7am-7pm	7pm-11pm	11pm-7am	7am-7pm	7pm-11pm	11pm-7am	7am-7pm	7pm-11pm	11pm-7am	7am-7pm	7pm-11pm	11pm-7am							
Touquoy Mine Site																																					
S41	Loader - Transport of Material	16896	—	—	—	14499	1.8	1.8	1.8	15555	0.6	0.6	0.6	17090	—	—	—	17498	—	—	—	17563	—	—	—	10249	7.9	7.9	7.9	10581	7.3	7.3	7.3	5564	17.3	17.3	17.3
S42	Truck - Unloading Ore	16921	—	—	—	14536	—	—	—	15586	—	—	—	17113	—	—	—	17519	—	—	—	17584	—	—	—	10223	2.2	2.2	2.2	10554	1.7	1.7	1.7	5545	8.4	8.4	8.4
S43	Loader - Face Shovel	16956	—	—	—	14574	1.4	1.4	1.4	15623	0.4	0.4	0.4	17148	—	—	—	17553	—	—	—	17618	—	—	—	10242	6.7	6.7	6.7	10573	6.2	6.2	6.2	5567	17.7	17.7	17.7
S44	Truck - Hopper Discharge	16907	—	—	—	14526	—	—	—	15574	—	—	—	17099	—	—	—	17504	—	—	—	17569	—	—	—	10195	3.2	3.2	3.2	10526	2.7	2.7	2.7	5520	14.0	14.0	14.0
S45	Heavy Duty Hopper	16878	—	—	—	14501	—	—	—	15548	—	—	—	17070	—	—	—	17474	—	—	—	17538	—	—	—	10152	5.8	5.8	5.8	10483	4.9	4.9	4.9	5479	20.2	20.2	20.2
S46	Jaw Crusher	16880	1.0	1.0	1.0	14505	3.0	3.0	3.0	15550	2.1	2.1	2.1	17071	0.8	0.8	0.8	17475	0.5	0.5	0.5	17540	0.5	0.5	0.5	10147	8.0	8.0	8.0	10478	7.6	7.6	7.6	5475	17.6	17.6	17.6
S47	Heavy Duty Belt Feeder Hopper	16880	—	—	—	14505	—	—	—	15551	—	—	—	17071	—	—	—	17475	—	—	—	17540	—	—	—	10146	—	—	—	10477	—	—	—	5474	—	—	—
S48	Cone Crusher	16870	0.3	0.3	0.3	14495	2.8	2.8	2.8	15540	0.9	0.9	0.9	17061	0.4	0.4	0.4	17465	0.3	0.3	0.3	17529	0.3	0.3	0.3	10135	7.8	7.8	7.8	10466	7.3	7.3	7.3	5464	17.3	17.3	17.3
S49	Twin Screen Plant	16879	—	—	—	14505	—	—	—	15550	—	—	—	17070	—	—	—	17473	—	—	—	17538	—	—	—	10140	—	—	—	10471	—	—	—	5469	9.1	9.1	9.1
S50	Tunnel Conveyor	16859	—	—	—	14486	—	—	—	15530	—	—	—	17050	—	—	—	17453	—	—	—	17518	—	—	—	10121	—	—	—	10452	—	—	—	5450	—	—	—
S51	Cone Crusher	16881	0.4	0.4	0.4	14508	2.8	2.8	2.8	15552	1.1	1.1	1.1	17072	0.5	0.5	0.5	17475	0.3	0.3	0.3	17540	0.3	0.3	0.3	10139	7.7	7.7	7.7	10470	7.3	7.3	7.3	5469	17.3	17.3	17.3
S52	CIL Tank - Electric Motor	16788	—	—	—	14429	—	—	—	15467	—	—	—	16979	—	—	—	17379	—	—	—	17443	—	—	—	10005	—	—	—	10335	—	—	—	5341	—	—	—
S53	CIL Tank - Electric Motor	16777	—	—	—	14419	—	—	—	15456	—	—	—	16967	—	—	—	17367	—	—	—	17431	—	—	—	10005	—	—	—	10322	—	—	—	5328	—	—	—
S54	CIL Tank - Electric Motor	16790	—	—	—	14432	—	—	—	15469	—	—	—	16980	—	—	—	17380	—	—	—	17444	—	—	—	10002	—	—	—	10332	—	—	—	5340	—	—	—
S55	CIL Tank - Electric Motor	16778	—	—	—	14421	—	—	—	15458	—	—	—	16968	—	—	—	17368	—	—	—	17432	—	—	—	10002	—	—	—	10318	—	—	—	5326	—	—	—
S56	CIL Tank - Electric Motor	16791	—	—	—	14434	—	—	—	15470	—	—	—	16981	—	—	—	17381	—	—	—	17445	—	—	—	10002	—	—	—	10330	—	—	—	5338	—	—	—
S57	CIL Tank - Electric Motor	16780	—	—	—	14424	—	—	—	15459	—	—	—	16969	—	—	—	17369	—	—	—	17434	—	—	—	9985	—	—	—	10316	—	—	—	5324	—	—	—
Haul Road																																					
L24	Truck - Project Traffic on Ore Transport Route	137	48.2	48.2	—	2306	26.4	26.4	—	1441	29.5	29.5	—	112	49.8	49.8	—	660	38.3	38.3	—	736	36.3	36.3	—	56	53.3	53.3	—	389	42.1	42.1	—	106	49.7	49.7	—
Beaver Dam Mine Site																																					
L6	Truck - Haul Roads	6382	23.8	23.8	23.8	5225	25.2	25.2	25.2	5731	25.3	25.3	25.3	6517	23.8	23.8	23.8	6874	23.7	23.7	23.7	6912	23.7	23.7	23.7	12628	15.7	15.7	15.7	12626	16.4	16.4	16.4	13652	15.6	15.6	15.6
L21	Grader - Haul Roads	5784	5.0	5.0	5.0	5007	6.9	6.9	6.9	5441	6.5	6.5	6.5	5908	4.7	4.7	4.7	6247	4.7	4.7	4.7	6283	4.5	4.5	4.5	12465	—	—	—	12462	—	—	—	13496	—	—	—
L22	Grader - Haul Roads	6307	—	—	—	5938	—	—	—	5978	0.1	0.1	0.1	6432	—	—	—	6764	—	—	—	6798	—	—	—	13617	—	—	—	13573	—	—	—	15123	—	—	—
L23	Grader - Haul Roads	5786	—	—	—	5795	—	—	—	5765	0.2	0.2	0.2	5870	0.2	0.2	0.2	6129	—	—	—	6153	—	—	—	13493	—	—	—	13440	—	—	—	15127	—	—	—
L33	Truck - Haul Roads	5784	14.8	14.8	14.8	5529	15.7	15.7	15.7	5482	15.9	15.9	15.9	5908	15.0	15.0	15.0	6247	14.4	14.4	14.4	6283	14.3	14.3	14.3	13233	6.2	6.2	6.2	13173	6.5	6.5	6.5	14957	5.3	5.3	5.3
S59	Tracked Mobile Drill	6475	9.1	9.1	9.1	6005	11.0	11.0	11.0	6072	10.8	10.8	10.8	6609	9.3	9.3	9.3	6966	8.3	8.3	8.3	7004	8.2	8.2	8.2	13691	—	—	—	13645	—	—	—	15225	—	—	—
S60	Tracked Mobile Drill	6375	5.8	5.8	5.8	6071	9.0	9.0	9.0	6060	10.7	10.7	10.7	6497	9.6	9.6	9.6	6832	8.6	8.6	8.6	6867	8.5	8.5	8.5	13772	—	—	—	13717	—	—	—	15408	—	—	—
S61	Tracked Mobile Drill	6423	9.0	9.0	9.0	6047	10.0	10.0	10.0	6070	10.8	10.8	10.8	6551	9.4	9.4	9.4	6895	8.4	8.4	8.4	6932	8.3	8.3	8.3	13742	—	—	—	13691	—	—	—	15333	—	—	—
S62	Tracked Mobile Drill	6521	9.5	9.5	9.5	5991	11.1	11.1	11.1	6086	10.8	10.8	10.8	6659	9.1	9.1	9.1	7023	8.1	8.1	8.1	7063	8.0	8.0	8.0	13669	—	—	—	13625	—	—	—	15164	—	—	—
S104	Tracked Dozer	6672	12.6	12.6	12.6	5248	15.8	15.8	15.8	5776	14.5	14.5	14.5	6867	12.2	12.2	12.2	7338	13.2	13.2	13.2	7394	13.1	13.1	13.1	12623	3.6	3.6	3.6	12624	3.6	3.6	3.6	13612	2.5	2.5	2.5
S105	Tracked Dozer	6580	12.8	12.8	12.8	5250	15.8	15.8	15.8	5728	14.6	14.6	14.6	6770	12.4	12.4	12.4	7232	13.4	13.4	13.4	7287	13.3	13.3	13.3	12682	3.6	3.6	3.6	12677	3.6	3.6	3.6	13740	2.4	2.4	2.4
S106	Tracked Dozer	6479	13.0	13.0	13.0	5116	16.1	16.1	16.1	5608	14.9	14.9	14.9	6671	12.6	12.6	12.6	7138	13.6	13.6	13.6	7194	13.5	13.5	13.5	12541	3.7	3.7	3.7	12536	3.7	3.7	3.7	13604	2.6	2.6	2.6
S107	3m Light Tower	6506	—	—	—	6003	—	—	—	6086	—	—	—	6643	—	—	—	7003	—	—	—	7042	—	—	—	13684	—	—	—	13640	—	—	—	15196	—	—	—
S108	Hydraulic Excavator	6516	4.6	4.6	4.6	6032	5.7	5.7	5.7	6107	5.5	5.5	5.5	6651	4.5	4.5	4.5	7009	3.8	3.8	3.8	7047	3.7	3.7	3.7	13716	—	—	—	13671	—	—	—	15237	—	—	—
S109	Wheel Loader	6447	9.7	9.7	9.7	6003																															

Table 2c

Point of Reception Noise Impact – Cumulative Effects, Option A
Atlantic Mining NS Inc.
Beaver Dam Mine, Halifax, NS

Cadna A ID	Source Description	Beaver Dam Mine Road (Marlborough Property)									4112 Highway 224 (Beaver Lake IR 17)									4115 Highway 224 (Cottage on Crown Land)									3492 Highway 224 (Hobbs Property)									3379 Highway 224 (McLeod Property)									3373 Highway 224 (Smith Property)									Tangier River (Deepwood Estate Property)									Musquodoboit Lumber Co Ltd. Property/John C									5579 Mooseland Road (Lloy Property)								
		R1			R2			R3			R4			R5			R6			R7			R8			R9																																																								
		Distance (m)	Partial Sound Levels ¹ (dBA)			Distance (m)	Partial Sound Levels ¹ (dBA)			Distance (m)	Partial Sound Levels ¹ (dBA)			Distance (m)	Partial Sound Levels ¹ (dBA)			Distance (m)	Partial Sound Levels ¹ (dBA)			Distance (m)	Partial Sound Levels ¹ (dBA)			Distance (m)	Partial Sound Levels ¹ (dBA)			Distance (m)	Partial Sound Levels ¹ (dBA)																																																			
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night																																																	
Touquoy Mine Site																																																																																		
S41	Loader - Transport of Material	16896	—	—	—	14499	1.8	1.8	1.8	15555	0.6	0.6	0.6	17090	—	—	—	17498	—	—	—	17563	—	—	—	10249	7.9	7.9	7.9	10581	7.3	7.3	7.3	5564	17.3	17.3	17.3																																													
S42	Truck - Unloading Ore	16921	—	—	—	14536	—	—	—	15586	—	—	—	17113	—	—	—	17519	—	—	—	17584	—	—	—	10223	2.2	2.2	2.2	10554	1.7	1.7	1.7	5545	8.4	8.4	8.4																																													
S43	Loader - Face Shovel	16956	—	—	—	14574	1.4	1.4	1.4	15623	—	—	—	17148	—	—	—	17553	—	—	—	17618	—	—	—	10242	6.7	6.7	6.7	10573	6.2	6.2	6.2	5567	17.7	17.7	17.7																																													
S44	Truck - Hopper Discharge	16907	—	—	—	14526	—	—	—	15574	0.4	0.4	0.4	17099	—	—	—	17504	—	—	—	17569	—	—	—	10195	3.2	3.2	3.2	10526	2.7	2.7	2.7	5520	14.0	14.0	14.0																																													
S45	Heavy Duty Hopper	16878	—	—	—	14501	—	—	—	15548	—	—	—	17070	—	—	—	17474	—	—	—	17538	—	—	—	10152	5.8	5.8	5.8	10483	4.9	4.9	4.9	5479	20.2	20.2	20.2																																													
S46	Jaw Crusher	16880	1.0	1.0	1.0	14505	3.0	3.0	3.0	15550	2.1	2.1	2.1	17071	0.8	0.8	0.8	17475	0.5	0.5	0.5	17540	0.5	0.5	0.5	10147	8.0	8.0	8.0	10478	7.6	7.6	7.6	5475	17.6	17.6	17.6																																													
S47	Heavy Duty Belt Feeder Hopper	16880	—	—	—	14505	—	—	—	15551	—	—	—	17071	—	—	—	17475	—	—	—	17540	—	—	—	10146	—	—	—	10477	—	—	—	5474	—	—	—																																													
S48	Cone Crusher	16870	0.3	0.3	0.3	14495	2.8	2.8	2.8	15540	0.9	0.9	0.9	17061	0.4	0.4	0.4	17465	0.3	0.3	0.3	17529	0.3	0.3	0.3	10135	7.8	7.8	7.8	10466	7.3	7.3	7.3	5464	17.3	17.3	17.3																																													
S49	Twin Screen Plant	16879	—	—	—	14505	—	—	—	15550	—	—	—	17070	—	—	—	17473	—	—	—	17538	—	—	—	10140	—	—	—	10471	—	—	—	5469	9.1	9.1	9.1																																													
S50	Tunnel Conveyor	16859	—	—	—	14486	—	—	—	15530	—	—	—	17050	—	—	—	17453	—	—	—	17518	—	—	—	10121	—	—	—	10452	—	—	—	5450	—	—	—																																													
S51	Cone Crusher	16881	0.4	0.4	0.4	14508	2.8	2.8	2.8	15552	1.1	1.1	1.1	17072	0.5	0.5	0.5	17475	0.3	0.3	0.3	17540	0.3	0.3	0.3	10139	7.7	7.7	7.7	10470	7.3	7.3	7.3	5469	17.3	17.3	17.3																																													
S52	CIL Tank - Electric Motor	16788	—	—	—	14429	—	—	—	15467	—	—	—	16979	—	—	—	17379	—	—	—	17443	—	—	—	10005	—	—	—	10335	—	—	—	5341	—	—	—																																													
S53	CIL Tank - Electric Motor	16777	—	—	—	14419	—	—	—	15456	—	—	—	16967	—	—	—	17367	—	—	—	17431	—	—	—	10005	—	—	—	10322	—	—	—	5328	—	—	—																																													
S54	CIL Tank - Electric Motor	16790	—	—	—	14432	—	—	—	15469	—	—	—	16980	—	—	—	17380	—	—	—	17444	—	—	—	10002	—	—	—	10332	—	—	—	5340	—	—	—																																													
S55	CIL Tank - Electric Motor	16778	—	—	—	14421	—	—	—	15458	—	—	—	16968	—	—	—	17368	—	—	—	17432	—	—	—	10002	—	—	—	10318	—	—	—	5326	—	—	—																																													
S56	CIL Tank - Electric Motor	16791	—	—	—	14434	—	—	—	15470	—	—	—	16981	—	—	—	17381	—	—	—	17445	—	—	—	10002	—	—	—	10330	—	—	—	5338	—	—	—																																													
S57	CIL Tank - Electric Motor	16780	—	—	—	14424	—	—	—	15459	—	—	—	16969	—	—	—	17369	—	—	—	17434	—	—	—	9985	—	—	—	10316	—	—	—	5324	—	—	—																																													
Haul Road																																																																																		
L25	Truck - Cumulative Traffic on Ore Transport Route	137	46.9	46.9	—	3037	20.2	20.2	—	1719	25.4	25.4	—	113	48.6	48.6	—	665	36.3	36.3	—	741	33.7	33.7	—	8704	6.3	6.3	—	8535	6.5	6.5	—	11925	3.6	3.6	—																																													
L26	Truck - Cumulative Traffic on Ore Transport Route	186	37.1	37.1	—	3071	11.1	11.1	—	1753	16.5	16.5	—	27	51.8	51.8	—	55	48.4	48.4	—	48	49.0	49.0	—	8706	2.3	2.3	—	8536	2.4	2.4	—	11937	—	—	—																																													
L27	Truck - Cumulative Traffic on Ore Transport Route	168	44.1	44.1	—	2306	26.4	26.4	—	1441	28.7	28.7	—	118	45.7	45.7	—	660	35.5	35.5	—	736	34.3	34.3	—	56	54.5	54.5	—	389	43.3	43.3	—	106	50.9	50.9	—																																													
L30	3/4 Ton Service Truck - Cumulative Traffic	137	38.9	38.9	—	3037	9.2	9.2	—	1719	15.8	15.8	—	113	40.6	40.6	—	665	27.9	27.9	—	741	25.1	25.1	—	8704	—	—	—	8535	—	—	—	11925	—	—	—																																													
L31	3/4 Ton Service Truck - Cumulative Traffic	186	34.5	34.5	—	3071	4.6	4.6	—	1753	11.8	11.8	—	27	49.4	49.4	—	55	46.0	46.0	—	48	46.6	46.6	—	8706	—	—	—	8536	—	—	—	11937	—	—	—																																													
L32	3/4 Ton Service Truck - Cumulative Traffic	168	36.2	36.2	—	2306	18.5	18.5	—	1441	20.7	20.7	—	118	37.7	37.7	—	660	27.6	27.6	—	736	26.4	26.4	—	56	46.6	46.6	—	389	35.3	35.3	—	106	43.0	43.0	—																																													
Beaver Dam Mine Site																																																																																		
L6	Truck - Haul Roads	6382	23.8	23.8	23.8	5225	25.2	25.2	25.2	5731	25.3	25.3	25.3	6517	23.8	23.8	23.8	6874	23.7	23.7	23.7	6912	23.7	23.7	23.7	12628	15.7	15.7	15.7	12626	16.4	16.4	16.4	13652	15.6	15.6	15.6																																													
L21	Grader - Haul Roads	5784	5.0	5.0	5.0	5007	6.9	6.9	6.9	5441	6.5	6.5	6.5	5908	4.7	4.7	4.7	6247	4.7	4.7	4.7	6283	4.5	4.5	4.5	12465	—	—	—	12462	—	—	—	13496	—	—	—																																													
L22	Grader - Haul Roads	6307	—	—	—	5938	—	—	—	5978	0.1	0.1	0.1	6432	—	—	—	6764	—	—	—	6798	—	—	—	13617	—	—	—	13573	—	—	—	15123	—	—	—																																													
L23	Grader - Haul Roads	5786	—	—	—	5795	—	—	—	5765	0.2	0.2	0.2	5870	0.2	0.2	0.2	6129	—	—	—	6153	—	—	—	13493	—	—	—	13440	—	—	—	15127	—	—	—																																													
L33	Truck - Haul Roads	5784	14.8	14.8	14.8	5529	15.7	15.7	15.7	5482	15.9	15.9	15.9	5908	15.0	15.0	15.0	6247	14.4	14.4	14.4	6283	14.3	14.3	14.3	12333	6.2	6.2	6.2	13173	6.5	6.5	6.5	14957	5.3	5.3	5.3																																													
S59	Tracked Mobile Drill	6475	9.1	9.1	9.1	6005	11.0	11.0	11.0	6072	10.8	10.8	10.8	6609	9.3	9.3	9.3	6966	8.3	8.3	8.3	7004	8.2	8.2	8.2	13691	—	—	—	13645	—	—	—	15225	—	—	—																																													
S60	Tracked Mobile Drill	6375	5.8	5.8	5.8	6071	9.0	9.0	9.0	6060	10.7	10.7	10.7	6497	9.6	9.6	9.6	6832	8.6	8.6	8.6	6867	8.5	8.5	8.5	13772	—	—	—	13717	—	—	—	15408	—	—	—																																													
S61	Tracked Mobile Drill	6423	9.0	9.0	9.0	6047	10.0	10.0	10.0	6070	10.8	10.8	10.8	6551	9.4	9.4	9.4	6895	8.4	8.4	8.4	6932	8.3	8.3	8.3	13742	—	—	—	13691	—	—	—	15333	—	—	—																																													
S62	Tracked Mobile Drill	6521	9.5	9.5	9.5	5991	11.1	11.1	11.1	6086	10.8	10.8	10.8	6659	9.1	9.1	9.1	7023	8.1	8.1	8.1	7063	8.0	8.0	8.0	13669	—	—	—	13625	—	—	—	15164	—	—	—																																													
S104	Tracked Dozer	6672	12.6	12.6	12.6	5248	15.8	15.8	15.8	5776	14.5	14.5	14.5	6867	12.2	12.2	12.2	7338	13.2	13.2	13.2	7394	13.1	13.1	13.1	12623	3.6	3.6	3.6	12624	3.6	3.6	3.6	13612	2.5	2.5	2.5																																													
S105	Tracked Dozer	6580	12.8																																																																															

Table 2d
Point of Reception Noise Impact – Cumulative Effects, Option B
Atlantic Mining NS Inc.
Beaver Dam Mine, Halifax, NS

Cadna A ID	Source Description	Beaver Dam Mine Road (Marlborough Property)									4112 Highway 224 (Beaver Lake IR 17)									4115 Highway 224 (Cottage on Crown Land)									3492 Highway 224 (Hobbs Property)									3379 Highway 224 (McLeod Property)									3373 Highway 224 (Smith Property)									Tangier River (Deepwood Estate Property)									Musquodoboit Lumber Co Ltd. Property/John C									5579 Mooseland Road (Lloy Property)								
		R1			R2			R3			R4			R5			R6			R7			R8			R9																																																								
		Distance (m)	Partial Sound Levels' (dBA)			Distance (m)	Partial Sound Levels' (dBA)			Distance (m)	Partial Sound Levels' (dBA)			Distance (m)	Partial Sound Levels' (dBA)			Distance (m)	Partial Sound Levels' (dBA)			Distance (m)	Partial Sound Levels' (dBA)			Distance (m)	Partial Sound Levels' (dBA)			Distance (m)	Partial Sound Levels' (dBA)			Distance (m)	Partial Sound Levels' (dBA)																																															
	Day	Evening	Night		Day	Evening	Night		Day	Evening	Night		Day	Evening	Night		Day	Evening	Night		Day	Evening	Night		Day	Evening	Night		Day	Evening	Night		Day	Evening	Night																																															
Touquoy Mine Site																																																																																		
S41	Loader - Transport of Material	16896	—	—	—	14499	1.8	1.8	1.8	15555	0.6	0.6	0.6	17090	—	—	—	17498	—	—	—	17563	—	—	—	10249	7.9	7.9	7.9	10581	7.3	7.3	7.3	5564	17.3	17.3	17.3																																													
S42	Truck - Unloading Ore	16921	—	—	—	14536	—	—	—	15586	—	—	—	17113	—	—	—	17519	—	—	—	17584	—	—	—	10223	2.2	2.2	2.2	10554	1.7	1.7	1.7	5545	8.4	8.4	8.4																																													
S43	Loader - Face Shovel	16956	—	—	—	14574	1.4	1.4	1.4	15623	0.4	0.4	0.4	17148	—	—	—	17553	—	—	—	17618	—	—	—	10242	6.7	6.7	6.7	10573	6.2	6.2	6.2	5567	17.7	17.7	17.7																																													
S44	Truck - Hopper Discharge	16907	—	—	—	14526	—	—	—	15574	—	—	—	17099	—	—	—	17504	—	—	—	17569	—	—	—	10195	3.2	3.2	3.2	10526	2.7	2.7	2.7	5520	14.0	14.0	14.0																																													
S45	Heavy Duty Hopper	16878	—	—	—	14501	—	—	—	15548	—	—	—	17070	—	—	—	17474	—	—	—	17538	—	—	—	10152	5.8	5.8	5.8	10483	4.9	4.9	4.9	5479	20.2	20.2	20.2																																													
S46	Jaw Crusher	16880	1.0	1.0	1.0	14505	3.0	3.0	3.0	15550	2.1	2.1	2.1	17071	0.8	0.8	0.8	17475	0.5	0.5	0.5	17540	0.5	0.5	0.5	10147	8.0	8.0	8.0	10478	7.6	7.6	7.6	5475	17.6	17.6	17.6																																													
S47	Heavy Duty Belt Feeder Hopper	16880	—	—	—	14505	—	—	—	15551	—	—	—	17071	—	—	—	17475	—	—	—	17540	—	—	—	10146	—	—	—	10477	—	—	—	5474	—	—	—																																													
S48	Cone Crusher	16870	0.3	0.3	0.3	14495	2.8	2.8	2.8	15540	0.9	0.9	0.9	17061	0.4	0.4	0.4	17465	0.3	0.3	0.3	17529	0.3	0.3	0.3	10135	7.8	7.8	7.8	10466	7.3	7.3	7.3	5464	17.3	17.3	17.3																																													
S49	Twin Screen Plant	16879	—	—	—	14505	—	—	—	15550	—	—	—	17070	—	—	—	17473	—	—	—	17538	—	—	—	10140	—	—	—	10471	—	—	—	5469	9.1	9.1	9.1																																													
S50	Tunnel Conveyor	16859	—	—	—	14486	—	—	—	15530	—	—	—	17050	—	—	—	17453	—	—	—	17518	—	—	—	10121	—	—	—	10452	—	—	—	5450	—	—	—																																													
S51	Cone Crusher	16881	0.4	0.4	0.4	14508	2.8	2.8	2.8	15552	1.1	1.1	1.1	17072	0.5	0.5	0.5	17475	0.3	0.3	0.3	17540	0.3	0.3	0.3	10139	7.7	7.7	7.7	10470	7.3	7.3	7.3	5469	17.3	17.3	17.3																																													
S52	CIL Tank - Electric Motor	16788	—	—	—	14429	—	—	—	15467	—	—	—	16979	—	—	—	17379	—	—	—	17443	—	—	—	10005	—	—	—	10335	—	—	—	5341	—	—	—																																													
S53	CIL Tank - Electric Motor	16777	—	—	—	14419	—	—	—	15456	—	—	—	16967	—	—	—	17367	—	—	—	17431	—	—	—	9991	—	—	—	10322	—	—	—	5328	—	—	—																																													
S54	CIL Tank - Electric Motor	16790	—	—	—	14432	—	—	—	15469	—	—	—	16980	—	—	—	17380	—	—	—	17444	—	—	—	10002	—	—	—	10332	—	—	—	5340	—	—	—																																													
S55	CIL Tank - Electric Motor	16778	—	—	—	14421	—	—	—	15458	—	—	—	16968	—	—	—	17368	—	—	—	17432	—	—	—	9988	—	—	—	10318	—	—	—	5326	—	—	—																																													
S56	CIL Tank - Electric Motor	16791	—	—	—	14434	—	—	—	15470	—	—	—	16981	—	—	—	17381	—	—	—	17445	—	—	—	9999	—	—	—	10330	—	—	—	5338	—	—	—																																													
S57	CIL Tank - Electric Motor	16780	—	—	—	14424	—	—	—	15459	—	—	—	16969	—	—	—	17369	—	—	—	17434	—	—	—	9985	—	—	—	10316	—	—	—	5324	—	—	—																																													
Haul Road																																																																																		
L25	Truck - Cumulative Traffic on Ore Transport Route	137	46.9	46.9	—	3037	20.2	20.2	—	1719	25.4	25.4	—	113	48.6	48.6	—	665	36.3	36.3	—	741	33.7	33.7	—	8704	6.3	6.3	—	8535	6.5	6.5	—	11925	3.6	3.6	—																																													
L26	Truck - Cumulative Traffic on Ore Transport Route	186	37.1	37.1	—	3071	11.1	11.1	—	1753	16.5	16.5	—	3071	51.8	51.8	—	27	55	48.4	48.4	—	48	49.0	49.0	—	8706	2.3	2.3	—	8536	2.4	2.4	—	11937	—	—	—																																												
L27	Truck - Cumulative Traffic on Ore Transport Route	168	44.1	44.1	—	2306	26.4	26.4	—	1441	28.7	28.7	—	118	45.7	45.7	—	660	35.5	35.5	—	736	34.3	34.3	—	56	54.5	54.5	—	389	43.3	43.3	—	106	50.9	50.9	—																																													
L30	3/4 Ton Service Truck - Cumulative Traffic	137	38.9	38.9	—	3037	9.2	9.2	—	1719	15.8	15.8	—	113	40.6	40.6	—	665	27.9	27.9	—	741	25.1	25.1	—	8704	—	—	—	8535	—	—	—	11925	—	—	—																																													
L31	3/4 Ton Service Truck - Cumulative Traffic	186	34.5	34.5	—	3071	4.6	4.6	—	1753	11.8	11.8	—	27	49.4	49.4	—	55	46.0	46.0	—	48	46.6	46.6	—	8706	—	—	—	8536	—	—	—	11937	—	—	—																																													
L32	3/4 Ton Service Truck - Cumulative Traffic	168	36.2	36.2	—	2306	18.5	18.5	—	1441	20.7	20.7	—	118	37.7	37.7	—	660	27.6	27.6	—	736	26.4	26.4	—	56	46.6	46.6	—	389	35.3	35.3	—	106	43.0	43.0	—																																													
Beaver Dam Mine Site																																																																																		
L6	Truck - Haul Roads	6382	23.8	23.8	23.8	5225	25.2	25.2	25.2	5731	25.3	25.3	25.3	6517	23.8	23.8	23.8	6874	23.7	23.7	23.7	6912	23.7	23.7	23.7	12628	15.7	15.7	15.7	12626	16.4	16.4	16.4	13652	15.6	15.6	15.6																																													
L21	Grader - Haul Roads	5784	5.0	5.0	5.0	5007	6.9	6.9	6.9	5441	6.5	6.5	6.5	5908	4.7	4.7	4.7	6247	4.7	4.7	4.7	6283	4.5	4.5	4.5	12465	—	—	—	12462	—	—	—	13496	—	—	—																																													
L22	Grader - Haul Roads	6307	—	—	—	5938	—	—	—	5978	0.1	0.1	0.1	6432	—	—	—	6764	—	—	—	6798	—	—	—	13617	—	—	—	13573	—	—	—	15123	—	—	—																																													
L23	Grader - Haul Roads	5786	—	—	—	5795	—	—	—	5765	0.2	0.2	0.2	5870	0.2	0.2	0.2	6129	0.2	0.2	0.2	6153	—	—	—	13493	—	—	—	13440	—	—	—	15127	—	—	—																																													
L33	Truck - Haul Roads	5784	14.8	14.8	14.8	5529	15.7	15.7	15.7	5482	15.9	15.9	15.9	5908	15.0	15.0	15.0	6247	14.4	14.4	14.4	6283	14.3	14.3	14.3	13233	6.2	6.2	6.2	13173	6.5	6.5	6.5	14957	5.3	5.3	5.3																																													
S59	Tracked Mobile Drill	6475	9.1	9.1	9.1	6005	11.0	11.0	11.0	6072	10.8	10.8	10.8	6609	9.3	9.3	9.3	6966	8.3	8.3	8.3	7004	8.2	8.2	8.2	13691	—	—	—	13645	—	—	—	15225	—	—	—																																													
S60	Tracked Mobile Drill	6375	5.8	5.8	5.8	6071	9.0	9.0	9.0	6060	10.7	10.7	10.7	6497	9.6	9.6	9.6	6832	8.6	8.6	8.6	6867	8.5	8.5	8.5	13772	—	—	—	13717	—	—	—	15408	—	—	—																																													
S61	Tracked Mobile Drill	6423	9.0	9.0	9.0	6047	10.0	10.0	10.0	6070	10.8	10.8	10.8	6551	9.4	9.4	9.4	6895	8.4	8.4	8.4	6932	8.3	8.3	8.3	13742	—	—	—	13691	—	—	—	15333	—	—	—																																													
S62	Tracked Mobile Drill	6521	9.5	9.5	9.5	5991	11.1	11.1	11.1	6086	10.8	10.8	10.8	6659	9.1	9.1	9.1	7023	8.1	8.1	8.1	7063	8.0	8.0	8.0	13669	—	—	—	13625	—	—	—	15164	—	—	—																																													
S104	Tracked Dozer	6672	12.6	12.6	12.6	5248	15.8	15.8	15.8	5776	14.5	14.5	14.5	6867	12.2	12.2	12.2	7338	13.2	13.2	13.2	7394	13.1	13.1	13.1	12623	3.6	3.6	3.6	12624	3.6	3.6	3.6	13612	2.5	2.5	2.5																																													
S105	Tracked Dozer	6580	12.8	12.8	12.8	5250	15.8	15.8</																																																																										

Appendix C

Acoustic Assessment Summary

Table 3
Acoustic Assessment Summary
Atlantic Mining NS Inc.
Beaver Dam Mine, Halifax, NS

Point of Reception ID	Point of Reception Description	Time of Day	Predicted Sound Levels (L _{EQ}) (dBA)	Performance Limit ¹ (L _{EQ}) (dBA)	Compliance with Performance Limit (Yes/No)
Direct Effects, Option A					
R1	9 Beaver Dam Mine Road (Marlborough Property)	07:00–19:00	48	65	Yes
		19:00–23:00	48	60	Yes
		23:00–07:00	27	55	Yes
R2	4112 Highway 224 (Beaver Lake IR 17)	07:00–19:00	30	65	Yes
		19:00–23:00	30	60	Yes
		23:00–07:00	28	55	Yes
R3	4115 Highway 224 (Cottage on Crown Land)	07:00–19:00	32	65	Yes
		19:00–23:00	32	60	Yes
		23:00–07:00	28	55	Yes
R4	3492 Highway 224 (Hobbs Property)	07:00–19:00	50	65	Yes
		19:00–23:00	50	60	Yes
		23:00–07:00	27	55	Yes
R5	3379 Highway 224 (McLeod Property)	07:00–19:00	39	65	Yes
		19:00–23:00	39	60	Yes
		23:00–07:00	27	55	Yes
R6	3373 Highway 224 (Smith Property)	07:00–19:00	37	65	Yes
		19:00–23:00	37	60	Yes
		23:00–07:00	26	55	Yes
R7	Tangier River (Deepwood Estates Property)	07:00–19:00	53	65	Yes
		19:00–23:00	53	60	Yes
		23:00–07:00	20	55	Yes
R8	Tangier River (Musquodoboit Lumber Co Ltd. Property/John Dickson	07:00–19:00	42	65	Yes
		19:00–23:00	42	60	Yes
		23:00–07:00	20	55	Yes
R9	5579 Mooseland Road (Lloy Property)	07:00–19:00	50	65	Yes
		19:00–23:00	50	60	Yes
		23:00–07:00	27	55	Yes
Direct Effects, Option B					
R1	9 Beaver Dam Mine Road (Marlborough Property)	07:00–19:00	48	65	Yes
		19:00–23:00	48	60	Yes
		23:00–07:00	27	55	Yes
R2	4112 Highway 224 (Beaver Lake IR 17)	07:00–19:00	30	65	Yes
		19:00–23:00	30	60	Yes
		23:00–07:00	28	55	Yes
R3	4115 Highway 224 (Cottage on Crown Land)	07:00–19:00	32	65	Yes
		19:00–23:00	32	60	Yes
		23:00–07:00	28	55	Yes
R4	3492 Highway 224 (Hobbs Property)	07:00–19:00	50	65	Yes
		19:00–23:00	50	60	Yes
		23:00–07:00	27	55	Yes

Table 3
Acoustic Assessment Summary
Atlantic Mining NS Inc.
Beaver Dam Mine, Halifax, NS

Point of Reception ID	Point of Reception Description	Time of Day	Predicted Sound Levels (L _{EQ}) (dBA)	Performance Limit ¹ (L _{EQ}) (dBA)	Compliance with Performance Limit (Yes/No)
R5	3379 Highway 224 (McLeod Property)	07:00–19:00	39	65	Yes
		19:00–23:00	39	60	Yes
		23:00–07:00	27	55	Yes
R6	3373 Highway 224 (Smith Property)	07:00–19:00	37	65	Yes
		19:00–23:00	37	60	Yes
		23:00–07:00	27	55	Yes
R7	Tangier River (Deepwood Estates Property)	07:00–19:00	53	65	Yes
		19:00–23:00	53	60	Yes
		23:00–07:00	20	55	Yes
R8	Tangier River (Musquodoboit Lumber Co Ltd. Property/John Dickson	07:00–19:00	42	65	Yes
		19:00–23:00	42	60	Yes
		23:00–07:00	20	55	Yes
R9	5579 Mooseland Road (Lloy Property)	07:00–19:00	50	65	Yes
		19:00–23:00	50	60	Yes
		23:00–07:00	27	55	Yes
Cumulative Effects, Option A					
R1	9 Beaver Dam Mine Road (Marlborough Property)	07:00–19:00	50	65	Yes
		19:00–23:00	50	60	Yes
		23:00–07:00	27	55	Yes
R2	4112 Highway 224 (Beaver Lake IR 17)	07:00–19:00	31	65	Yes
		19:00–23:00	31	60	Yes
		23:00–07:00	28	55	Yes
R3	4115 Highway 224 (Cottage on Crown Land)	07:00–19:00	33	65	Yes
		19:00–23:00	33	60	Yes
		23:00–07:00	28	55	Yes
R4	3492 Highway 224 (Hobbs Property)	07:00–19:00	56	65	Yes
		19:00–23:00	56	60	Yes
		23:00–07:00	27	55	Yes
R5	3379 Highway 224 (McLeod Property)	07:00–19:00	51	65	Yes
		19:00–23:00	51	60	Yes
		23:00–07:00	27	55	Yes
R6	3373 Highway 224 (Smith Property)	07:00–19:00	51	65	Yes
		19:00–23:00	51	60	Yes
		23:00–07:00	26	55	Yes
R7	Tangier River (Deepwood Estates Property)	07:00–19:00	55	65	Yes
		19:00–23:00	55	60	Yes
		23:00–07:00	20	55	Yes
R8	Tangier River (Musquodoboit Lumber Co Ltd. Property/John Dickson	07:00–19:00	44	65	Yes
		19:00–23:00	44	60	Yes
		23:00–07:00	20	55	Yes

Table 3
Acoustic Assessment Summary
Atlantic Mining NS Inc.
Beaver Dam Mine, Halifax, NS

Point of Reception ID	Point of Reception Description	Time of Day	Predicted Sound Levels (L _{EQ}) (dBA)	Performance Limit ¹ (L _{EQ}) (dBA)	Compliance with Performance Limit (Yes/No)
R9	5579 Mooseland Road (Lloy Property)	07:00–19:00	52	65	Yes
		19:00–23:00	52	60	Yes
		23:00–07:00	27	55	Yes
Cumulative Effects, Option B					
R1	9 Beaver Dam Mine Road (Marlborough Property)	07:00–19:00	50	65	Yes
		19:00–23:00	50	60	Yes
		23:00–07:00	27	55	Yes
R2	4112 Highway 224 (Beaver Lake IR 17)	07:00–19:00	31	65	Yes
		19:00–23:00	31	60	Yes
		23:00–07:00	28	55	Yes
R3	4115 Highway 224 (Cottage on Crown Land)	07:00–19:00	33	65	Yes
		19:00–23:00	33	60	Yes
		23:00–07:00	28	55	Yes
R4	3492 Highway 224 (Hobbs Property)	07:00–19:00	56	65	Yes
		19:00–23:00	56	60	Yes
		23:00–07:00	27	55	Yes
R5	3379 Highway 224 (McLeod Property)	07:00–19:00	51	65	Yes
		19:00–23:00	51	60	Yes
		23:00–07:00	27	55	Yes
R6	3373 Highway 224 (Smith Property)	07:00–19:00	51	65	Yes
		19:00–23:00	51	60	Yes
		23:00–07:00	27	55	Yes
R7	Tangier River (Deepwood Estates Property)	07:00–19:00	55	65	Yes
		19:00–23:00	55	60	Yes
		23:00–07:00	20	55	Yes
R8	Tangier River (Musquodoboit Lumber Co Ltd. Property/John Dickson	07:00–19:00	44	65	Yes
		19:00–23:00	44	60	Yes
		23:00–07:00	20	55	Yes
R9	5579 Mooseland Road (Lloy Property)	07:00–19:00	52	65	Yes
		19:00–23:00	52	60	Yes
		23:00–07:00	27	55	Yes

Note:

¹ Minimum NSEL sound level limits as defined in "Guidelines for Environmental Noise Measurement and Assessment"

Appendix D

Noise Source Sound Level Summary

Table 4
Noise Source Sound Level Summary
Atlantic Mining NS Inc.
Beaver Dam Mine, Halifax, NS

Cadna A ID	Noise Source Description		1/1 Octave Band Data									Unadjusted Total Sound Power Level (dBA)	Tonal Penalty Assessment (dBA)	Height Absolute (m)	Operating Time Day (min)	Operating Time Evening (min)	Operating Time Night (min)	Speed (km/h)	Vehicles Per Hour Day (min)	Vehicles Per Hour Evening (min)	Vehicles Per Hour Night (min)	Reference/Comments				
			32	63	125	250	500	1000	2000	4000	8000															
L6	Truck - Haul Roads	PWL (dB)	31.0	117.0	112.0	105.0	107.0	104.0	103.0	100.0	91.0	119.0												Referenced from UK Department for Environment, Food and Rural Affairs (Defra) Noise Database for Construction Noise document		
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1															
		PWL (dBA)	—	90.8	95.9	96.4	103.8	104.0	104.2	101.0	89.9	109.9	No	0	188.0	—	—	—	40	66.2	66.2				66.2 Transport Truck Route - 26ton 235kw - DEFRA Table 1(c)#16	
L21	Grader - Haul Roads	PWL (dB)	-6.1	81.9	80.9	76.9	72.9	77.9	71.9	77.9	58.9	86.8														
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1															
		PWL (dBA)	-45.5	55.7	64.8	68.3	69.7	77.9	73.1	78.9	57.8	82.5	No	0	188.0	—	—	—	15	1.0	1.0				1.0 GHD Reference Spectra	
L22	Grader - Haul Roads	PWL (dB)	-3.0	85.0	84.0	80.0	76.0	81.0	75.0	81.0	62.0	90.0														
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1															
		PWL (dBA)	-42.4	58.8	67.9	71.4	72.8	81.0	76.2	82.0	60.9	85.7	No	0	132.9	—	—	—	15	1.0	1.0				1.0 GHD Reference Spectra	
L23	Grader - Haul Roads	PWL (dB)	1.1	89.1	88.1	84.1	80.1	85.1	79.1	85.1	66.1	94.1														
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1															
		PWL (dBA)	-38.3	62.9	72.0	75.5	76.9	85.1	80.3	86.1	65.0	89.8	No	0	146.2	—	—	—	15	1.0	1.0				1.0 GHD Reference Spectra	
L24	Truck - Project Traffic on Ore Transport Route	PWL (dB)	31.0	117.0	112.0	105.0	107.0	104.0	103.0	100.0	91.0	119.0														
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1															
		PWL (dBA)	—	90.8	95.9	96.4	103.8	104.0	104.2	101.0	89.9	109.9	No	0	97.0	—	—	—	70	11.9	11.9					Referenced from UK Department for Environment, Food and Rural Affairs (Defra) Noise Database for Construction Noise document
L25	Truck - Cumulative Traffic on Ore Transport Route	PWL (dB)	31.0	117.0	112.0	105.0	107.0	104.0	103.0	100.0	91.0	119.0														
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1															
		PWL (dBA)	—	90.8	95.9	96.4	103.8	104.0	104.2	101.0	89.9	109.9	No	0	97.0	—	—	—	70	12.7	12.7					Referenced from UK Department for Environment, Food and Rural Affairs (Defra) Noise Database for Construction Noise document
L26	Truck - Cumulative Traffic on Ore Transport Route	PWL (dB)	31.0	117.0	112.0	105.0	107.0	104.0	103.0	100.0	91.0	119.0														
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1															
		PWL (dBA)	—	90.8	95.9	96.4	103.8	104.0	104.2	101.0	89.9	109.9	No	0	100.6	—	—	—	70	3.6	3.6					Referenced from UK Department for Environment, Food and Rural Affairs (Defra) Noise Database for Construction Noise document
L27	Truck - Cumulative Traffic on Ore Transport Route	PWL (dB)	31.0	117.0	112.0	105.0	107.0	104.0	103.0	100.0	91.0	119.0														
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1															
		PWL (dBA)	—	90.8	95.9	96.4	103.8	104.0	104.2	101.0	89.9	109.9	No	0	100.6	—	—	—	70	15.5	15.5					Referenced from UK Department for Environment, Food and Rural Affairs (Defra) Noise Database for Construction Noise document
L30	3/4 Ton Service Truck - Cumulative Traffic	PWL (dB)	47.4	54.4	71.4	72.4	82.4	82.4	79.4	75.4	66.4	87.0														
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1															
		PWL (dBA)	8.0	28.2	55.3	63.8	79.2	82.4	80.6	76.4	65.3	86.2	No	0	97.0	—	—	—	70	2.5	2.5					— GHD Reference Spectra
L31	3/4 Ton Service Truck - Cumulative Traffic	PWL (dB)	47.7	54.7	71.7	72.7	82.7	82.7	79.7	75.7	66.7	87.4														
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1															
		PWL (dBA)	8.3	28.5	55.6	64.1	79.5	82.7	80.9	76.7	65.6	86.6	No	0	100.6	—	—	—	70	2.5	2.5					— GHD Reference Spectra
L32	3/4 Ton Service Truck - Cumulative Traffic	PWL (dB)	7.4	98.4	97.4	90.4	90.4	88.4	86.4	77.4	68.4	102.0														
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1															
		PWL (dBA)	-32.0	72.2	81.3	81.8	87.2	88.4	87.6	78.4	67.3	93.4	No	0	119.1	—	—	—	70	2.5	2.5					— GHD Reference Spectra
L33	Truck - Haul Roads	PWL (dB)	31.0	117.0	112.0	105.0	107.0	104.0	103.0	100.0	91.0	119.0														
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1															
		PWL (dBA)	—	90.8	95.9	96.4	103.8	104.0	104.2	101.0	89.9	109.9	No	0	171.6	—	—	—	40	10.0	10.0					Referenced from UK Department for Environment, Food and Rural Affairs (Defra) Noise Database for Construction Noise document
S41	Loader - Transport of Material	PWL (dB)	31.0	114.0	120.0	123.0	111.0	102.0	100.0	95.0	89.0	125.3														
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1															
		PWL (dBA)	-8.4	87.8	103.9	114.4	107.8	102.0	101.2	96.0	87.9	116.0	No	0	163.0	60	60	60	—	—	—					— GHD Reference Spectra
S42	Truck - Unloading Ore	PWL (dB)	31.0	119.0	115.0	106.0	104.0	106.0	103.0	99.0	91.0	120.9														
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1															
		PWL (dBA)	-8.4	92.8	98.9	97.4	100.8	106.0	104.2	100.0	89.9	110.2	No	0	149.7	60	60	60	—	—	—					— GHD Reference Spectra
S43	Loader - Face Shovel	PWL (dB)	31.0	119.0	119.0	118.0	116.0	117.0	114.0	108.0	101.0	125.4														
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1															
		PWL (dBA)	-8.4	92.8	102.9	109.4	112.8	117.0	115.2	109.0	99.9	120.9	No	0	163.0	60	60	60	—	—	—					— GHD Reference Spectra
S44	Truck - Hopper Discharge	PWL (dB)	31.0	119.0	113.0	108.0	110.0	111.0	110.0	104.0	98.0	121.5														
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1															
		PWL (dBA)	-8.4	92.8	96.9	99.4	106.8	111.0	111.2	105.0	96.9	115.5	No	0	163.0	60	60	60	—	—	—					— GHD Reference Spectra
S45	Heavy Duty Hopper	PWL (dB)	—	—	—	—	124.7	—	—	—	124.7															
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1															
		PWL (dBA)	—	—	—	—	121.5	—	—	—	121.5	No	0	147.8	60	60	60	—	—	—						— GHD Reference Spectra
S46	Jaw Crusher	PWL (dB)	31.0	122.0	122.0	119.0	118.0	116.0	114.0	109.0	100.0	127.3														
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1															
		PWL (dBA)	-8.4	95.8	105.9	110.4	114.8	116.0	115.2	110.0	98.9	121.1	No	0	148.2	60	60	60	—	—	—					— GHD Reference Spectra
S47	Heavy Duty Belt Feeder Hopper	PWL (dB)	31.0	102.0	99.0	93.0	94.0	97.0	93.0	89.0	82.0	105.6														
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1															
		PWL (dBA)	-8.4	75.8	82.9	84.4	90.8	97.0	94.2	90.0	80.9	100.2	No	0	147.0	60	60	60	—	—	—					— GHD Reference Spectra
S48	Cone Crusher	PWL (dB)																								

Table 4
Noise Source Sound Level Summary
Atlantic Mining NS Inc.
Beaver Dam Mine, Halifax, NS

Cadna A ID	Noise Source Description		1/1 Octave Band Data								Unadjusted Total Sound Power Level (dBA)	Tonal Penalty Assessment (dBA)	Height Absolute (m)	Operating Time Day (min)	Operating Time Evening (min)	Operating Time Night (min)	Speed (km/h)	Vehicles Per Hour Day (min)	Vehicles Per Hour Evening (min)	Vehicles Per Hour Night (min)	Reference/Comments	
			32	63	125	250	500	1000	2000	4000												8000
S54	CIL Tank - Electric Motor	PWL (dB)	10.1	80.1	83.1	85.1	94.1	88.1	94.1	82.1	74.1	98.2	No	0	165.5	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-29.3	53.9	67.0	76.5	90.9	88.1	95.3	83.1	73.0											
S55	CIL Tank - Electric Motor	PWL (dB)	10.1	80.1	83.1	85.1	94.1	88.1	94.1	82.1	74.1	98.2	No	0	165.5	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-29.3	53.9	67.0	76.5	90.9	88.1	95.3	83.1	73.0											
S56	CIL Tank - Electric Motor	PWL (dB)	10.1	80.1	83.1	85.1	94.1	88.1	94.1	82.1	74.1	98.2	No	0	165.5	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-29.3	53.9	67.0	76.5	90.9	88.1	95.3	83.1	73.0											
S57	CIL Tank - Electric Motor	PWL (dB)	10.1	80.1	83.1	85.1	94.1	88.1	94.1	82.1	74.1	98.2	No	0	165.5	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-29.3	53.9	67.0	76.5	90.9	88.1	95.3	83.1	73.0											
S59	Tracked Mobile Drill	PWL (dB)	31.0	114.0	115.0	110.0	116.0	113.0	110.0	106.0	102.0	121.5	No	0	133.0	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-8.4	87.8	98.9	101.4	112.8	113.0	111.2	107.0	100.9											
S60	Tracked Mobile Drill	PWL (dB)	31.0	114.0	115.0	110.0	116.0	113.0	110.0	106.0	102.0	121.5	No	0	133.0	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-8.4	87.8	98.9	101.4	112.8	113.0	111.2	107.0	100.9											
S61	Tracked Mobile Drill	PWL (dB)	31.0	114.0	115.0	110.0	116.0	113.0	110.0	106.0	102.0	121.5	No	0	132.8	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-8.4	87.8	98.9	101.4	112.8	113.0	111.2	107.0	100.9											
S62	Tracked Mobile Drill	PWL (dB)	31.0	114.0	115.0	110.0	116.0	113.0	110.0	106.0	102.0	121.5	No	0	133.0	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-8.4	87.8	98.9	101.4	112.8	113.0	111.2	107.0	100.9											
S104	Tracked Dozer	PWL (dB)	31.0	120.0	121.0	122.0	104.0	105.0	101.0	99.0	95.0	125.9	No	0	189.0	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-8.4	93.8	104.9	113.4	100.8	105.0	102.2	100.0	93.9											
S105	Tracked Dozer	PWL (dB)	31.0	120.0	121.0	122.0	104.0	105.0	101.0	99.0	95.0	125.9	No	0	189.0	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-8.4	93.8	104.9	113.4	100.8	105.0	102.2	100.0	93.9											
S106	Tracked Dozer	PWL (dB)	31.0	120.0	121.0	122.0	104.0	105.0	101.0	99.0	95.0	125.9	No	0	189.0	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-8.4	93.8	104.9	113.4	100.8	105.0	102.2	100.0	93.9											
S107	3m Light Tower	PWL (dB)	31.0	109.0	102.0	97.0	93.0	90.0	86.0	87.0	80.0	110.2	No	0	133.0	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-8.4	82.8	85.9	88.4	89.8	90.0	87.2	88.0	78.9											
S108	Hydraulic Excavator	PWL (dB)	31.0	116.0	109.0	108.0	108.0	104.0	102.0	96.0	94.0	118.1	No	0	132.0	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-8.4	89.8	92.9	99.4	104.8	104.0	103.2	97.0	92.9											
S109	Wheel Loader	PWL (dB)	31.0	119.0	115.0	112.0	115.0	107.0	101.0	99.0	92.0	122.2	No	0	133.0	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-8.4	92.8	98.9	103.4	111.8	107.0	102.2	100.0	90.9											
S110	Dewatering Pump	PWL (dB)	31.0	112.0	113.0	98.0	103.0	102.0	105.0	104.0	97.0	116.6	No	0	131.0	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-8.4	85.8	96.9	89.4	99.8	102.0	106.2	105.0	95.9											
S111	Dewatering Pump	PWL (dB)	31.0	112.0	113.0	98.0	103.0	102.0	105.0	104.0	97.0	116.6	No	0	131.0	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-8.4	85.8	96.9	89.4	99.8	102.0	106.2	105.0	95.9											
S112	Hydraulic Excavator	PWL (dB)	31.0	116.0	109.0	108.0	108.0	104.0	102.0	96.0	94.0	118.1	No	0	131.6	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-8.4	89.8	92.9	99.4	104.8	104.0	103.2	97.0	92.9											
S113	3m Light Tower	PWL (dB)	31.0	109.0	102.0	97.0	93.0	90.0	86.0	87.0	80.0	110.2	No	0	132.5	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-8.4	82.8	85.9	88.4	89.8	90.0	87.2	88.0	78.9											
S114	Hydraulic Excavator	PWL (dB)	31.0	116.0	109.0	108.0	108.0	104.0	102.0	96.0	94.0	118.1	No	0	131.3	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-8.4	89.8	92.9	99.4	104.8	104.0	103.2	97.0	92.9											
S115	Wheel Loader	PWL (dB)	31.0	119.0	115.0	112.0	115.0	107.0	101.0	99.0	92.0	122.2	No	0	133.0	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-8.4	92.8	98.9	103.4	111.8	107.0	102.2	100.0	90.9											
S116	Hydraulic Excavator	PWL (dB)	31.0	116.0	109.0	108.0	108.0	104.0	102.0	96.0	94.0	118.1	No	0	132.0	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-8.4	89.8	92.9	99.4	104.8	104.0	103.2	97.0	92.9											
S117	3m Light Tower	PWL (dB)	31.0	109.0	102.0	97.0	93.0	90.0	86.0	87.0	80.0	110.2	No	0	133.0	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-8.4	82.8	85.9	88.4	89.8	90.0	87.2	88.0	78.9											
S118	8m Light Tower	PWL (dB)	31.0	109.0	102.0	97.0	93.0	90.0	86.0	87.0	80.0	110.2	No	0	178.0	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-8.4	82.8	85.9	88.4	89.8	90.0	87.2	88.0	78.9											
S119	8m Light Tower	PWL (dB)	31.0	109.0	102.0	97.0	93.0	90.0	86.0	87.0	80.0	110.2	No	0	176.5	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	-8.4	82.8	85.9	88.4	89.8	90.0	87.2	88.0	78.9											
S120	Jaw Crusher	PWL (dB)	109.9	118.0	117.0	114.4	113.5	108.6	105.6	100.3	93.8	122.7	No	0	173.4	60	60	60	—	—	—	— GHD Reference Spectra
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1											
		PWL (dBA)	70.5	91.8	100.9	105.8	110.3	108.6	106.8	101.3	92.7											
S121	Wheel Loader	PWL (dB)	31.0	119.0	115.0	112.0	115.0	107.0	101.0	9												

Table 4
Noise Source Sound Level Summary
Atlantic Mining NS Inc.
Beaver Dam Mine, Halifax, NS

Cadna A ID	Noise Source Description		1/1 Octave Band Data										Unadjusted Total Sound Power Level (dBA)	Tonal Penalty Assessment (dBA)	Height Absolute (m)	Operating Time Day (min)	Operating Time Evening (min)	Operating Time Night (min)	Speed (km/h)	Vehicles Per Hour Day (min)	Vehicles Per Hour Evening (min)	Vehicles Per Hour Night (min)	Reference/Comments
			32	63	125	250	500	1000	2000	4000	8000												
S124	Wheeled Backhoe Loader	PWL (dB)	31.0	99.0	98.0	94.0	93.0	93.0	92.0	85.0	78.0	103.6	No	0	169.7	60	60	60	—	—	—	— GHD Reference Spectra	
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1												
		PWL (dBA)	-8.4	72.8	81.9	85.4	89.8	93.0	93.2	86.0	76.9												
S125	Skid Steer	PWL (dB)	—	103.0	115.0	106.0	107.0	103.0	101.0	97.0	87.0	116.7	No	0	168.1	60	60	60	—	—	—	— GHD Reference Spectra	
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1												
		PWL (dBA)	-39.4	76.8	98.9	97.4	103.8	103.0	102.2	98.0	85.9												
S126	Generator	PWL (dB)	103.3	110.5	115.2	116.0	114.9	112.8	110.7	108.1	95.1	121.9	No	0	165.7	60	60	60	—	—	—	— GHD Reference Spectra	
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1												
		PWL (dBA)	63.9	84.3	99.1	107.4	111.7	112.8	111.9	109.1	94.0												
S127	Mobile_Crane	PWL (dB)	31.0	121.0	112.0	109.0	105.0	108.0	107.0	100.0	92.0	122.2	No	0	168.3	60	60	60	—	—	—	— GHD Reference Spectra	
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1												
		PWL (dBA)	-8.4	94.8	95.9	100.4	101.8	108.0	108.2	101.0	90.9												
S128	Forklift	PWL (dB)	87.8	101.1	97.2	98.7	95.1	93.3	93.8	87.9	83.4	105.4	No	0	166.6	60	60	60	—	—	—	— GHD Reference Spectra	
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1												
		PWL (dBA)	48.4	74.9	81.1	90.1	91.9	93.3	95.0	88.9	82.3												
S129	Fuel & Lube Truck	PWL (dB)	31.0	110.0	104.0	102.0	106.0	103.0	100.0	90.0	81.0	113.3	No	0	167.5	60	60	60	—	—	—	— GHD Reference Spectra	
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1												
		PWL (dBA)	-8.4	83.8	87.9	93.4	102.8	103.0	101.2	91.0	79.9												
S130	Fuel & Lube Truck	PWL (dB)	31.0	110.0	104.0	102.0	106.0	103.0	100.0	90.0	81.0	113.3	No	0	167.4	60	60	60	—	—	—	— GHD Reference Spectra	
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1												
		PWL (dBA)	-8.4	83.8	87.9	93.4	102.8	103.0	101.2	91.0	79.9												
S131	Excavator-Mounted Breaker	PWL (dB)	31.0	122.0	120.0	116.0	120.0	118.0	118.0	115.0	111.0	127.5	No	0	132.5	60	60	60	—	—	—	— GHD Reference Spectra	
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1												
		PWL (dBA)	-8.4	95.8	103.9	107.4	116.8	118.0	119.2	116.0	109.9												



about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

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