Appendix B.1

Beaver Dam Mine Construction Noise Assessment
Atlantic Mining NS Inc., Beaver Dam Mine Project, Nova Scotia - January 25, 2021as
Completed for the Updated 2021 Beaver Dam Mine EIS

Memorandum

Draft for Review

January 25, 2021

To:	James Millard, Veronica Chisholm	Ref. No.:	088664
From:	Michael Masschaele, BES, LEL/cb/6		

Subject: **Beaver Dam Mine Construction Noise Assessment**
Atlantic Mining NS Inc., Beaver Dam Mine Project, Nova Scotia

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 2021) and responses to information requests (IRs) (CEAA 2019). This Technical Memorandum is intended to supplement the Noise Impact Study and provide a summary of the updated construction noise modelling results, and associated mitigation measures which are based on the current infrastructure design and schedule for the Project.

The notable change reflected in this Technical Memorandum is the timeline for construction, which is planned to be less than 1 year, and was previously anticipated to be up to 2 years. For construction activities lasting < 1 year, Health Canada's "Guideline for Evaluating Human Health Impacts in Environmental Assessment: Noise" (Health Canada 2017) categorizes the noise effects as 'short-term construction noise exposure', which has different assessment criteria compared to long-term construction activities.

2. Construction Noise Assessment Criteria

The acoustic modelling has been updated to reflect the current infrastructure layouts for the Project and estimates of construction activities.

An assessment of predicted construction noise has been included in accordance with Health Canada's "Guideline for Evaluating Human Health Impacts in Environmental Assessment: Noise" (Health Canada 2017). Construction activities at the Project have a planned duration of less than one year. The Health Canada guideline for noise suggests that noise from construction activities lasting less than one year (i.e., short-term construction) be assessed using the United States Environmental Protection Agency (US EPA 1974) methodology. This methodology provides mitigation noise levels (MNLs) as criteria with various correction factors to evaluate whether adverse effects are likely, and if mitigation should be considered.

The suggested base MNL is 47 dBA, which is specified in terms of the day-night sound level (Ldn), and assumes that the dominant sources of noise are tonal/impulsive. Ldn is an equivalent continuous sound level taken over 24 hours, with the night-time (10:00 PM to 7:00 AM) sound levels adjusted by +10 dB to account for increased noise sensitivity at night (Health Canada 2017). The Health Canada guideline also specifies correction factors that should be applied to the base MNL dependent on the type of community in which the

construction activities occur, as well as some other additional corrections. These correction factors are summarized in Table 2.1:

Table 2.1 Corrections to Determine Appropriate MNL for Short-Term Construction Noise (Health Canada 2017)

Community Description	Applied Correction Factors	Suggested MNL
Quiet suburban or rural	**--**	**47 dBA Ldn**
Normal suburban	+5 dB	52 dBA Ldn
Urban residential	+10 dB	57 dBA Ldn
Noisy urban	+15 dB	62 dBA Ldn
Very noisy urban	+20 dB	67 dBA Ldn
Other Additional Correction Factors		
Construction duration less than 2 months	+10 dB	
Winter (or windows always closed)	+5 dB	
Negligible tonal or impulsive noise	+5 dB	

The Project is located in an area best described as rural, where the corresponding suggested MNL is 47 dBA Ldn. Other additional correction factors, where applicable, are discussed in the sections that follow.

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 – Tangier River (Musqudoboit Lumber Co. Ltd. Property/John Dickson Lease)
- R9 – 5579 Mooseland Road (Lloy Property)

3. Construction Activities and Associated Noise Impact Assessment

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 Construction Phase is summarized in Table 3.1:

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

Project Phase	Duration	Relevant Project Activity
Beaver Dam Mine Site	< 1 year	• Clearing, grubbing, and grading in preparation of construction • Drilling and rock blasting in preparation of construction • Till and waste rock removal from site preparation transport and storage • Existing settling pond dewatering in preparation of for construction • Watercourse and wetland alteration in preparation of construction • Mine Site road construction • Equipment to power lighting at Mine Sites and along roads • Surface infrastructure installation and construction • Collection and settling ponds construction • General management of wastes derived from site • General Construction activities
Along Haul Road	< 1 year	• Clearing, grubbing, and grading in preparation of construction • Till and waste rock from site preparation transport and storage • Watercourse and wetland alteration in preparation of construction • Haul road construction and upgrades
Touquoy Mine Site	< 1 year	• Tailings pipeline, make-up water pipeline alteration, and relocation of reclaim infrastructure

3.1 Construction Noise Assessment

At the worst-case residential receptors, noise emissions from construction activities at the Beaver Dam Mine Site are negligible in comparison to noise emissions from road construction and material transport on the roads. It is predicted that construction of Section 3B of the Haul Road will produce the most significant noise levels at residential receptors. At the beginning of construction of this section of the Haul Road, construction activities will occur approximately 120 metres from R4 and 170 metres from R1. However, as construction of

Section 3B of the Haul Road progresses, construction equipment will move farther from these receptors and noise impacts will decrease.

Construction noise was evaluated using the following two model scenarios to represent worst-case noise emissions during the course of the Construction Phase:

- Scenario A: Road construction near R1 and R4 (first <2 months of construction of Section 3B of the Haul Road)
- Scenario B: Road construction minimum 500 metres from R1 and R4 (after approximately 2 months of construction of Section 3B of the Haul Road)

For Scenario A, the dominant sources of noise are heavy road construction equipment, which are conservatively assumed to include one dozer, one wheeled loader, and one excavator conducting excavation/earthworks continuously for the entire daytime period, as well as one dump truck unloading for 2.5 hours per day at each road construction location (i.e., at each end of Section 3B and 4C of the Haul Road). Since this scenario represents construction activities that are estimated to have a duration of less than 2 months (i.e., correction of +10 dB applies), the corrected MNL for this scenario is 57 dBA Ldn.

For Scenario B, the dominant sources of noise are trucks carrying raw materials along the haul road and other roadways to deposit material for construction of Section 3B of the haul road. It is assumed that truck traffic will include 210 one-way trips per day on the haul road, and up to 60 one-way trips per day on Highway 224 through Beaver Lake IR 17. This assumption is conservative, as road construction material will be sourced primarily from three quarries along the length of Section 3B, with additional construction materials, if required, sourced from either the Touquoy or Beaver Dam Mine Sites or other local approved facilities (AMNS 2021). Truck traffic is not considered a tonal/impulsive source of noise (i.e., correction of +5 dB applies), therefore the corrected MNL for this scenario is 52 dBA Ldn.

Noise source locations for each scenario are shown in Figures 2A to 2D. Overall source sound power levels are summarized in Table 1 of Attachment A, and further details including operating conditions of each source are summarized in Table 4 of Attachment D.

Based on the model scenarios, assuming concurrent construction of the Haul Road and Beaver Dam Mine Site facilities, predicted construction noise effects at each of the identified receptors are summarized as follows:

Table 3.2 Beaver Dam Mine Site and Haul Road Construction Phase Predicted Noise Effects

Receptor ID	Receptor Description	Scenario A: Road Construction Near R1 and R4 (<2 months)		Scenario B: Remainder of Construction (>2 months)		Compliance
		Predicted Noise Level (Ldn)	MNL [(a)] (Ldn)	Predicted Noise Level (Ldn)	MNL [(b)] (Ldn)	
R1	9 Beaver Dam Mine Road (Marlborough Property)	53	57	49	52	Yes

Table 3.2 Beaver Dam Mine Site and Haul Road Construction Phase Predicted Noise Effects

Receptor ID	Receptor Description	Scenario A: Road Construction Near R1 and R4 (<2 months)		Scenario B: Remainder of Construction (>2 months)		Compliance
		Predicted Noise Level (Ldn)	MNL [a] (Ldn)	Predicted Noise Level (Ldn)	MNL [b] (Ldn)	
R2	4112 Highway 224 (Beaver Lake IR 17)	52	57	52	52	Yes
R3	4115 Highway 224 (Cottage on Crown land)	43	57	43	52	Yes
R4	3492 Highway 224 (Hobbs Property)	56	57	49	52	Yes
R5	3379 Highway 224 (McLeod Property)	41	57	40	52	Yes
R6	3373 Highway 224 (Smith Property)	38	57	39	52	Yes
R7	Tangier River (Deepwood Estates Property)	52	57	52	52	Yes
R8	Tangier River (Musqudoboit Lumber Co Ltd. Property/John Dickson Lease)	41	57	41	52	Yes
R9	5579 Mooseland Road (Lloy Property)	49	57	49	52	Yes

The prediction results above represent the typical expected construction activities and equipment from the Beaver Dam Mine Site and Haul Road, at the predictable worst-case locations, assuming Construction activities will be limited to the day and evening time periods only (7:00 AM – 10:00 PM). Noise level contributions at each receiver due to each noise source are summarized in Table 2 of Attachment B. Noise contour plots for the Construction Phase are shown in Figures 3A to 3E. Noise level compliance at all residential receptors is summarized in Table 3 of Attachment C.

As seen above, during the worst-case scenario, noise effects from the Construction Phase activities are within the suggested MNL criteria. For Scenario A, these worst-case effects are predicted at the start of construction of Section 3B of the Haul Road, and will diminish significantly as construction progresses due to the increased distance from the receptors. Based on these results, adverse effects are expected to be unlikely, and mitigation is not required.

4. Noise Mitigation Measures Update

Construction equipment that lack effective mufflers are 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.

Haul Road construction activities will generally be restricted to the day and evening periods, 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	CON	Restrict blasting to a specific and regular schedule during weekdays
	CON	Communicate general blasting schedule to the local community
	CON	Haul road construction will be restricted to the day and evening periods
	CON	Implement preventative maintenance plans for all mobile and stationary equipment
	PC	Noise-reduction as criteria in equipment selection
	CON	Speed reduction
	CON	Use equipment that meets appropriate noise emission standards for off-road diesel equipment
	CON	Subcontractor agreements will include an obligation to comply with environmental protection including noise reduction
	CON	Site design to reduce need for reversing and vehicle reversing alarms
	CON	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 as a result of a complaint if required.

6. Conclusions

In general, construction activities often produce significant noise levels that have the potential to impact the surrounding environment. Thus, noise levels produced by equipment planned for the Construction Phase of the Beaver Dam Mine Project have been assessed at the identified worst-case receptors to determine the future impact on residents of the nearest communities. Predicted noise levels produced by worst-case activities during the Construction Phase of the Project are within the applicable Health Canada guideline limits at all identified receptors, including noise emissions from the Beaver Dam Mine Site, the Haul Road, and the Touquoy Mine Site. General guidance has been provided to help ensure that construction noise levels are acceptable, including a specification that construction activities should be restricted to the day and evening time periods.

Should you have any questions on the above, please do not hesitate to contact us.

7. References

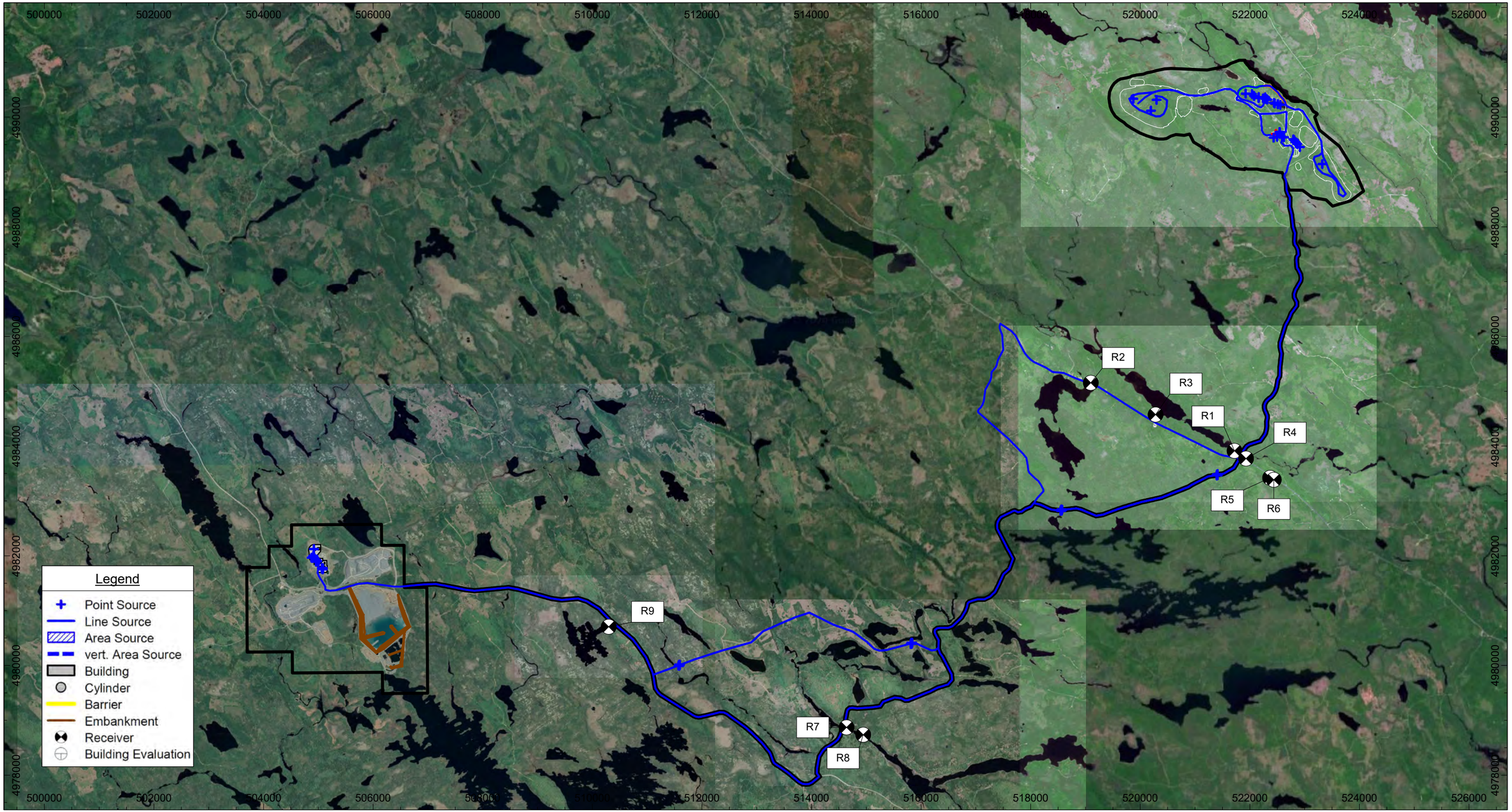
AMNS. 2021. *Updated Environmental Impact Statement – 2021*. Submitted to the Canadian Environmental Assessment Agency and Nova Scotia Environment. 2021. NS.

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.

Health Canada. 2017. *Guideline for Evaluating Human Health Impacts in Environmental Assessment: Noise.* https://www.ceaa.gc.ca/050/documents/p80054/119378E.pdf, accessed February 2019.

United States Environmental Protection Agency (US EPA). 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (Report No. 550/9-74-004).



Source: Google Satellite

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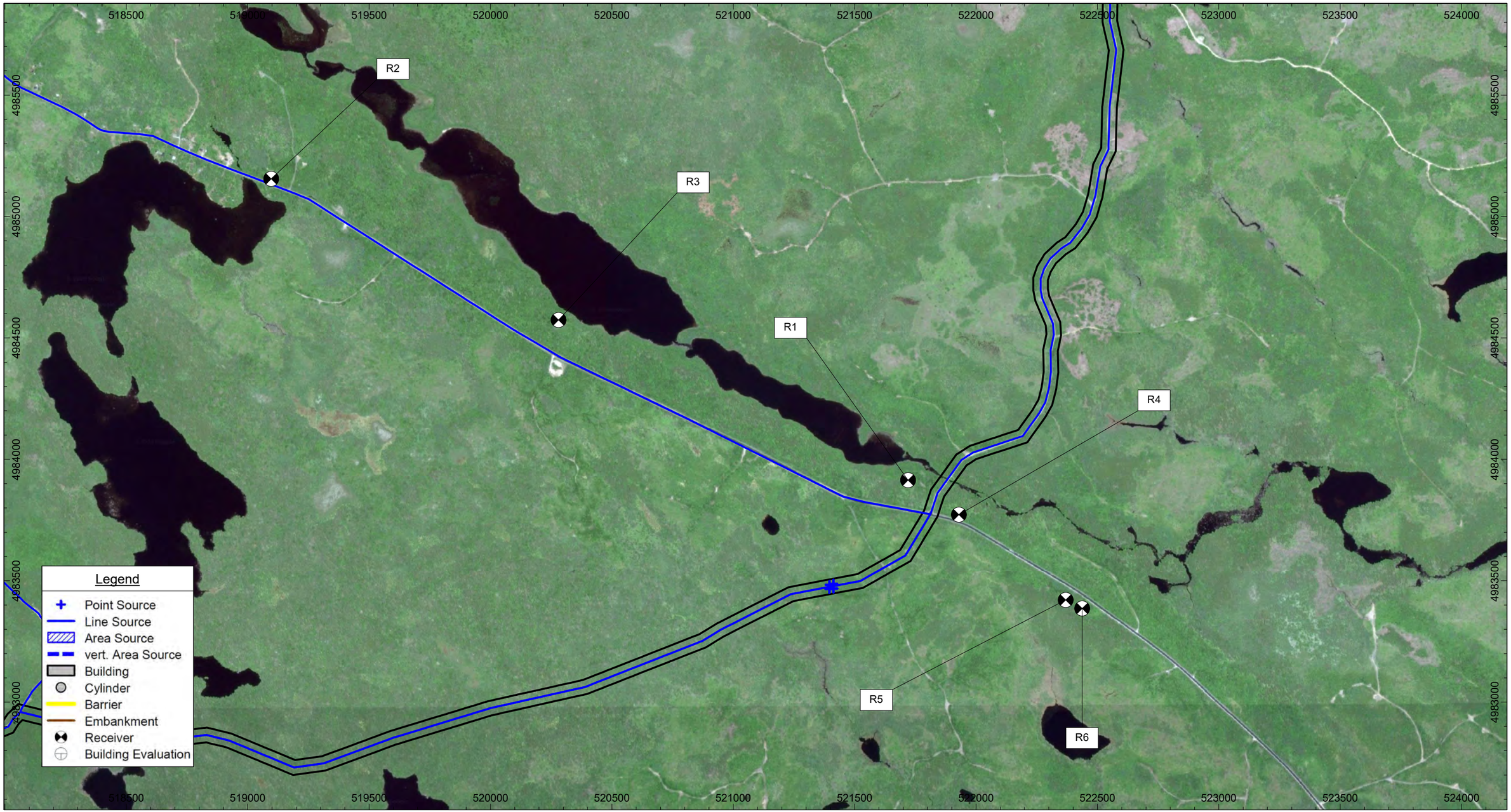
NOISE TECHNICAL REPORT
ATLANTIC GOLD
BEAVER DAM MINE, HALIFAX, NS

088664
24.01.2021

RECEPTOR LOCATIONS

FIGURE 1A

CadnaA File: \\ghdnet\ghd\CA\Halifax\Projects\661\088664\Tech\Noise\CadnaA\088664_Beaver Dam Mine_v2021.01.cna



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RECEPTOR LOCATIONS - R1 to R6 ENLARGED

FIGURE 1B

CadnaA File: \\ghdnet\ghd\CA\Halifax\Projects\661\088664\Tech\Noise\CadnaA\088664_Beaver Dam Mine_v2021.01.cna

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RECEPTOR LOCATIONS - R8 & R9 ENLARGED

FIGURE 1C

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Source: Google Satellite

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RECEPTOR LOCATIONS - R9 ENLARGED

FIGURE 1D

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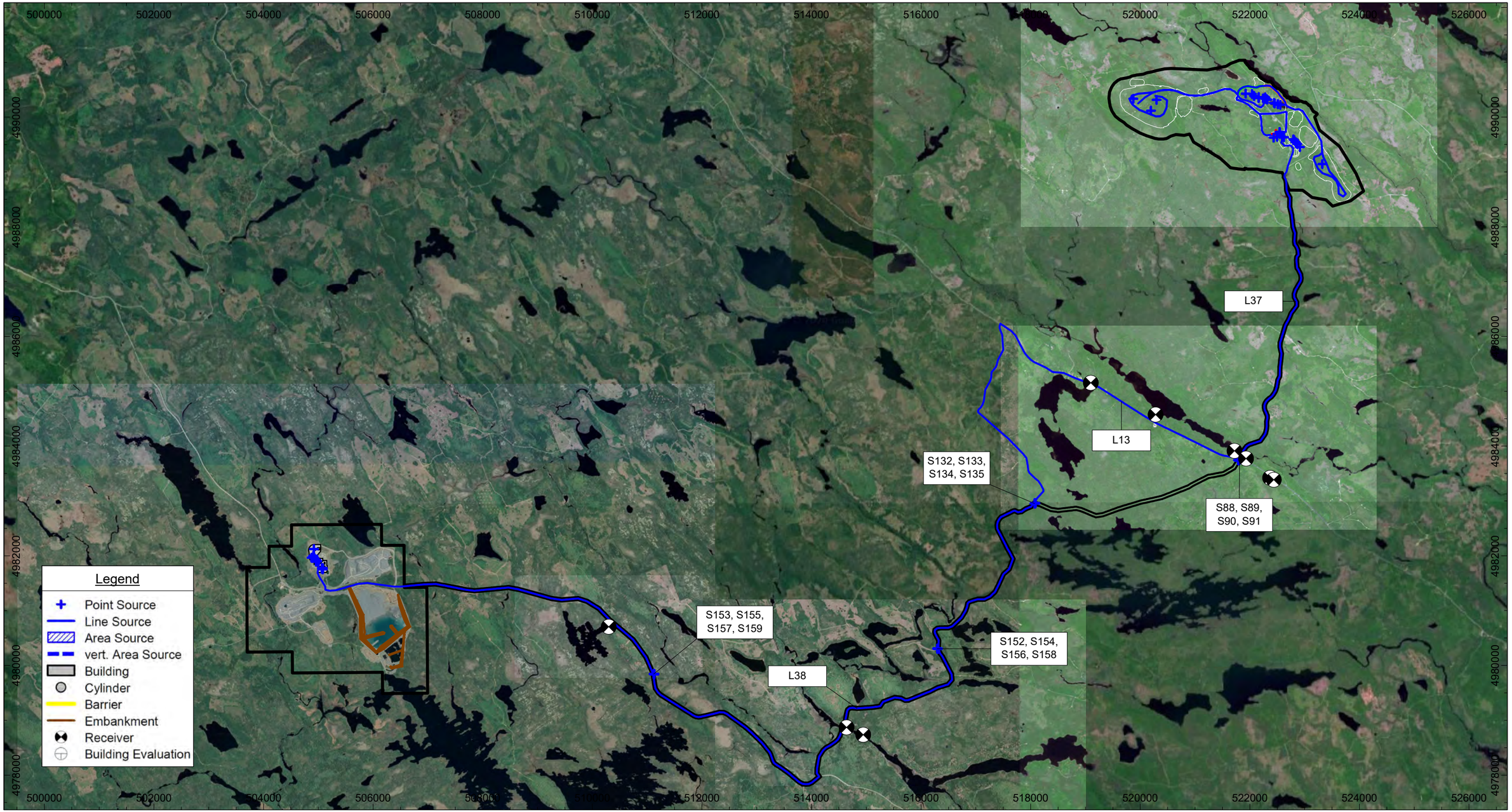

Source: Google Satellite

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SOURCE LOCATIONS - SCENARIO A (<2 MONTHS CONSTRUCTION OF HAUL ROAD SECTION 3B) FIGURE 2A

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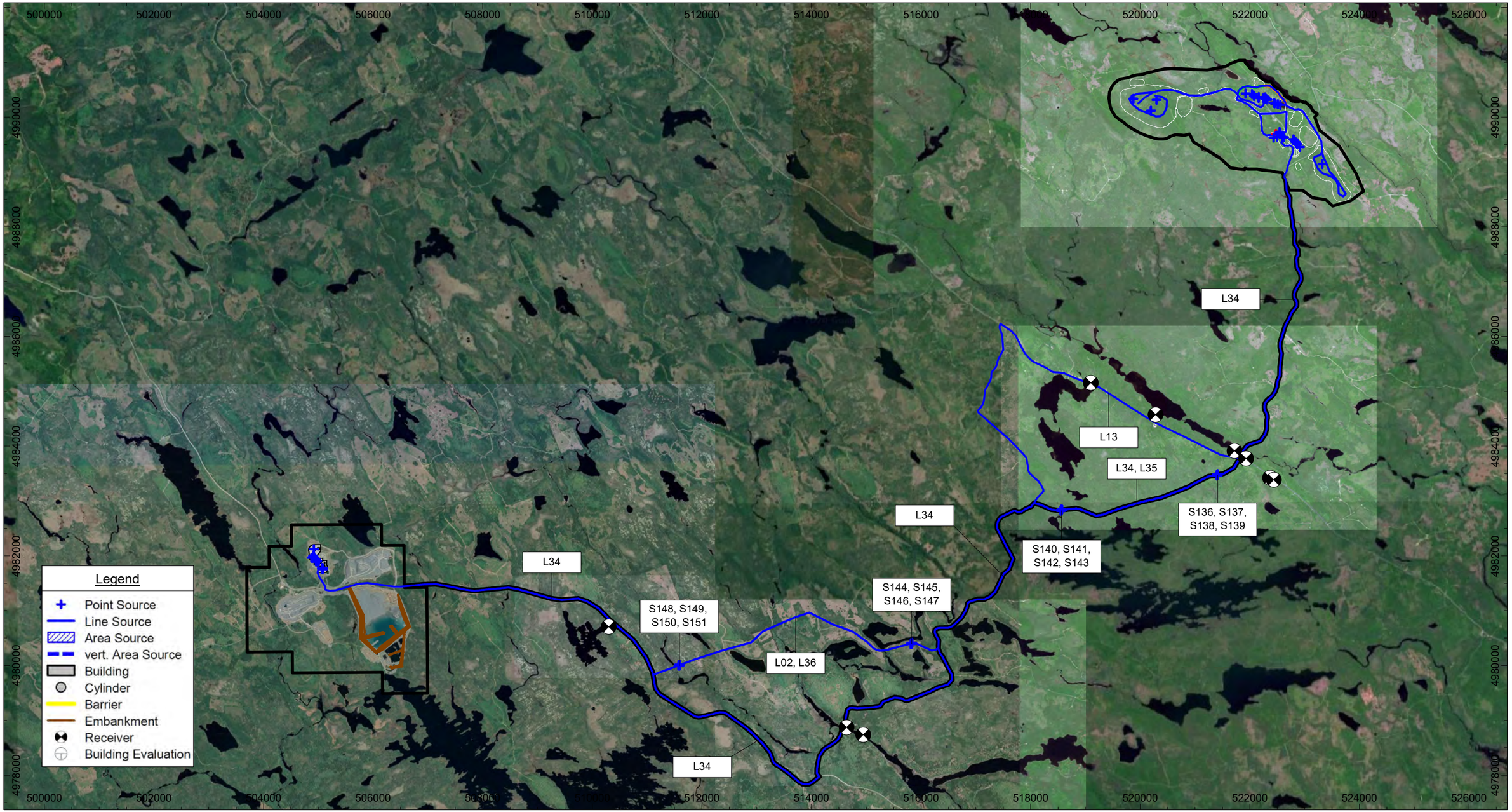

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SOURCE LOCATIONS - SCENARIO B (>2 MONTHS CONSTRUCTION OF HAUL ROAD SECTION 3B) FIGURE 2B

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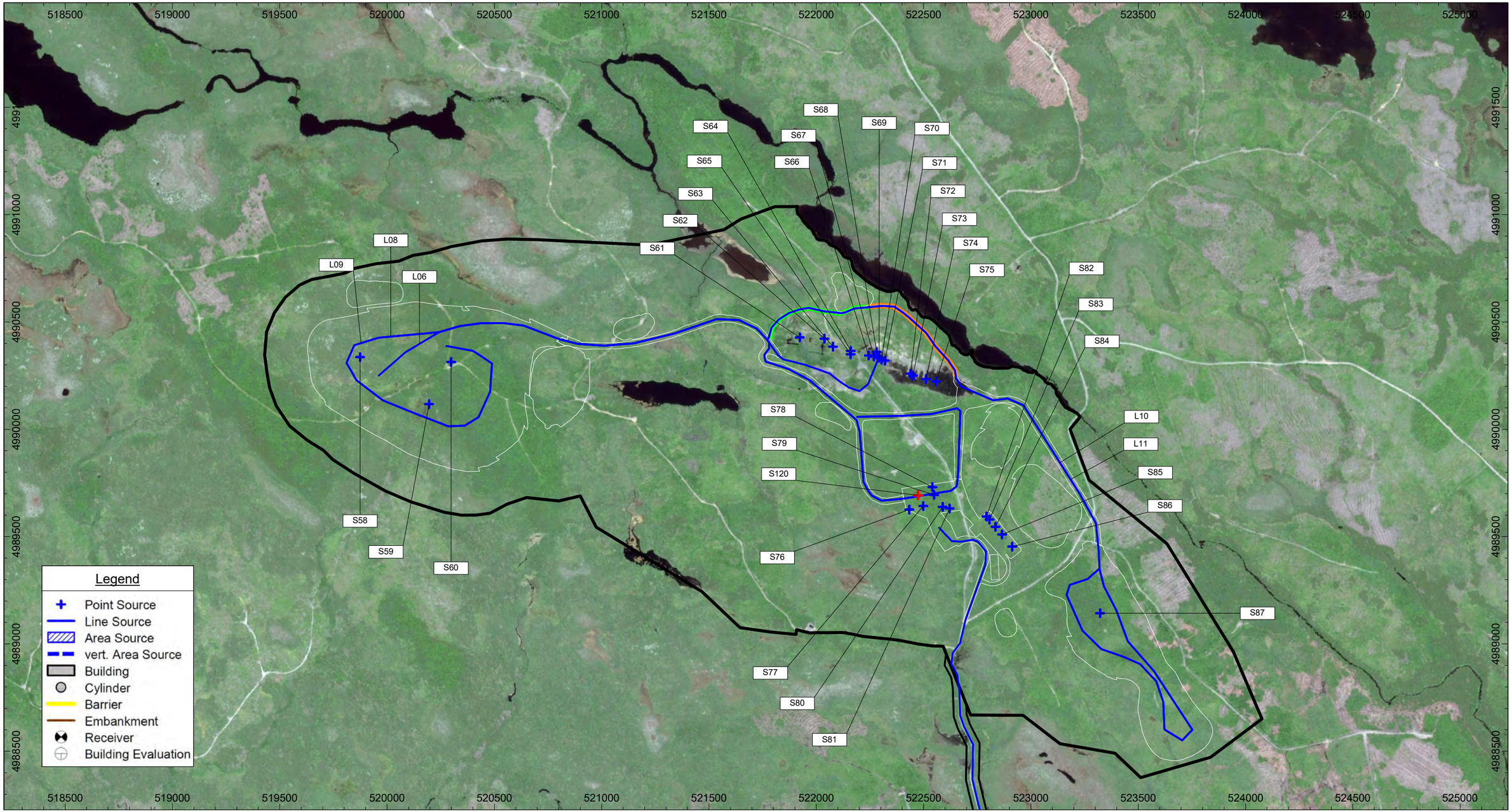

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SOURCE LOCATIONS - BEAVER DAM MINE SITE ENLARGED

FIGURE 2C

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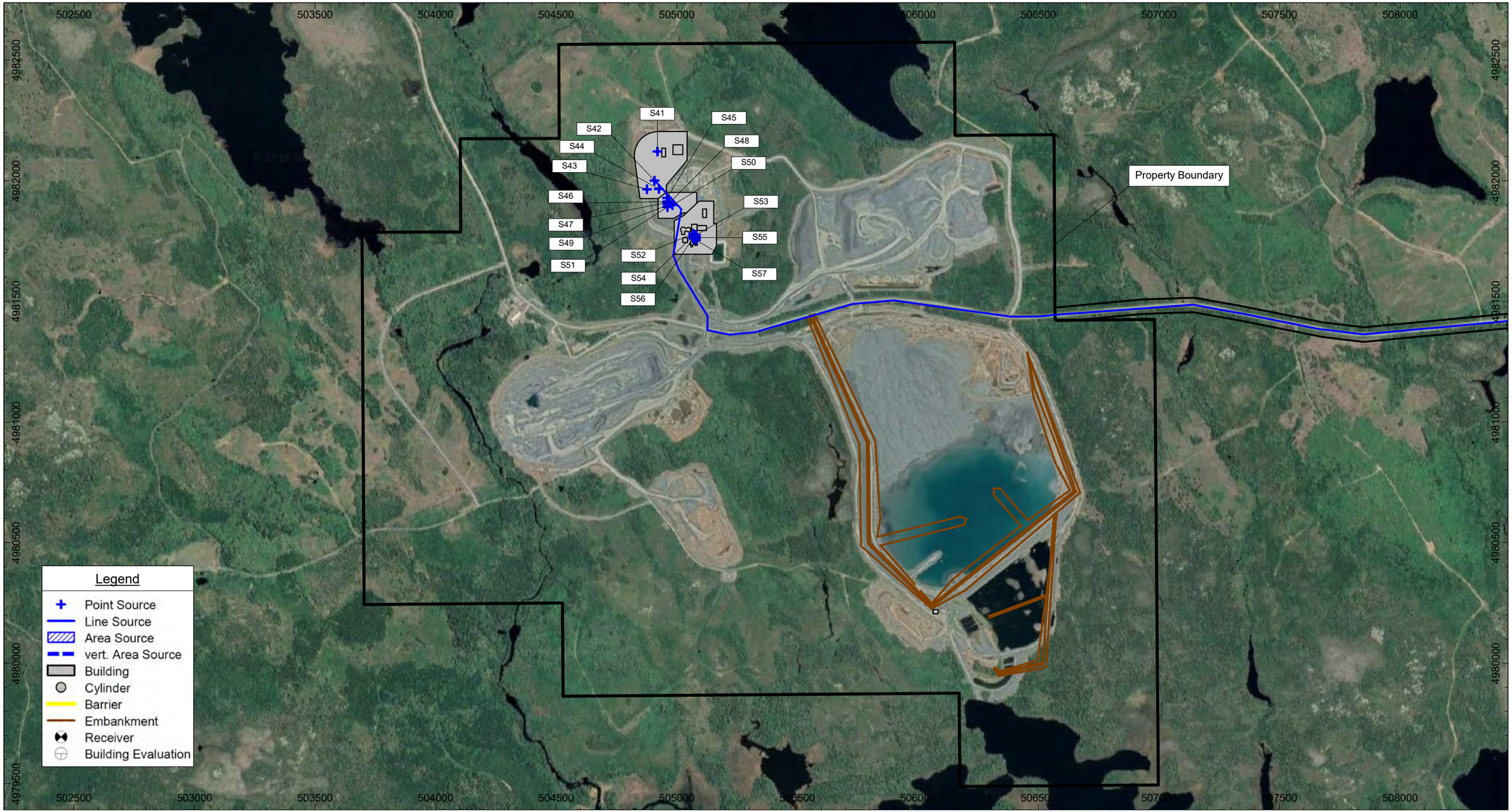

Source: Google Satellite

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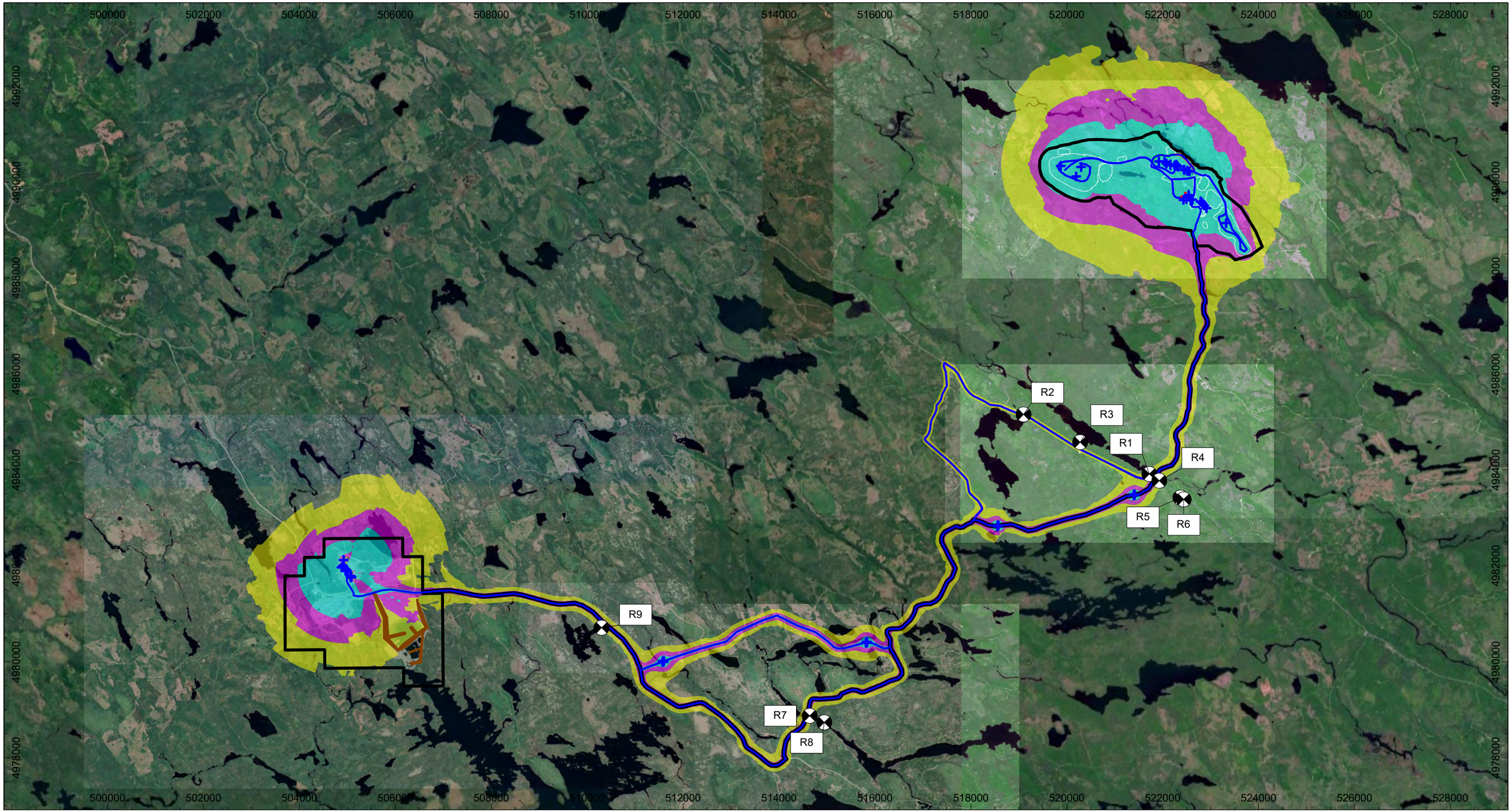
SOURCE LOCATIONS - TOUQUOY MINE SITE ENLARGED

FIGURE 2D

CadnaA File: \\ghdnet\ghd\CA\Halifax\Projects\661\088664\Tech\Noise\CadnaA\088664_Beaver Dam Mine_v2021.01.cna



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> 47 dBA Ldn
> 52 dBA Ldn
> 57 dBA Ldn

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NOISE CONTOUR PLOT - OVERALL STUDY AREA - SCENARIO B

FIGURE 3A

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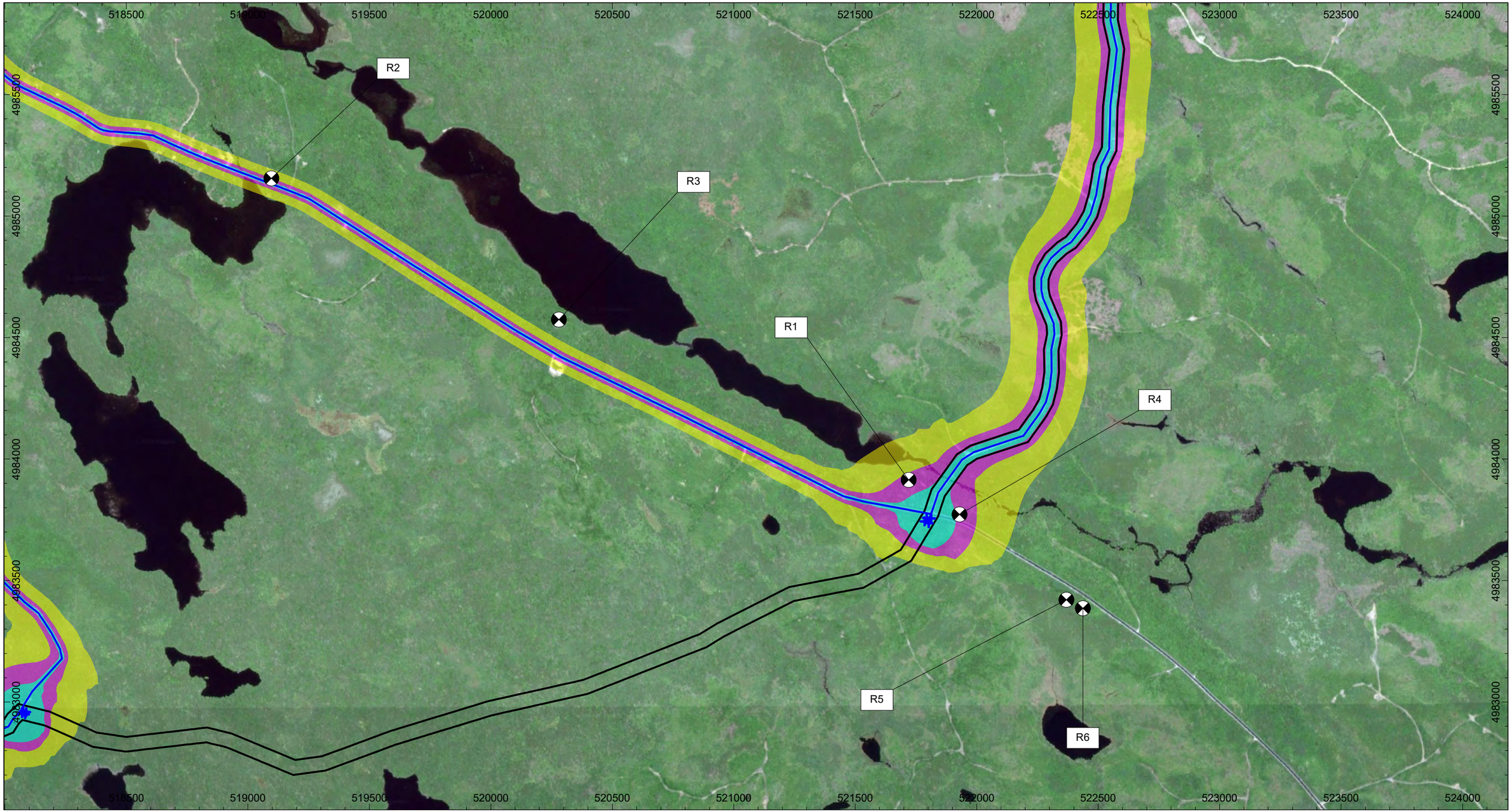

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> 47 dBA Ldn
> 52 dBA Ldn
> 57 dBA Ldn

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NOISE CONTOUR PLOT - R1 TO R6 ENLARGED - SCENARIO A

FIGURE 3B

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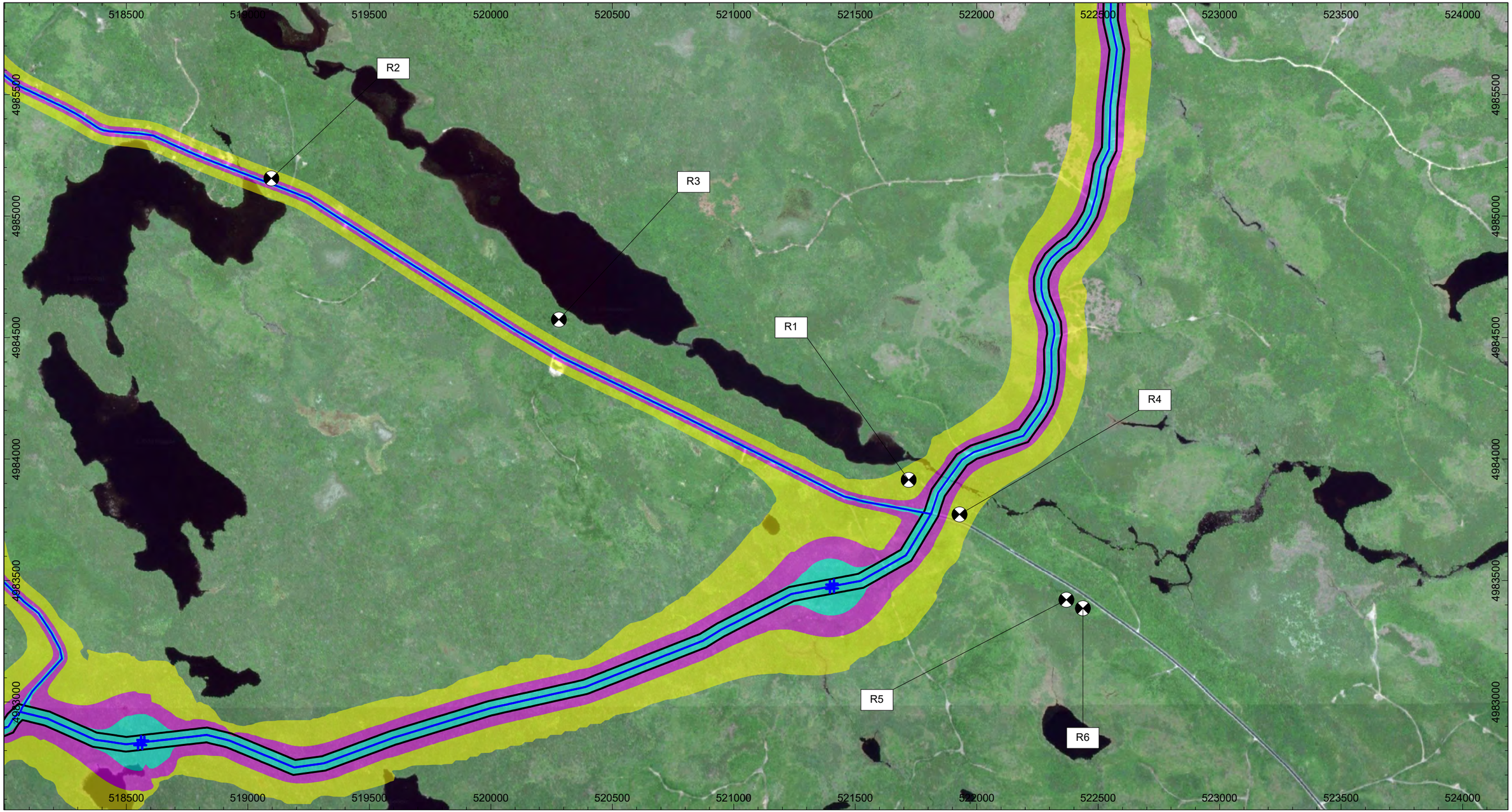

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> 47 dBA Ldn
> 52 dBA Ldn
> 57 dBA Ldn

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NOISE CONTOUR PLOT - R1 TO R6 ENLARGED - SCENARIO B

FIGURE 3C

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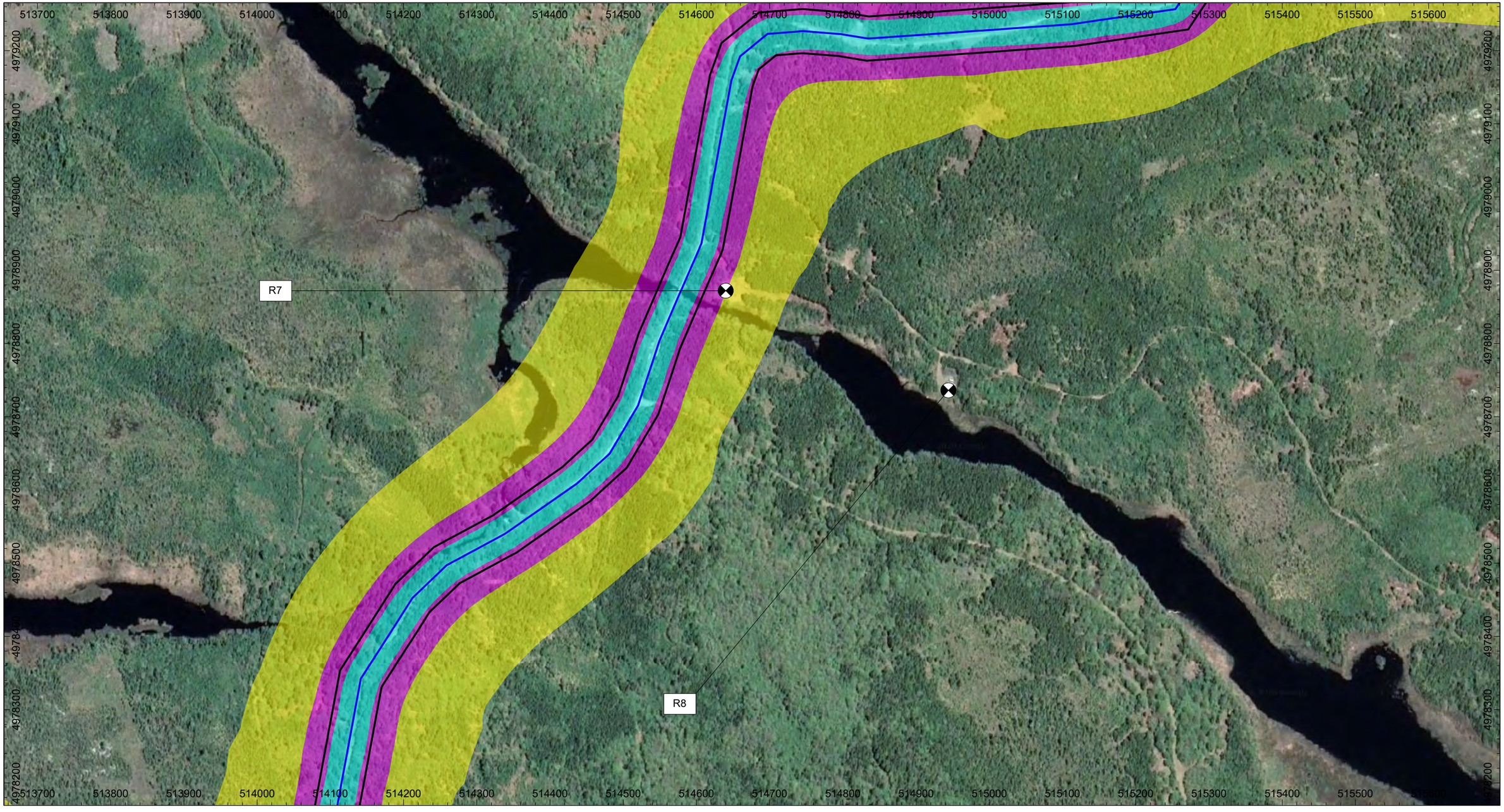

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> 47 dBA Ldn
> 52 dBA Ldn
> 57 dBA Ldn

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NOISE CONTOUR PLOT - R7 AND R8 ENLARGED

FIGURE 3D

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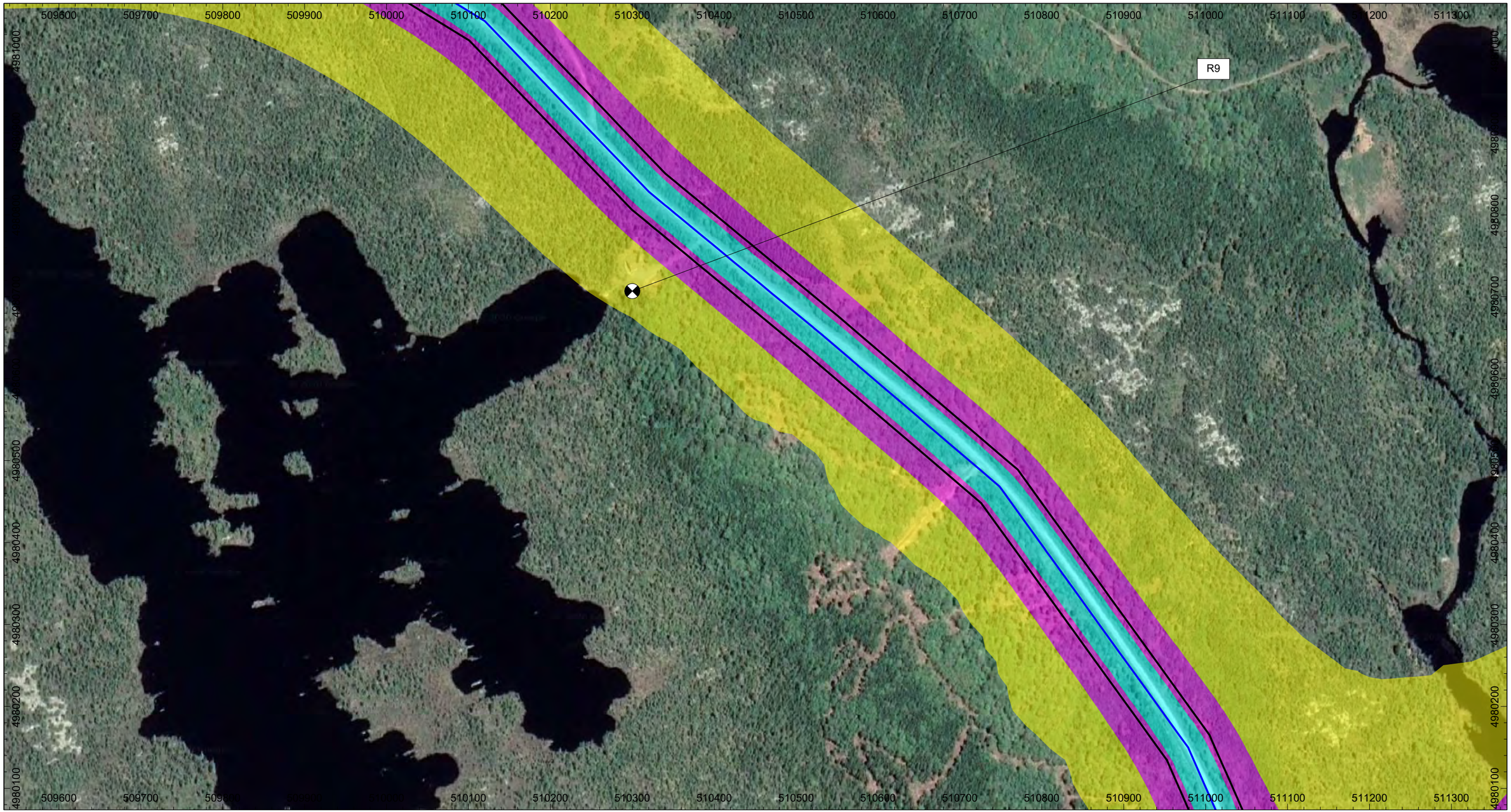

Source: Google Satellite

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> 47 dBA Ldn
> 52 dBA Ldn
> 57 dBA Ldn

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NOISE CONTOUR PLOT - R9 ENLARGED

FIGURE 3E

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Attachment A
Noise Source Summary

Table 1

Noise Source Summary
Atlantic Mining Nova Scotia
Beaver Dam, Halifax, Nova Scotia

Cadna A ID	Source Description	Sound Power Level (dBA)	Source Characteristics[1]	Source Type
L02	Truck - Construction Material Transport	117.0	S	Line
L06	Truck - Haul Roads	117.0	S	Line
L08	Grader - Haul Roads	119.6	S	Line
L09	Roller - Haul Roads	110.6	S	Line
L10	Grader - Haul Roads	119.6	S	Line
L11	Roller - Haul Roads	110.6	S	Line
L13	Truck - Construction Material Transport	117.0	S	Line
L34	Truck - Construction Material Transport	117.0	S	Line
L35	Grader & Roller	120.1	S	Line
L36	Grader & Roller	120.1	S	Line
L37	Truck - Construction Material Transport	117.0	S	Line
L38	Truck - Construction Material Transport	117.0	S	Line
S41	Loader - Transport of Material	116.0	S	Point
S42	Truck - Unloading Ore	110.2	S	Point
S43	Loader - Face Shovel	120.9	S	Point
S44	Truck - Hopper Discharge	115.5	S	Point
S45	Heavy Duty Hopper	121.5	S	Point
S46	Jaw Crusher	121.1	S	Point
S47	Heavy Duty Belt Feeder Hopper	100.2	S	Point
S48	Cone Crusher	121.1	S	Point
S49	Twin Screen Plant	112.1	S	Point
S50	Tunnel Conveyor	107.8	S	Point
S51	Cone Crusher	121.1	S	Point
S52	CIL Tank - Electric Motor	97.4	S	Point
S53	CIL Tank - Electric Motor	97.4	S	Point
S54	CIL Tank - Electric Motor	97.4	S	Point
S55	CIL Tank - Electric Motor	97.4	S	Point
S56	CIL Tank - Electric Motor	97.4	S	Point
S57	CIL Tank - Electric Motor	97.4	S	Point
S58	Tracked Dozer	115.1	S	Point
S59	Tracked Dozer	115.1	S	Point
S60	Tracked Dozer	115.1	S	Point
S61	Tracked Mobile Drill	117.8	S	Point
S62	Hydraulic Excavator	109.8	S	Point
S63	Tracked Mobile Drill	117.8	S	Point
S64	Dewatering Pump	110.4	S	Point
S65	Dewatering Pump	110.4	S	Point
S66	Tracked Mobile Drill	117.8	S	Point
S67	Hydraulic Excavator	109.8	S	Point
S68	3m Light Tower	96.5	S	Point
S69	Tracked Mobile Drill	117.8	S	Point
S70	Hydraulic Excavator	109.8	S	Point
S71	Tracked Mobile Drill	117.8	S	Point
S72	Hydraulic Excavator	109.8	S	Point
S73	Tracked Mobile Drill	117.8	S	Point
S74	3m Light Tower	96.5	S	Point
S75	Tracked Mobile Drill	117.8	S	Point
S76	8m Light Tower	96.5	S	Point
S77	Wheel Loader	114.2	S	Point
S78	8m Light Tower	96.5	S	Point
S79	Wheel Loader	114.2	S	Point
S80	Wheeled Backhoe Loader	97.8	S	Point
S81	Skid Steer	109.1	S	Point
S82	Generator	118.1	S	Point
S83	Mobile_Crane	112.5	S	Point
S84	Cement Truck Discharging	106.1	S	Point
S85	Fuel & Lube Truck	107.5	S	Point

Table 1

Noise Source Summary
Atlantic Mining Nova Scotia
Beaver Dam, Halifax, Nova Scotia

Cadna A ID	Source Description	Sound Power Level (dBA)	Source Characteristics[1]	Source Type
S86	Fuel & Lube Truck	107.5	S	Point
S87	Tracked Dozer	97.8	S	Point
S88	Truck Unloading	110.2	S	Point
S89	Dozer	106.3	S	Point
S90	Wheeled Loader	114.2	S	Point
S91	Excavator	109.8	S	Point
S120	Jaw Crusher	114.7	S	Point
S132	Dozer	106.3	S	Point
S133	Excavator	109.8	S	Point
S134	Truck Unloading	110.2	S	Point
S135	Wheeled Loader	114.2	S	Point
S136	Truck Unloading	110.2	S	Point
S137	Dozer	106.3	S	Point
S138	Wheeled Loader	114.2	S	Point
S139	Excavator	109.8	S	Point
S140	Truck Unloading	110.2	S	Point
S141	Dozer	106.3	S	Point
S142	Wheeled Loader	114.2	S	Point
S143	Excavator	109.8	S	Point
S144	Truck Unloading	110.2	S	Point
S145	Dozer	106.3	S	Point
S146	Wheeled Loader	114.2	S	Point
S147	Excavator	109.8	S	Point
S148	Truck Unloading	110.2	S	Point
S149	Dozer	106.3	S	Point
S150	Wheeled Loader	114.2	S	Point
S151	Excavator	109.8	S	Point
S152	Dozer	106.3	S	Point
S153	Dozer	106.3	S	Point
S154	Excavator	109.8	S	Point
S155	Excavator	109.8	S	Point
S156	Truck Unloading	110.2	S	Point
S157	Truck Unloading	110.2	S	Point
S158	Wheeled Loader	114.2	S	Point
S159	Wheeled Loader	114.2	S	Point

Notes:

[1] Sound characteristics:
S – Steady
Q – Quasi-steady impulsive
I – Impulsive
B – Buzzing
T – Tonal
C – Cyclic

Attachment B
Point of Reception Predicted Noise Levels

Table 2

Point of Reception Predicted Noise Levels
Atlantic Mining Nova Scotia
Beaver Dam, Halifax, Nova Scotia

Cadna A ID	Source Description	Beaver Dam Mine Road (Marlborough Property) R1				4112 Highway 224 (Beaver Lake IR 17) R2				4115 Highway 224 (Cottage on Crown Land) R3				3492 Highway 224 (Hobbs Property) R4				3379 Highway 224 (McLeod Property) R5				3373 Highway 224 (Smith Property) R6				Tangier River (Deepwood Estates Property) R7				Tangier River/Musquodoboit Lumber Co Ltd. Property/John D R8				5579 Mooseland Road (Lloy Property) R9			
		Distance (m)	Partial Sound Levels[1] (dBA) Day 7am–10pm	Night 10pm–7am	Ldn	Distance (m)	Partial Sound Levels[1] (dBA) Day 7am–10pm	Night 10pm–7am	Ldn	Distance (m)	Partial Sound Levels[1] (dBA) Day 7am–10pm	Night 10pm–7am	Ldn	Distance (m)	Partial Sound Levels[1] (dBA) Day 7am–10pm	Night 10pm–7am	Ldn	Distance (m)	Partial Sound Levels[1] (dBA) Day 7am–10pm	Night 10pm–7am	Ldn	Distance (m)	Partial Sound Levels[1] (dBA) Day 7am–10pm	Night 10pm–7am	Ldn	Distance (m)	Partial Sound Levels[1] (dBA) Day 7am–10pm	Night 10pm–7am	Ldn	Distance (m)	Partial Sound Levels[1] (dBA) Day 7am–10pm	Night 10pm–7am	Ldn	Distance (m)	Partial Sound Levels[1] (dBA) Day 7am–10pm	Night 10pm–7am	Ldn
Scenario A Noise Impact (first <2 months of construction of Section 3B of Haul Road)																																			
S88	Truck Unloading	172	44.4	—	42.3	3038	8.8	—	9.3	1720	15.8	—	14.4	135	46.8	—	44.8	666	30.3	—	28.3	743	25.7	—	23.7	8664	—	—	6.4	8495	—	—	6.4	11893	—	—	6.4
S89	Dozer	184	44.5	—	42.5	3055	8.6	—	9.2	1737	16.0	—	14.6	118	49.0	—	47.0	650	30.7	—	28.7	726	26.7	—	24.7	8677	—	—	6.4	8507	—	—	6.4	11909	—	—	6.4
S90	Wheeled Loader	183	51.2	—	49.1	3036	17.1	—	15.6	1719	24.4	—	22.5	147	53.3	—	51.3	667	37.6	—	35.6	744	34.2	—	32.2	8648	4.1	—	7.3	8478	2.2	—	6.8	11880	0.7	—	6.5
S91	Excavator	196	48.2	—	46.1	3055	13.0	—	12.1	1738	20.4	—	18.6	132	52.1	—	50.1	649	35.2	—	33.2	725	31.1	—	29.1	8658	0.6	—	6.5	8488	—	—	6.4	11895	—	—	6.4
L06	Truck - Haul Roads	6283	24.8	24.8	31.2	5179	26.5	26.5	32.9	5694	25.9	25.9	32.4	6413	24.5	24.5	30.9	6760	23.9	23.9	30.3	6797	23.8	23.8	30.2	12574	16.9	16.9	23.3	12573	17.0	17.0	23.4	13594	15.9	15.9	22.3
L08	Grader - Haul Roads	5784	5.5	5.5	12.0	5004	7.6	7.6	14.0	5441	7.0	7.0	13.4	5909	5.2	5.2	11.7	6247	4.4	4.4	10.8	6283	4.3	4.3	10.7	12465	—	—	6.4	12462	—	—	6.4	13496	—	—	6.4
L09	Roller - Haul Roads	5784	4.5	4.5	10.9	5004	6.1	6.1	12.5	5441	5.6	5.6	12.0	5909	4.3	4.3	10.7	6247	3.6	3.6	10.0	6283	3.5	3.5	9.9	12465	—	—	6.4	12462	—	—	6.4	13496	—	—	6.4
L10	Grader - Haul Roads	5051	5.6	5.6	12.0	5698	4.8	4.8	11.2	5241	5.7	5.7	12.1	5108	5.6	5.6	12.0	5315	5.0	5.0	11.5	5333	5.0	5.0	11.4	13251	—	—	6.4	13148	—	—	6.4	15060	—	—	6.4
L11	Roller - Haul Roads	5051	4.1	4.1	10.6	5698	3.6	3.6	10.0	5241	4.2	4.2	10.7	5108	4.1	4.1	10.5	5315	3.8	3.8	10.2	5333	3.8	3.8	10.2	13251	—	—	6.4	13148	—	—	6.4	15060	—	—	6.4
L13	Truck - Construction Material Transport	122	43.6	—	41.5	22	53.8	—	51.8	129	44.2	—	42.2	120	39.2	—	37.2	662	27.6	—	25.6	738	26.0	—	24.0	5341	8.4	—	9.1	5260	8.4	—	9.1	7797	5.0	—	7.6
L37	Truck - Construction Material Transport	137	47.8	—	45.7	3037	20.7	—	18.9	1719	26.0	—	24.0	112	49.6	—	47.6	657	36.9	—	34.9	734	34.3	—	32.3	8664	6.8	—	8.3	8494	6.9	—	8.3	11896	4.1	—	7.3
L38	Truck - Construction Material Transport	3779	16.7	—	15.2	2427	20.6	—	18.7	2742	19.3	—	17.6	3950	16.3	—	14.9	4330	16.1	—	14.7	4394	16.4	—	14.9	56	54.0	—	52.0	389	42.8	—	40.7	106	50.4	—	48.4
S120	Jaw Crusher	5828	11.8	11.8	18.2	5657	12.2	12.2	18.6	5569	12.5	12.5	18.9	5946	11.5	11.5	17.9	6273	10.7	10.7	17.1	6307	10.6	10.6	17.0	13359	—	—	6.4	13295	—	—	6.4	15131	—	—	6.4
S132	Dozer	3756	5.9	—	7.9	2417	11.7	—	11.1	2723	10.1	—	10.1	3927	5.3	—	7.7	4306	4.1	—	7.3	4370	3.9	—	7.2	5347	1.4	—	6.6	5265	1.6	—	6.7	8107	—	—	6.4
S133	Excavator	3763	10.3	—	10.2	2428	16.0	—	14.6	2733	14.5	—	13.3	3933	9.8	—	9.9	4312	8.7	—	9.2	4376	8.5	—	9.1	5336	6.1	—	8.0	5254	6.3	—	8.1	8099	1.4	—	6.6
S134	Truck Unloading	3767	6.1	—	8.0	2420	11.6	—	11.1	2731	10.1	—	10.1	3938	5.5	—	7.8	4318	4.5	—	7.4	4382	4.3	—	7.3	5341	1.9	—	6.7	5259	2.1	—	6.8	8096	—	—	6.4
S135	Wheeled Loader	3773	14.3	—	13.2	2428	20.0	—	18.2	2739	18.5	—	16.8	3944	13.8	—	12.7	4323	12.5	—	11.7	4387	12.4	—	11.6	5333	9.9	—	9.9	5251	10.1	—	10.0	8090	5.0	—	7.6
S152	Dozer	6502	—	—	6.4	5591	0.8	—	6.5	5828	0.3	—	6.5	6602	—	—	6.4	6813	—	—	6.4	6857	—	—	6.4	2202	12.9	—	12.0	2082	13.5	—	12.5	6022	—	—	6.4
S153	Dozer	11340	—	—	6.4	9570	—	—	6.4	10295	—	—	6.4	11486	—	—	6.4	11789	—	—	6.4	11844	—	—	6.4	3638	6.3	—	8.1	3967	5.2	—	7.6	1200	18.0	—	16.4
S154	Excavator	6512	3.8	—	7.2	5602	5.5	—	7.8	5838	5.0	—	7.6	6611	3.7	—	7.2	6821	3.3	—	7.1	6866	3.2	—	7.0	2192	17.4	—	15.8	2072	17.8	—	16.2	6018	4.7	—	7.5
S155	Excavator	11348	—	—	6.4	9579	—	—	6.4	10304	—	—	6.4	11494	—	—	6.4	11797	—	—	6.4	11851	—	—	6.4	3640	10.8	—	10.5	3969	9.7	—	9.8	1203	22.0	—	20.1
S156	Truck Unloading	6511	—	—	6.4	5595	1.4	—	6.6	5834	0.9	—	6.5	6611	—	—	6.4	6822	—	—	6.4	6867	—	—	6.4	2195	12.8	—	12.0	2076	13.5	—	12.5	6010	0.5	—	6.5
S157	Truck Unloading	11350	—	—	6.4	9579	—	—	6.4	10305	—	—	6.4	11497	—	—	6.4	11800	—	—	6.4	11854	—	—	6.4	3650	6.5	—	8.1	3980	5.4	—	7.7	1189	18.0	—	16.4
S158	Wheeled Loader	6519	7.4	—	8.6	5604	9.3	—	9.6	5843	8.8	—	9.3	6618	7.3	—	8.5	6829	6.9	—	8.3	6874	6.8	—	8.3	2187	21.4	—	19.6	2068	21.9	—	20.0	6006	8.5	—	9.1
S159	Wheeled Loader	11357	1.2	—	6.6	9586	3.0	—	7.0	10312	2.3	—	6.8	11503	1.0	—	6.6	11807	0.7	—	6.5	11861	0.7	—	6.5	3653	14.7	—	13.5	3982	13.6	—	12.6	1191	26.6	—	24.6
S41	Loader - Transport of Material	16896	—	—	6.4	14499	1.8	1.8	8.3	15555	0.6	0.6	7.0	17090	—	—	6.4	17498	—	—	6.4	17563	—	—	6.4	10249	7.9	7.9	14.3	10581	7.3	7.3	13.7	5564	17.3	17.3	23.7
S42	Truck - Unloading Ore	16921	—	—	6.4	14536	—	—	6.4	15586	—	—	6.4	17113	—	—	6.4	17519	—	—	6.4	17584	—	—	6.4	10223	2.2	2.2	8.6	10554	1.7	1.7	8.2	5545	8.4	8.4	14.8
S43	Loader - Face Shovel	16956	—	—	6.4	14574	1.4	1.4	7.8	15623	0.4	0.4	6.8	17148	—	—	6.4	17553	—	—	6.4	17618	—	—	6.4	10242	6.7	6.7	13.1	10573	6.2	6.2	12.6	5567	17.7	17.7	24.1
S44	Truck - Hopper Discharge	16907	—	—	6.4	14526	—	—	6.4	15574	—	—	6.4	17099	—	—	6.4	17504	—	—	6.4	17569	—	—	6.4	10195	3.2	3.2	9.6	10526	2.7	2.7	9.1	5520	14.0	14.0	20.4
S45	Heavy Duty Hopper	16878	—	—	6.4	14501	—	—	6.4	15548	—	—	6.4	17070	—	—	6.4	17474	—	—	6.4	17538	—	—	6.4	10152	5.8	5.8	12.2	10483	4.9	4.9	11.3	5479	20.2	20.2	26.6
S46	Jaw Crusher	16880	1.0	1.0	7.4	14505	3.0	3.0	9.4	15550	2.1	2.1	8.5	17071	0.8	0.8	7.2	17475	0.5	0.5	6.9	17540	0.5	0.5	6.9	10147	8.0	8.0	14.4	10478	7.6	7.6	14.0	5475	17.6	17.6	24.0
S47	Heavy Duty Belt Feeder Hopper	16880	—	—	6.4	14505	—	—	6.4	15551	—	—	6.4	17071	—	—	6.4	17475	—	—	6.4	17540	—	—	6.4	10146	—	—	6.4	10477	—	—	6.4	5474	—	—	6.4
S48	Cone Crusher	16870	0.3	0.3	6.7	14495	2.8	2.8	9.2	15540	1.0	1.0	7.4	17061	0.4	0.4	6.8	17465	0.3	0.3	6.8	17529	0.3	0.3	6.7	10135	7.8	7.8	14.2	10466	7.3	7.3	13.7	5464	17.3	17.3	23.7
S49	Twin Screen Plant	16879	—	—	6.4	14505	—	—	6.4	15550	—	—	6.4	17070	—	—	6.4	17473	—	—	6.4	17538	—	—	6.4	10140	—	—	6.4	10471	—	—	6.4	5469	9.1	9.1	15.5
S50	Tunnel Conveyor	16859	—	—	6.4	14486	—	—	6.4	15530	—	—	6.4	17050	—	—	6.4	17453	—	—	6.4	17518	—	—	6.4	10121	—	—	6.4	10452	—	—	6.4	5450	—	—	6.4
S51	Cone Crusher	16881	0.4	0.4	6.9	14508	2.8	2.8	9.2	15552	1.2	1.2	7.6	17072	0.5	0.5	6.9	17475	0.3	0.3	6.7	17540	0.3	0.3	6.7	10139	7.7	7.7	14.2	10470	7.3	7.3	13.7	5469	17.3	17.3	23.7
S52	CIL Tank - Electric Motor	16788	—	—	6.4	14429	—	—	6.4	15467	—	—	6.4	16979	—	—	6.4	17379	—	—	6.4	17443	—	—	6.4	10005	—	—	6.4	10335	—	—	6.4	5341	—	—	6.4
S53	CIL Tank - Electric Motor	16777	—	—	6.4	14419	—	—	6.4	15456	—	—	6.4	16967	—	—	6.4	17367	—	—	6.4	17431	—	—	6.4	9991	—	—	6.4	10322	—	—	6.4	5328	—	—	6.4
S54	CIL Tank - Electric Motor	16790	—	—	6.4	14432	—	—	6.4	15469	—	—	6.4	16980	—	—	6.4	17380	—	—	6.4	17444	—	—	6.4	10002	—	—	6.4	10332	—	—	6.4	5340	—	—	6.4
S55	CIL Tank - Electric Motor	16778	—	—	6.4	14421	—	—	6.4	15458	—	—	6.4	16968	—	—	6.4	17368	—	—	6.4	17432	—	—	6.4	9988	—	—	6.4	10318	—	—	6.4	5326	—	—	6.4
S56	CIL Tank - Electric Motor	16791	—	—	6.4	14434	—	—	6.4	15470	—	—	6.4	16981	—	—	6.4	17381	—	—	6.4	17445	—	—	6.4	9999	—	—	6.4	10330	—	—	6.4	5338	—	—	6.4
S57	CIL Tank - Electric Motor	16780	—	—	6.4	14424	—	—	6.4	15459	—	—	6.4	16969	—	—	6.4	17369	—	—	6.4	17434	—	—	6.4	9985	—	—	6.4	10316	—	—	6.4	5324	—	—	6.4
S58	Tracked Dozer	6682	12.6	12.6	19.0	5239	15.8	15.8	22.2	5777	14.5	14.5	20.9	6878	12.2	12.2	18.6	7351	11.3	11.3	17.7	7407	11.2	11.2	17.6	12603	3.6	3.6	10.0	12604	3.6	3.6	10.0	13579	2.6	2.6	9.0
S59	Tracked Dozer	6387	13.2	13.2	19.6	5082	16.2	16.2	22.6	5544	15.1	15.1	21.5	6577	12.8	12.8	19.2	7040	11.8	11.8	18.3	7094	11.8	11.8	18.2	12543	3.7	3.7	10.1	12534	3.7	3.7	10.1	13656	2.5	2.5	8.9
S60	Tracked Dozer	6556	12.8	12.8	19.3	5297	15.6	15.6	22.0	5740	14.6	14.6	21.0	6742	12.5	12.5	18.9	7197	11.6	11.6	18.0	7250	11.5	11.5	17.9	12764	3.5	3.5	9.9	12756	3.5	3.5	9.9	13865	2.3	2.3	8.7
S61	Tracked Mobile Drill	6517	9.8	9.8	16.2	5983	11.4	11.4	17.8	6080	11.1	11.1	17.5	6656	9.4	9.4	15.8	7021	8.4	8.4	14.8	7061	8.3	8.3	14.7	13660	—	—	6.4	13617	—	—	6.4	15152	—	—	6.4
S62	Hydraulic Excavator	6516	4.7	4.7	11.1	6032	5.7	5.7	12.1	6107	5.5	5.5	12.0	6651	4.5	4.5	10.9	7009	3.8	3.8	10.2	7047	3.7	3.7	10.2	13716	—	—	6.4	13671	—	—	6.4	15237	—	—	6.4
S63	Tracked Mobile Drill	6481	9.9	9.9	16.3	6020	11.3	11.3	17.7	6083	11.1	11.1	17.5	6615	9.5	9.5	15.9	6970	8.5	8.5	14.9	7008	8.4	8.4	14.8	13706	—	—	6.4	13660	—	—	6.4	15244	—	—	6.4
S64	Dewatering Pump	6466	1.0	1.0	7.4	6044	1.9	1.9	8.3	6089	1.8	1.8	8.2	6597	0.9	0.9	7.3	6947	0.3	0.3	6.7	6985	0.3	0.3	6.7	13735	—	—	6.4	13686	—	—	6.4	15296	—	—	6.4
S65	Dewatering Pump	6451	1.1	1.1	7.5	6031	1.9	1.9	8.3	6074	1.8	1.8	8.2	6582	0.9	0.9	7.3	6932	0.3	0.3	6.7	6969	0.3	0.3	6.7	13722	—	—	6.4	13673	—	—	6.4	15285	—	—	6.4
S66	Tracked Mobile Drill	6451	10.0	10.0	16.4	6069	11.1	11.1	17.5	6095	11.1	11.1	17.5	6579	9.7	9.7	16.1	6924	8.7	8.7	15.1	6960	8.5	8.5	14.9	13763	—	—	6.4	13712	—	—	6.4	15347	—	—	6.4
S67	Hydraulic Excavator	6449	4.8	4.8	11.3	6078	5.6	5.6	12.0	6099	5.5	5.5	12.0	6577	4.6	4.6	11.0	6920	3.9	3.9	10.3	6956	3.9	3.9	10.3	13773	—	—	6.4	13722	—	—	6.4	15363	—	—	6.4
S68	3m Light Tower	6471	—	—	6.4	6102	—	—	6.4	6123	—	—	6.4	6598	—	—	6.4	6940	—	—	6.4	6976	—	—	6.4	13797	—	—	6.4	13746	—	—	6.4	15386	—	—	6.4
S69	Tracked Mobile Drill	6445	10.0	10.0	16.4	6085	11.1	11.1	17.5	6101	11.0	11.0	17.4	6571	9.7	9.7	16.1	6913	8.7	8.7	15.1	6949	8.6	8.6	15.0	13781	—	—	6.4	13729	—	—	6.4	15378	—	—	6.4
S70	Hydraulic Excavator	6438	4.8	4.8	11.3	6084	5.6	5.6	12.0	6097	5.5	5.5	12.0	6564	4.6	4.6	11.0	6905	4.0	4.0	10.4	6941	3.9	3.9	10.3	13781	—	—	6.4	13729	—	—	6.4	15382	—	—	6.4
S71	Tracked Mobile Drill	6434	10.0	10.0	16.4	6088	11.1	11.1	17.5	6097	11.1	11.1	17.5	6559	9.7	9.7	16.1	6899	8.7	8.7	15.1	6934	8.6	8.6	15.0	13785	—	—	6.4	13732	—	—	6.4	15391	—	—	6.4
S72	Hydraulic Excavator	6386	4.7	4.7	11.1	6101	5.4	5.4	11.8	6081	5.6	5.6	12.0	6507	4.7	4.7	11.1	6838	4.1	4.1	10.5	6873	4.0	4.0	10.5	13802	—	—	6.4	13746	—	—	6.4	15447	—	—	6.4
S73	Tracked Mobile Drill	6377	9.3	9.3	15.7	6099	10.4	10.4	16.8	6076	11.1	11.1	17.5	6498	9.8	9.8	16.3	6829	8.9	8.9	15.3	6863	8.8	8.8	15.2	13800	—	—	6.4	13744	—	—	6.4	15450	—	—	6.4
S74	3m Light Tower	6370	—	—	6.4	6120	—	—	6.4	6084	—	—	6.4	6489	—	—	6.4	6815	—	—	6.4	6849	—	—	6.4	13822	—	—	6.4	13765	—	—	6.4	15488	—	—	6.4
S75	Tracked Mobile Drill	6365	8.9	8.9	15.4	6137	9.6	9.6	16.0	6091	11.0	11.0	17.4	6482	9.9	9.9	16.3	6805	9.0	9.0	15.4	6838	8.9	8.9	15.3	13840	—	—	6.4	13781	—	—	6.4	15518	—	—	6.4
S76	8m Light Tower	5757	—	—	6.4	5579	—	—	6.4	5492	—	—	6.4	5876	—	—	6.4	6205	—	—	6.4	6240	—	—	6.4	13281	—	—	6.4	13217	—	—	6.4	15059	—	—	6.4
S77	Wheel Loader	5781	12.3	12.3	18.7	5631	12.7	12.7	19.1	5533	13.0	13.0	19.4	5898	12.0	12.0	18.4	6223	11.1	11.1	17.5	6257	11.0	11.0	17.4	13333	—	—	6.4	13267	0.0	0.0	6.4	15121	—	—	6.4
S78	8m Light Tower	5874	—	—	6.4	5727	—	—	6.4	5631	—	—	6.4	5990	—	—	6.4	6312	—	—	6.4	6345	—	—	6.4	13429	—	—	6.4	13364	—	—	6.4	15207	—	—	6.4
S79	Wheel Loader	5840	12.1	12.1	18.5	5703	12.5	12.5	18.9	5601	12.8	12.8	19.2	5956	11.8	11.8	18.2	6277	11.0	11.0	17.4	6310	10.9	10.9	17.3	13405	—	—	6.4	13339	—	—	6.4	15192	—	—	6.4
S80	Wheeled Backhoe Loader	5790	—	—	6.4	5683	—	—	6.4	5566	—	—	6.4	5904	—	—	6.4	6221	—	—	6.4	6254	—	—	6.4	13383	—	—	6.4	13316	—	—	6.4	15192	—	—	6.4
S81	Skid Steer	5788	3.5	3.5	9.9	5697	3.7	3.7	10.1	5573	4.0	4.0	10.4	5900	3.2	3.2	9.6	6215	2.4	2.4	8.8	6248	2.3	2.3	8.7	13396	—	—	6.4	13328	—	—	6.4	15213	—	—	6.4
S82	Generator	5781	8.4	8.4	14.8	5776	8.4	8.4	14.8	5614	8.9	8.9	15.3	5886	8.0	8.0	14.4	6188	7.1	7.1	13.5	6218	7.0	7.0	13.5	13470	—	—	6.4	13398	—	—	6.4	15331	—	—	6.4
S83	Mobile_Crane	5769	10.3	10.3	16.7	5774	10.3	10.3	16.7	5608	10.6	10.6	17.0	5874	10.0	10.0	16.4	6174	9.5	9.5	15.9	6205	9.4	9.4	15.8	13467	1.1	1.1	7.5	13395	1.1	1.1	7.5	15335	—	—	6.4
S84	Cement Truck Discharging	5741	1.2	1.2	7.6	5767	1.1	1.1	7.6	5590	1.6	1.6	8.0	5845	1.0	1.0	7.4	6142	0.3	0.3	6.7	6173	0.2	0.2	6.6	13457	—	—	6.4	13384	—	—	6.4	15338	—	—	6.4
S85	Fuel & Lube Truck	5712	3.2	3.2	9.6	5759	3.1	3.1	9.5	5572	3.6	3.6	10.0	5814	2.9	2.9	9.3	6109	2.1	2.1	8.5	6139	2.0	2.0	8.4	13447	—	—	6.4	13373	—	—	6.4	15342	—	—	6.4
S86	Fuel & Lube Truck	5667	3.3	3.3	9.7	5748	3.1	3.1	9.5	5545	3.7	3.7	10.1	5766	3.1	3.1	9.5	6057	2.3	2.3	8.7	6086	2.2	2.2	8.6	13431	—	—	6.4	13355	—	—	6.4	15348	—	—	6.4
S87	Tracked Dozer	5469	—	—	6.4	5811	—	—	6.4	5490	—	—	6.4	5549	—	—	6.4	5801	—	—	6.4	5825	—	—	6.4	13449	—	—	6.4	13361	—	—	6.4	15516	—	—	6.4
Total Facility Sound Level (1-hour Leq):			**55.2**	**27.3**	**53.2**		**53.8**	**28.9**	**51.9**		**44.5**	**28.5**	**43.1**		**57.8**	**27.0**	**55.8**		**42.4**	**26.3**	**41.0**		**39.2**	**26.2**	**38.3**		**54.1**	**20.2**	**52.0**		**42.9**	**20.1**	**41.0**		**50.5**	**26.8**	**48.6**

Table 2

Point of Reception Predicted Noise Levels
Atlantic Mining Nova Scotia
Beaver Dam, Halifax, Nova Scotia

Cadna A ID	Source Description	Beaver Dam Mine Road (Marlborough Property) R1				4112 Highway 224 (Beaver Lake IR 17) R2				4115 Highway 224 (Cottage on Crown Land) R3				3492 Highway 224 (Hobbs Property) R4				3379 Highway 224 (McLeod Property) R5				3373 Highway 224 (Smith Property) R6				Tangier River (Deepwood Estates Property) R7				Tangier River/Musquodoboit Lumber Co Ltd. Property/John D R8				5579 Mooseland Road (Lloy Property) R9			
		Distance (m)	Partial Sound Levels[1] (dBA) Day 7am–10pm	Night 10pm–7am	Ldn	Distance (m)	Partial Sound Levels[1] (dBA) Day 7am–10pm	Night 10pm–7am	Ldn	Distance (m)	Partial Sound Levels[1] (dBA) Day 7am–10pm	Night 10pm–7am	Ldn	Distance (m)	Partial Sound Levels[1] (dBA) Day 7am–10pm	Night 10pm–7am	Ldn	Distance (m)	Partial Sound Levels[1] (dBA) Day 7am–10pm	Night 10pm–7am	Ldn	Distance (m)	Partial Sound Levels[1] (dBA) Day 7am–10pm	Night 10pm–7am	Ldn	Distance (m)	Partial Sound Levels[1] (dBA) Day 7am–10pm	Night 10pm–7am	Ldn	Distance (m)	Partial Sound Levels[1] (dBA) Day 7am–10pm	Night 10pm–7am	Ldn	Distance (m)	Partial Sound Levels[1] (dBA) Day 7am–10pm	Night 10pm–7am	Ldn
Scenario B Noise Impact (>2 months after start of construction of Section 3B of Haul Road)																																					
L02	Truck - Construction Material Transport	6527	9.5	—	—	5611	12.0	—	—	5851	11.0	—	—	6626	9.3	—	—	6837	8.9	—	—	6882	8.8	—	—	1518	28.0	—	—	1563	27.7	—	—	1220	26.8	—	—
L06	Truck - Haul Roads	6283	24.8	24.8	24.8	5179	26.5	26.5	24.8	5694	25.9	25.9	24.8	6413	24.5	24.5	24.8	6760	23.9	23.9	24.8	6797	23.8	23.8	24.8	12574	16.9	16.9	24.8	12573	17.0	17.0	24.8	13594	15.9	15.9	24.8
L08	Grader - Haul Roads	5784	5.5	5.5	5.5	5004	7.6	7.6	5.5	5441	7.0	7.0	5.5	5909	5.2	5.2	5.5	6247	4.4	4.4	5.5	6283	4.3	4.3	5.5	12465	—	—	5.5	12462	—	—	5.5	13496	—	—	5.5
L09	Roller - Haul Roads	5784	4.5	4.5	4.5	5004	6.1	6.1	4.5	5441	5.6	5.6	4.5	5909	4.3	4.3	4.5	6247	3.6	3.6	4.5	6283	3.5	3.5	4.5	12465	—	—	4.5	12462	—	—	4.5	13496	—	—	4.5
L10	Grader - Haul Roads	5051	5.6	5.6	5.6	5698	4.8	4.8	5.6	5241	5.7	5.7	5.6	5108	5.6	5.6	5.6	5315	5.0	5.0	5.6	5333	5.0	5.0	5.6	13251	—	—	5.6	13148	—	—	5.6	15060	—	—	5.6
L11	Roller - Haul Roads	5051	4.1	4.1	4.1	5698	3.6	3.6	4.1	5241	4.2	4.2	4.1	5108	4.1	4.1	4.1	5315	3.8	3.8	4.1	5333	3.8	3.8	4.1	13251	—	—	4.1	13148	—	—	4.1	15060	—	—	4.1
L13	Truck - Construction Material Transport	122	43.6	—	—	22	53.8	—	—	129	44.2	—	—	120	39.2	—	—	662	27.6	—	—	738	26.0	—	—	5341	8.4	—	—	5260	8.4	—	—	7797	5.0	—	—
L34	Truck - Construction Material Transport	137	48.9	—	—	2306	27.1	—	—	1441	30.2	—	—	112	50.5	—	—	660	39.0	—	—	736	37.0	—	—	56	54.1	—	—	389	42.8	—	—	106	50.4	—	—
L35	Grader & Roller	170	38.0	—	—	2306	16.9	—	—	1441	20.3	—	—	120	39.7	—	—	660	28.9	—	—	736	27.7	—	—	5334	2.7	—	—	5252	3.0	—	—	8088	—	—	—
L36	Grader & Roller	6527	1.0	—	—	5611	3.5	—	—	5851	2.5	—	—	6626	0.8	—	—	6837	0.4	—	—	6882	0.3	—	—	1518	20.7	—	—	1563	20.3	—	—	1220	19.5	—	—
S120	Jaw Crusher	5828	11.8	11.8	11.8	5657	12.2	12.2	11.8	5569	12.5	12.5	11.8	5946	11.5	11.5	11.8	6273	10.7	10.7	11.8	6307	10.6	10.6	11.8	13359	—	—	11.8	13295	—	—	11.8	15131	—	—	11.8
S120	Jaw Crusher	5828	11.8	11.8	11.8	5657	12.2	12.2	11.8	5569	12.5	12.5	11.8	5946	11.5	11.5	11.8	6273	10.7	10.7	11.8	6307	10.6	10.6	11.8	13359	—	—	11.8	13295	—	—	11.8	15131	—	—	11.8
S136	Truck Unloading	554	28.9	—	—	2852	9.6	—	—	1573	16.9	—	—	616	25.5	—	—	975	26.0	—	—	1045	25.2	—	—	8170	—	—	—	8000	—	—	—	11433	—	—	—
S137	Dozer	527	30.4	—	—	2853	9.5	—	—	1569	17.3	—	—	591	26.6	—	—	959	25.9	—	—	1030	25.0	—	—	8196	—	—	—	8026	—	—	—	11455	—	—	—
S138	Wheeled Loader	540	37.7	—	—	2843	18.0	—	—	1561	25.6	—	—	607	34.4	—	—	975	33.4	—	—	1045	32.6	—	—	8180	4.8	—	—	8010	5.0	—	—	11438	1.1	—	—
S139	Excavator	543	31.1	—	—	2865	13.9	—	—	1584	21.5	—	—	600	27.4	—	—	957	30.6	—	—	1028	29.7	—	—	8185	1.3	—	—	8015	1.5	—	—	11450	—	—	—
S140	Truck Unloading	3355	4.3	—	—	2396	11.8	—	—	2463	9.7	—	—	3512	2.9	—	—	3868	5.8	—	—	3930	5.6	—	—	5557	1.5	—	—	5449	1.7	—	—	8515	—	—	—
S141	Dozer	3324	2.8	—	—	2372	11.9	—	—	2431	9.6	—	—	3482	1.7	—	—	3839	5.3	—	—	3901	5.1	—	—	5589	0.9	—	—	5480	1.1	—	—	8545	—	—	—
S142	Wheeled Loader	3336	13.2	—	—	2373	20.3	—	—	2439	18.2	—	—	3494	11.8	—	—	3852	14.0	—	—	3914	13.8	—	—	5581	9.4	—	—	5473	9.6	—	—	8532	4.3	—	—
S143	Excavator	3338	7.5	—	—	2393	16.2	—	—	2451	12.8	—	—	3495	6.0	—	—	3851	9.9	—	—	3913	9.7	—	—	5569	5.6	—	—	5460	5.9	—	—	8531	0.9	—	—
S144	Truck Unloading	6879	—	—	—	5786	1.0	—	—	6120	0.4	—	—	6989	—	—	—	7224	—	—	—	7271	—	—	—	1919	14.5	—	—	1870	14.8	—	—	5520	1.5	—	—
S145	Dozer	6847	—	—	—	5756	0.5	—	—	6088	—	—	—	6957	—	—	—	7192	—	—	—	7239	—	—	—	1950	14.5	—	—	1899	14.8	—	—	5545	0.9	—	—
S146	Wheeled Loader	6857	6.8	—	—	5761	9.0	—	—	6096	8.2	—	—	6968	6.6	—	—	7203	6.3	—	—	7251	6.2	—	—	1944	22.9	—	—	1895	23.2	—	—	5531	9.5	—	—
S147	Excavator	6864	3.2	—	—	5776	5.2	—	—	6108	4.5	—	—	6974	3.0	—	—	7208	2.8	—	—	7255	2.7	—	—	1930	19.1	—	—	1878	19.4	—	—	5537	5.6	—	—
S148	Truck Unloading	10879	—	—	—	9125	—	—	—	9839	—	—	—	11025	—	—	—	11328	—	—	—	11382	—	—	—	3267	7.9	—	—	3599	6.7	—	—	1458	17.8	—	—
S149	Dozer	10848	—	—	—	9093	—	—	—	9807	—	—	—	10994	—	—	—	11297	—	—	—	11352	—	—	—	3249	7.8	—	—	3582	6.5	—	—	1472	18.1	—	—
S150	Wheeled Loader	10860	1.7	—	—	9103	3.6	—	—	9818	2.8	—	—	11006	1.5	—	—	11310	1.3	—	—	11364	1.2	—	—	3263	16.2	—	—	3595	14.9	—	—	1459	26.4	—	—
S151	Excavator	10863	—	—	—	9111	0.2	—	—	9824	—	—	—	11009	—	—	—	11312	—	—	—	11366	—	—	—	3251	12.2	—	—	3583	11.0	—	—	1473	22.5	—	—
S41	Loader - Transport of Material	16896	—	—	—	14499	1.8	1.8	—	15555	0.6	0.6	—	17090	—	—	—	17498	—	—	—	17563	—	—	—	10249	7.9	7.9	—	10581	7.3	7.3	—	5564	17.3	17.3	—
S42	Truck - Unloading Ore	16921	—	—	—	14536	—	—	—	15586	—	—	—	17113	—	—	—	17519	—	—	—	17584	—	—	—	10223	2.2	2.2	—	10554	1.7	1.7	—	5545	8.4	8.4	—
S43	Loader - Face Shovel	16956	—	—	—	14574	1.4	1.4	—	15623	0.4	0.4	—	17148	—	—	—	17553	—	—	—	17618	—	—	—	10242	6.7	6.7	—	10573	6.2	6.2	—	5567	17.7	17.7	—
S44	Truck - Hopper Discharge	16907	—	—	—	14526	—	—	—	15574	—	—	—	17099	—	—	—	17504	—	—	—	17569	—	—	—	10195	3.2	3.2	—	10526	2.7	2.7	—	5520	14.0	14.0	—
S45	Heavy Duty Hopper	16878	—	—	—	14501	—	—	—	15548	—	—	—	17070	—	—	—	17474	—	—	—	17538	—	—	—	10152	5.8	5.8	—	10483	4.9	4.9	—	5479	20.2	20.2	—
S46	Jaw Crusher	16880	1.0	1.0	1.0	14505	3.0	3.0	1.0	15550	2.1	2.1	1.0	17071	0.8	0.8	1.0	17475	0.5	0.5	1.0	17540	0.5	0.5	1.0	10147	8.0	8.0	1.0	10478	7.6	7.6	1.0	5475	17.6	17.6	1.0
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	0.3	15540	1.0	1.0	0.3	17061	0.4	0.4	0.3	17465	0.3	0.3	0.3	17529	0.3	0.3	0.3	10135	7.8	7.8	0.3	10466	7.3	7.3	0.3	5464	17.3	17.3	0.3
S49	Twin Screen Plant	16879	—	—	—	14505	—	—	—	15550	—	—	—	17070	—	—	—	17473	—	—	—	17538	—	—	—	10140	—	—	—	10471	—	—	—	5469	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	0.4	15552	1.2	1.2	0.4	17072	0.5	0.5	0.4	17475	0.3	0.3	0.4	17540	0.3	0.3	0.4	10139	7.7	7.7	0.4	10470	7.3	7.3	0.4	5469	17.3	17.3	0.4
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	—	—	—
S58	Tracked Dozer	6682	12.6	12.6	12.6	5239	15.8	15.8	12.6	5777	14.5	14.5	12.6	6878	12.2	12.2	12.6	7351	11.3	11.3	12.6	7407	11.2	11.2	12.6	12603	3.6	3.6	12.6	12604	3.6	3.6	12.6	13579	2.6	2.6	12.6
S59	Tracked Dozer	6387	13.2	13.2	13.2	5082	16.2	16.2	13.2	5544	15.1	15.1	13.2	6577	12.8	12.8	13.2	7040	11.8	11.8	13.2	7094	11.8	11.8	13.2	12543	3.7	3.7	13.2	12534	3.7	3.7	13.2	13656	2.5	2.5	13.2
S60	Tracked Dozer	6556	12.8	12.8	12.8	5297	15.6	15.6	12.8	5740	14.6	14.6	12.8	6742	12.5	12.5	12.8	7197	11.6	11.6	12.8	7250	11.5	11.5	12.8	12764	3.5	3.5	12.8	12756	3.5	3.5	12.8	13865	2.3	2.3	12.8
S61	Tracked Mobile Drill	6517	9.8	9.8	9.8	5983	11.4	11.4	9.8	6080	11.1	11.1	9.8	6656	9.4	9.4	9.8	7021	8.4	8.4	9.8	7061	8.3	8.3	9.8	13660	—	—	9.8	13617	—	—	9.8	15152	—	—	9.8
S62	Hydraulic Excavator	6516	4.7	4.7	4.7	6032	5.7	5.7	4.7	6107	5.5	5.5	4.7	6651	4.5	4.5	4.7	7009	3.8	3.8	4.7	7047	3.7	3.7	4.7	13716	—	—	4.7	13671	—	—	4.7	15237	—	—	4.7
S63	Tracked Mobile Drill	6481	9.9	9.9	9.9	6020	11.3	11.3	9.9	6083	11.1	11.1	9.9	6615	9.5	9.5	9.9	6970	8.5	8.5	9.9	7008	8.4	8.4	9.9	13706	—	—	9.9	13660	—	—	9.9	15244	—	—	9.9
S64	Dewatering Pump	6466	1.0	1.0	1.0	6044	1.9	1.9	1.0	6089	1.8	1.8	1.0	6597	0.9	0.9	1.0	6947	0.3	0.3	1.0	6985	0.3	0.3	1.0	13735	—	—	1.0	13686	—	—	1.0	15296	—	—	1.0
S65	Dewatering Pump	6451	1.1	1.1	1.1	6031	1.9	1.9	1.1	6074	1.8	1.8	1.1	6582	0.9	0.9	1.1	6932	0.3	0.3	1.1	6969	0.3	0.3	1.1	13722	—	—	1.1	13673	—	—	1.1	15285	—	—	1.1
S66	Tracked Mobile Drill	6451	10.0	10.0	10.0	6069	11.1	11.1	10.0	6095	11.1	11.1	10.0	6579	9.7	9.7	10.0	6924	8.7	8.7	10.0	6960	8.5	8.5	10.0	13763	—	—	10.0	13712	—	—	10.0	15347	—	—	10.0
S67	Hydraulic Excavator	6449	4.8	4.8	4.8	6078	5.6	5.6	4.8	6099	5.5	5.5	4.8	6577	4.6	4.6	4.8	6920	3.9	3.9	4.8	6956	3.9	3.9	4.8	13773	—	—	4.8	13722	—	—	4.8	15363	—	—	4.8
S68	3m Light Tower	6471	—	—	—	6102	—	—	—	6123	—	—	—	6598	—	—	—	6940	—	—	—	6976	—	—	—	13797	—	—	—	13746	—	—	—	15386	—	—	—
S69	Tracked Mobile Drill	6445	10.0	10.0	10.0	6085	11.1	11.1	10.0	6101	11.0	11.0	10.0	6571	9.7	9.7	10.0	6913	8.7	8.7	10.0	6949	8.6	8.6	10.0	13781	—	—	10.0	13729	—	—	10.0	15378	—	—	10.0
S70	Hydraulic Excavator	6438	4.8	4.8	4.8	6084	5.6	5.6	4.8	6097	5.5	5.5	4.8	6564	4.6	4.6	4.8	6905	4.0	4.0	4.8	6941	3.9	3.9	4.8	13781	—	—	4.8	13729	—	—	4.8	15382	—	—	4.8
S71	Tracked Mobile Drill	6434	10.0	10.0	10.0	6088	11.1	11.1	10.0	6097	11.1	11.1	10.0	6559	9.7	9.7	10.0	6899	8.7	8.7	10.0	6934	8.6	8.6	10.0	13785	—	—	10.0	13732	—	—	10.0	15391	—	—	10.0
S72	Hydraulic Excavator	6386	4.7	4.7	4.7	6101	5.4	5.4	4.7	6081	5.6	5.6	4.7	6507	4.7	4.7	4.7	6838	4.1	4.1	4.7	6873	4.0	4.0	4.7	13802	—	—	4.7	13746	—	—	4.7	15447	—	—	4.7
S73	Tracked Mobile Drill	6377	9.3	9.3	9.3	6099	10.4	10.4	9.3	6076	11.1	11.1	9.3	6498	9.8	9.8	9.3	6829	8.9	8.9	9.3	6863	8.8	8.8	9.3	13800	—	—	9.3	13744	—	—	9.3	15450	—	—	9.3
S74	3m Light Tower	6370	—	—	—	6120	—	—	—	6084	—	—	—	6489	—	—	—	6815	—	—	—	6849	—	—	—	13822	—	—	—	13765	—	—	—	15488	—	—	—
S75	Tracked Mobile Drill	6365	8.9	8.9	8.9	6137	9.6	9.6	8.9	6091	11.0	11.0	8.9	6482	9.9	9.9	8.9	6805	9.0	9.0	8.9	6838	8.9	8.9	8.9	13840	—	—	8.9	13781	—	—	8.9	15518	—	—	8.9
S76	8m Light Tower	5757	—	—	—	5579	—	—	—	5492	—	—	—	5876	—	—	—	6205	—	—	—	6240	—	—	—	13281	—	—	—	13217	—	—	—	15059	—	—	—
S77	Wheel Loader	5781	12.3	12.3	12.3	5631	12.7	12.7	12.3	5533	13.0	13.0	12.3	5898	12.0	12.0	12.3	6223	11.1	11.1	12.3	6257	11.0	11.0	12.3	13333	—	—	12.3	13267	0.0	0.0	12.3	15121	—	—	12.3
S78	8m Light Tower	5874	—	—	—	5727	—	—	—	5631	—	—	—	5990	—	—	—	6312	—	—	—	6345	—	—	—	13429	—	—	—	13364	—	—	—	15207	—	—	—
S79	Wheel Loader	5840	12.1	12.1	12.1	5703	12.5	12.5	12.1	5601	12.8	12.8	12.1	5956	11.8	11.8	12.1	6277	11.0	11.0	12.1	6310	10.9	10.9	12.1	13405	—	—	12.1	13339	—	—	12.1	15192	—	—	12.1
S80	Wheeled Backhoe Loader	5790	—	—	—	5683	—	—	—	5566	—	—	—	5904	—	—	—	6221	—	—	—	6254	—	—	—	13383	—	—	—	13316	—	—	—	15192	—	—	—
S81	Skid Steer	5788	3.5	3.5	3.5	5697	3.7	3.7	3.5	5573	4.0	4.0	3.5	5900	3.2	3.2	3.5	6215	2.4	2.4	3.5	6248	2.3	2.3	3.5	13396	—	—	3.5	13328	—	—	3.5	15213	—	—	3.5
S82	Generator	5781	8.4	8.4	8.4	5776	8.4	8.4	8.4	5614	8.9	8.9	8.4	5886	8.0	8.0	8.4	6188	7.1	7.1	8.4	6218	7.0	7.0	8.4	13470	—	—	8.4	13398	—	—	8.4	15331	—	—	8.4
S83	Mobile_Crane	5769	10.3	10.3	10.3	5774	10.3	10.3	10.3	5608	10.6	10.6	10.3	5874	10.0	10.0	10.3	6174	9.5	9.5	10.3	6205	9.4	9.4	10.3	13467	1.1	1.1	10.3	13395	1.1	1.1	10.3	15335	—	—	10.3
S84	Cement Truck Discharging	5741	1.2	1.2	1.2	5767	1.1	1.1	1.2	5590	1.6	1.6	1.2	5845	1.0	1.0	1.2	6142	0.3	0.3	1.2	6173	0.2	0.2	1.2	13457	—	—	1.2	13384	—	—	1.2	15338	—	—	1.2
S85	Fuel & Lube Truck	5712	3.2	3.2	3.2	5759	3.1	3.1	3.2	5572	3.6	3.6	3.2	5814	2.9	2.9	3.2	6109	2.1	2.1	3.2	6139	2.0	2.0	3.2	13447	—	—	3.2	13373	—	—	3.2	15342	—	—	3.2
S86	Fuel & Lube Truck	5667	3.3	3.3	3.3	5748	3.1	3.1	3.3	5545	3.7	3.7	3.3	5766	3.1	3.1	3.3	6057	2.3	2.3	3.3	6086	2.2	2.2	3.3	13431	—	—	3.3	13355	—	—	3.3	15348	—	—	3.3
S87	Tracked Dozer	5469	—	—	—	5811	—	—	—	5490	—	—	—	5549	—	—	—	5801	—	—	—	5825	—	—	—	13449	—	—	—	13361	—	—	—	15516	—	—	—
Total Facility Sound Level (1-hour Leq):			**50.6**	**27.4**	**48.7**		**53.9**	**29.0**	**51.9**		**44.6**	**28.6**	**43.2**		**51.3**	**27.2**	**49.3**		**41.4**	**26.4**	**40.1**		**40.0**	**26.3**	**38.9**		**54.1**	**20.3**	**52.0**		**43.0**	**20.1**	**41.1**		**50.5**	**26.8**	**48.6**

Note:

[1] Sound level at the receptor was calculated using Cadna A acoustical modelling software.

Attachment C
Acoustic Assessment Summary

Table 3

Acoustic Assessment Summary
Atlantic Mining Nova Scotia
Beaver Dam, Halifax, Nova Scotia

Point of Reception ID	Point of Reception Description	Construction Sound Levels (Ldn) (dBA)	Performance Limit[1] (Ldn) (dBA)	Compliance with Performance Limit (Yes/No)
Scenario A Noise Impact (first <2 months of construction of Section 3B of Haul Road)				
R1	9 Beaver Dam Mine Road (Marlborough Property)	53	57	Yes
R2	4112 Highway 224 (Beaver Lake IR 17)	52	57	Yes
R3	4115 Highway 224 (Cottage on Crown Land)	43	57	Yes
R4	3492 Highway 224 (Hobbs Property)	56	57	Yes
R5	3379 Highway 224 (McLeod Property)	41	57	Yes
R6	3373 Highway 224 (Smith Property)	38	57	Yes
R7	Tangier River (Deepwood Estates Property)	52	57	Yes
R8	Tangier River (Musqudoboit Lumber Co Ltd. Property/John Dickson Lease)	41	57	Yes
R9	5579 Mooseland Road (Lloy Property)	49	57	Yes
Scenario B Noise Impact (>2 months after start of construction of Section 3B of Haul Road)				
R1	9 Beaver Dam Mine Road (Marlborough Property)	49	52	Yes
R2	4112 Highway 224 (Beaver Lake IR 17)	52	52	Yes
R3	4115 Highway 224 (Cottage on Crown Land)	43	52	Yes
R4	3492 Highway 224 (Hobbs Property)	49	52	Yes
R5	3379 Highway 224 (McLeod Property)	40	52	Yes
R6	3373 Highway 224 (Smith Property)	39	52	Yes
R7	Tangier River (Deepwood Estates Property)	52	52	Yes
R8	Tangier River (Musqudoboit Lumber Co Ltd. Property/John Dickson Lease)	41	52	Yes
R9	5579 Mooseland Road (Lloy Property)	49	52	Yes

Note:

[1] Mitigation noise level (MNL) as determined based on the Health Canada "Guidance for Evaluating Human Health Impacts in Environmental Assessment - Noise" (2017)

Attachment D
Noise Source Sound Level Summary

Table 4

Noise Source Sound Level Summary
Atlantic Mining Nova Scotia
Beaver Dam, Halifax, Nova Scotia

Cadna A ID	Noise Source Description		1/1 Octave Band Data									Unadjusted Total Sound Power Level	Tonal Penalty Assessment		Height Absolute	Operating Time Day	Operating Time Night	Vehicle Speed	Daytime Vehicle Trips	Nighttime Vehicle Trips	Reference/Comments
			32	63	125	250	500	1000	2000	4000	8000	(dBA)		(dBA)	(m)	(min)	(min)	(km/h)	(veh/h)	(veh/h)	
L02	Truck - Construction Material T	PWL (dB)	31.0	122.0	121.0	114.0	114.0	112.0	110.0	101.0	92.0	125.6									Referenced from UK Department for Environment, Food and Rural Affairs (Defra)
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1										Noise Database for Construction Noise document
		PWL (dBA)	-8.4	95.8	104.9	105.4	110.8	112.0	111.2	102.0	90.9	**117.0**	No	0	103.0	—	—	70	14	—	Articulated Dump Truck - 35 ton - Haulage - DEFRA Table 6#18
L06	Truck - Haul Roads	PWL (dB)	31.0	122.0	121.0	114.0	114.0	112.0	110.0	101.0	92.0	125.6									Referenced from UK Department for Environment, Food and Rural Affairs (Defra)
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1										Noise Database for Construction Noise document
		PWL (dBA)	-8.4	95.8	104.9	105.4	110.8	112.0	111.2	102.0	90.9	**117.0**	No	0	155.2	—	—	40	66	66	Articulated Dump Truck - 35 ton - Haulage - DEFRA Table 6#18
L08	Grader - Haul Roads	PWL (dB)	31.0	119.0	118.0	114.0	110.0	115.0	109.0	115.0	96.0	124.0									Referenced from UK Department for Environment, Food and Rural Affairs (Defra)
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1										Noise Database for Construction Noise document
		PWL (dBA)	-8.4	92.8	101.9	105.4	106.8	115.0	110.2	116.0	94.9	**119.6**	No	0	160.3	—	—	15	1	1	Grader - 25 ton - Leveling Haul Road - DEFRA Table 6#31
L09	Roller - Haul Roads	PWL (dB)	31.0	118.0	116.0	106.0	104.0	106.0	104.0	100.0	94.0	120.7									Referenced from UK Department for Environment, Food and Rural Affairs (Defra)
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1										Noise Database for Construction Noise document
		PWL (dBA)	-8.4	91.8	99.9	97.4	100.8	106.0	105.2	101.0	92.9	**110.7**	No	0	160.3	—	—	10	1	1	Road Roller - 22 ton - Rolling and Compaction - DEFRA Table 5#19
L10	Grader - Haul Roads	PWL (dB)	31.0	119.0	118.0	114.0	110.0	115.0	109.0	115.0	96.0	124.0									Referenced from UK Department for Environment, Food and Rural Affairs (Defra)
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1										Noise Database for Construction Noise document
		PWL (dBA)	-8.4	92.8	101.9	105.4	106.8	115.0	110.2	116.0	94.9	**119.6**	No	0	147.9	—	—	15	1	1	Grader - 25 ton - Leveling Haul Road - DEFRA Table 6#31
L11	Roller - Haul Roads	PWL (dB)	31.0	118.0	116.0	106.0	104.0	106.0	104.0	100.0	94.0	120.7									Referenced from UK Department for Environment, Food and Rural Affairs (Defra)
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1										Noise Database for Construction Noise document
		PWL (dBA)	-8.4	91.8	99.9	97.4	100.8	106.0	105.2	101.0	92.9	**110.7**	No	0	147.9	—	—	10	1	1	Road Roller - 22 ton - Rolling and Compaction - DEFRA Table 5#19
L13	Truck - Construction Material T	PWL (dB)	31.0	122.0	121.0	114.0	114.0	112.0	110.0	101.0	92.0	125.6									Referenced from UK Department for Environment, Food and Rural Affairs (Defra)
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1										Noise Database for Construction Noise document
		PWL (dBA)	-8.4	95.8	104.9	105.4	110.8	112.0	111.2	102.0	90.9	**117.0**	No	0	103.7	—	—	70	4	—	Articulated Dump Truck - 35 ton - Haulage - DEFRA Table 6#18
L34	Truck - Construction Material T	PWL (dB)	31.0	122.0	121.0	114.0	114.0	112.0	110.0	101.0	92.0	125.6									Referenced from UK Department for Environment, Food and Rural Affairs (Defra)
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1										Noise Database for Construction Noise document
		PWL (dBA)	-8.4	95.8	104.9	105.4	110.8	112.0	111.2	102.0	90.9	**117.0**	No	0	96.9	—	—	70	14	—	Articulated Dump Truck - 35 ton - Haulage - DEFRA Table 6#18
L35	Grader & Roller	PWL (dB)	34.0	121.5	120.1	114.6	111.0	115.5	110.2	115.1	98.1	125.6									Referenced from UK Department for Environment, Food and Rural Affairs (Defra)
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1										Noise Database for Construction Noise document
		PWL (dBA)	-5.4	95.3	104.0	106.0	107.8	115.5	111.4	116.1	97.0	**120.2**	No	0	119.1	—	—	15	1	—	DEFRA Table 6#31, DEFRA Table 5#19
L36	Grader & Roller	PWL (dB)	34.0	121.5	120.1	114.6	111.0	115.5	110.2	115.1	98.1	125.6									Referenced from UK Department for Environment, Food and Rural Affairs (Defra)
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1										Noise Database for Construction Noise document
		PWL (dBA)	-5.4	95.3	104.0	106.0	107.8	115.5	111.4	116.1	97.0	**120.2**	No	0	103.0	—	—	15	1	—	DEFRA Table 6#31, DEFRA Table 5#19
L37	Truck - Construction Material T	PWL (dB)	31.0	122.0	121.0	114.0	114.0	112.0	110.0	101.0	92.0	125.6									Referenced from UK Department for Environment, Food and Rural Affairs (Defra)
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1										Noise Database for Construction Noise document
		PWL (dBA)	-8.4	95.8	104.9	105.4	110.8	112.0	111.2	102.0	90.9	**117.0**	No	0	96.9	—	—	70	14	—	Articulated Dump Truck - 35 ton - Haulage - DEFRA Table 6#18
L38	Truck - Construction Material T	PWL (dB)	31.0	122.0	121.0	114.0	114.0	112.0	110.0	101.0	92.0	125.6									Referenced from UK Department for Environment, Food and Rural Affairs (Defra)
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1										Noise Database for Construction Noise document
		PWL (dBA)	-8.4	95.8	104.9	105.4	110.8	112.0	111.2	102.0	90.9	**117.0**	No	0	116.6	—	—	70	14	—	Articulated Dump Truck - 35 ton - Haulage - DEFRA Table 6#18
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	—	—	—	GHD Reference Spectra
S42	Truck - Unloading Ore	PWL (dB)	31.0	122.0	121.0	114.0	114.0	112.0	110.0	101.0	92.0	125.6									
		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	95.8	104.9	105.4	110.8	112.0	111.2	102.0	90.9	**117.0**	No	0	149.7	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	—	—	—	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	—	—	—	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)	-39.4	-26.2	-16.1	-8.6	121.5	—	1.2	1.0	-1.1	**121.5**	No	0	147.8	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	—	—	—	GHD Reference Spectra
S47	Heavy Duty Belt Feeder Hopp	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	—	—	—	GHD Reference Spectra
S48	Cone 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	146.7	60	60	—	—	—	GHD Reference Spectra
S49	Twin Screen Plant	PWL (dB)	31.0	115.0	113.0	110.0	110.0	105.0	105.0	102.0	95.0	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)	-8.4	88.8	96.9	101.4	106.8	105.0	106.2	103.0	93.9	**112.1**	No	0	146.5	60	60	—	—	—	GHD Reference Spectra
S50	Tunnel Conveyor	PWL (dB)	31.0	102.0	100.0	99.0	102.0	106.0	98.0	94.0	88.0	110.0									
		A-weighted correction	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1										
		PWL (dBA)	-8.4	75.8	83.9	90.4	98.8	106.0	99.2	95.0	86.9	**107.8**	No	0	144.0	60	60	—	—	—	GHD Reference Spectra

Table 4

Noise Source Sound Level Summary
Atlantic Mining Nova Scotia
Beaver Dam, Halifax, Nova Scotia

Cadna A ID	Noise Source Description		1/1 Octave Band Data									Unadjusted Total Sound Power Level	Tonal Penalty Assessment		Height Absolute	Operating Time Day	Operating Time Night	Vehicle Speed	Daytime Vehicle Trips	Nighttime Vehicle Trips	Reference/Comments
			32	63	125	250	500	1000	2000	4000	8000	(dBA)		(dBA)	(m)	(min)	(min)	(km/h)	(veh/h)	(veh/h)	
S51	Cone 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	146.1	60	60	—	—	—	GHD Reference Spectra
S52	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									
		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	**97.4**	No	0	165.5	60	60	—	—	—	GHD Reference Spectra
S53	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									
		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	**97.4**	No	0	165.5	60	60	—	—	—	GHD Reference Spectra
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									
		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	**97.4**	No	0	165.5	60	60	—	—	—	GHD Reference Spectra
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									
		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	**97.4**	No	0	165.5	60	60	—	—	—	GHD Reference Spectra
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									
		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	**97.4**	No	0	165.5	60	60	—	—	—	GHD Reference Spectra
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									
		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	**97.4**	No	0	165.5	60	60	—	—	—	GHD Reference Spectra
S58	Tracked Dozer	PWL (dB)	31.0	120.0	121.0	122.0	104.0	105.0	101.0	99.0	95.0	125.9									
		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	93.8	104.9	113.4	100.8	105.0	102.2	100.0	93.9	**115.1**	No	0	159.0	60	60	—	—	—	GHD Reference Spectra
S59	Tracked Dozer	PWL (dB)	31.0	120.0	121.0	122.0	104.0	105.0	101.0	99.0	95.0	125.9									
		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	93.8	104.9	113.4	100.8	105.0	102.2	100.0	93.9	**115.1**	No	0	154.0	60	60	—	—	—	GHD Reference Spectra
S60	Tracked Dozer	PWL (dB)	31.0	120.0	121.0	122.0	104.0	105.0	101.0	99.0	95.0	125.9									
		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	93.8	104.9	113.4	100.8	105.0	102.2	100.0	93.9	**115.1**	No	0	160.3	60	60	—	—	—	GHD Reference Spectra
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									
		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	**117.8**	No	0	139.0	60	60	—	—	—	GHD Reference Spectra
S62	Hydraulic Excavator	PWL (dB)	31.0	116.0	109.0	108.0	108.0	104.0	102.0	96.0	94.0	118.1									
		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	**109.8**	No	0	137.0	60	60	—	—	—	GHD Reference Spectra
S63	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									
		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	**117.8**	No	0	139.0	60	60	—	—	—	GHD Reference Spectra
S64	Dewatering Pump	PWL (dB)	31.0	112.0	113.0	98.0	103.0	102.0	105.0	104.0	97.0	116.6									
		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	85.8	96.9	89.4	99.8	102.0	106.2	105.0	95.9	**110.4**	No	0	136.0	60	60	—	—	—	GHD Reference Spectra
S65	Dewatering Pump	PWL (dB)	31.0	112.0	113.0	98.0	103.0	102.0	105.0	104.0	97.0	116.6									
		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	85.8	96.9	89.4	99.8	102.0	106.2	105.0	95.9	**110.4**	No	0	136.0	60	60	—	—	—	GHD Reference Spectra
S66	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									
		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	**117.8**	No	0	139.0	60	60	—	—	—	GHD Reference Spectra
S67	Hydraulic Excavator	PWL (dB)	31.0	116.0	109.0	108.0	108.0	104.0	102.0	96.0	94.0	118.1									
		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	**109.8**	No	0	137.0	60	60	—	—	—	GHD Reference Spectra
S68	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									
		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	**96.5**	No	0	138.0	60	60	—	—	—	GHD Reference Spectra
S69	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									
		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	**117.8**	No	0	139.0	60	60	—	—	—	GHD Reference Spectra
S70	Hydraulic Excavator	PWL (dB)	31.0	116.0	109.0	108.0	108.0	104.0	102.0	96.0	94.0	118.1									
		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	**109.8**	No	0	137.0	60	60	—	—	—	GHD Reference Spectra
S71	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									
		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	**117.8**	No	0	139.0	60	60	—	—	—	GHD Reference Spectra
S72	Hydraulic Excavator	PWL (dB)	31.0	116.0	109.0	108.0	108.0	104.0	102.0	96.0	94.0	118.1									
		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	**109.8**	No	0	137.0	60	60	—	—	—	GHD Reference Spectra

Table 4

Noise Source Sound Level Summary
Atlantic Mining Nova Scotia
Beaver Dam, Halifax, Nova Scotia

Cadna A ID	Noise Source Description		1/1 Octave Band Data									Unadjusted Total Sound Power Level	Tonal Penalty Assessment		Height Absolute	Operating Time Day	Operating Time Night	Vehicle Speed	Daytime Vehicle Trips	Nighttime Vehicle Trips	Reference/Comments
			32	63	125	250	500	1000	2000	4000	8000	(dBA)		(dBA)	(m)	(min)	(min)	(km/h)	(veh/h)	(veh/h)	
S73	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									
		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	**117.8**	No	0	139.0	60	60	—	—	—	GHD Reference Spectra
S74	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									
		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	**96.5**	No	0	137.7	60	60	—	—	—	GHD Reference Spectra
S75	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									
		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	**117.8**	No	0	137.5	60	60	—	—	—	GHD Reference Spectra
S76	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									
		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	**96.5**	No	0	176.7	60	60	—	—	—	GHD Reference Spectra
S77	Wheel Loader	PWL (dB)	31.0	119.0	115.0	112.0	115.0	107.0	101.0	99.0	92.0	122.2									
		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	**114.2**	No	0	172.5	60	60	—	—	—	GHD Reference Spectra
S78	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									
		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	**96.5**	No	0	176.0	60	60	—	—	—	GHD Reference Spectra
S79	Wheel Loader	PWL (dB)	31.0	119.0	115.0	112.0	115.0	107.0	101.0	99.0	92.0	122.2									
		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	**114.2**	No	0	172.0	60	60	—	—	—	GHD Reference Spectra
S80	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									
		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	**97.8**	No	0	169.7	60	60	—	—	—	GHD Reference Spectra
S81	Skid Steer	PWL (dB)	—	103.0	115.0	106.0	107.0	103.0	101.0	97.0	87.0	116.7									
		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	**109.1**	No	0	168.0	60	60	—	—	—	GHD Reference Spectra
S82	Generator	PWL (dB)	103.3	110.5	115.2	116.0	114.9	112.8	110.7	108.1	95.1	121.9									
		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	**118.1**	No	0	166.5	60	60	—	—	—	GHD Reference Spectra
S83	Mobile_Crane	PWL (dB)	31.0	121.0	112.0	109.0	105.0	108.0	107.0	100.0	92.0	122.2									
		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	**112.5**	No	0	169.0	60	60	—	—	—	GHD Reference Spectra
S84	Cement Truck Discharging	PWL (dB)	31.0	111.0	100.0	97.0	101.0	102.0	100.0	95.0	89.0	112.6									
		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	84.8	83.9	88.4	97.8	102.0	101.2	96.0	87.9	**106.1**	No	0	168.0	60	60	—	—	—	GHD Reference Spectra
S85	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									
		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	**107.5**	No	0	168.0	60	60	—	—	—	GHD Reference Spectra
S86	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									
		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	**107.5**	No	0	168.0	60	60	—	—	—	GHD Reference Spectra
S87	Tracked Dozer	PWL (dB)	31.0	99.0	98.0	94.0	93.0	93.0	92.0	85.0	78.0	103.6									
		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	72.8	81.9	85.4	89.8	93.0	93.2	86.0	76.9	**97.8**	No	0	164.0	60	60	—	—	—	GHD Reference Spectra
S88	Truck Unloading	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	104.2	10	0	—	—	—	GHD Reference Spectra
S89	Dozer	PWL (dB)	31.0	110.0	108.0	107.0	105.0	99.0	98.0	91.0	90.0	114.2									
		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	91.9	98.4	101.8	99.0	99.2	92.0	88.9	**106.3**	No	0	100.8	60	0	—	—	—	GHD Reference Spectra
S90	Wheeled Loader	PWL (dB)	31.0	119.0	115.0	112.0	115.0	107.0	101.0	99.0	92.0	122.2									
		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	**114.2**	No	0	104.1	60	0	—	—	—	GHD Reference Spectra
S91	Excavator	PWL (dB)	31.0	116.0	109.0	108.0	108.0	104.0	102.0	96.0	94.0	118.1									
		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	**109.8**	No	0	104.3	60	0	—	—	—	GHD Reference Spectra
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									
		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	**114.7**	No	0	173.5	60	60	—	—	—	GHD Reference Spectra
S132	Dozer	PWL (dB)	31.0	110.0	108.0	107.0	105.0	99.0	98.0	91.0	90.0	114.2									
		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	91.9	98.4	101.8	99.0	99.2	92.0	88.9	**106.3**	No	0	116.0	60	0	—	—	—	GHD Reference Spectra
S133	Excavator	PWL (dB)	31.0	116.0	109.0	108.0	108.0	104.0	102.0	96.0	94.0	118.1									
		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	**109.8**	No	0	116.0	60	0	—	—	—	GHD Reference Spectra

Table 4

Noise Source Sound Level Summary
Atlantic Mining Nova Scotia
Beaver Dam, Halifax, Nova Scotia

Cadna A ID	Noise Source Description		1/1 Octave Band Data									Unadjusted Total Sound Power Level	Tonal Penalty Assessment		Height Absolute	Operating Time Day	Operating Time Night	Vehicle Speed	Daytime Vehicle Trips	Nighttime Vehicle Trips	Reference/Comments
			32	63	125	250	500	1000	2000	4000	8000	(dBA)		(dBA)	(m)	(min)	(min)	(km/h)	(veh/h)	(veh/h)	
S134	Truck Unloading	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	119.0	10	0	—	—	—	GHD Reference Spectra
S135	Wheeled Loader	PWL (dB)	31.0	119.0	115.0	112.0	115.0	107.0	101.0	99.0	92.0	122.2									
		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	**114.2**	No	0	116.0	60	0	—	—	—	GHD Reference Spectra
S136	Truck Unloading	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	127.3	10	0	—	—	—	GHD Reference Spectra
S137	Dozer	PWL (dB)	31.0	110.0	108.0	107.0	105.0	99.0	98.0	91.0	90.0	114.2									
		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	91.9	98.4	101.8	99.0	99.2	92.0	88.9	**106.3**	No	0	126.0	60	0	—	—	—	GHD Reference Spectra
S138	Wheeled Loader	PWL (dB)	31.0	119.0	115.0	112.0	115.0	107.0	101.0	99.0	92.0	122.2									
		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	**114.2**	No	0	125.4	60	0	—	—	—	GHD Reference Spectra
S139	Excavator	PWL (dB)	31.0	116.0	109.0	108.0	108.0	104.0	102.0	96.0	94.0	118.1									
		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	**109.8**	No	0	124.7	60	0	—	—	—	GHD Reference Spectra
S140	Truck Unloading	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	105.0	10	0	—	—	—	GHD Reference Spectra
S141	Dozer	PWL (dB)	31.0	110.0	108.0	107.0	105.0	99.0	98.0	91.0	90.0	114.2									
		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	91.9	98.4	101.8	99.0	99.2	92.0	88.9	**106.3**	No	0	105.2	60	0	—	—	—	GHD Reference Spectra
S142	Wheeled Loader	PWL (dB)	31.0	119.0	115.0	112.0	115.0	107.0	101.0	99.0	92.0	122.2									
		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	**114.2**	No	0	104.3	60	0	—	—	—	GHD Reference Spectra
S143	Excavator	PWL (dB)	31.0	116.0	109.0	108.0	108.0	104.0	102.0	96.0	94.0	118.1									
		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	**109.8**	No	0	103.2	60	0	—	—	—	GHD Reference Spectra
S144	Truck Unloading	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	104.0	10	0	—	—	—	GHD Reference Spectra
S145	Dozer	PWL (dB)	31.0	110.0	108.0	107.0	105.0	99.0	98.0	91.0	90.0	114.2									
		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	91.9	98.4	101.8	99.0	99.2	92.0	88.9	**106.3**	No	0	101.0	60	0	—	—	—	GHD Reference Spectra
S146	Wheeled Loader	PWL (dB)	31.0	119.0	115.0	112.0	115.0	107.0	101.0	99.0	92.0	122.2									
		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	**114.2**	No	0	101.0	60	0	—	—	—	GHD Reference Spectra
S147	Excavator	PWL (dB)	31.0	116.0	109.0	108.0	108.0	104.0	102.0	96.0	94.0	118.1									
		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	**109.8**	No	0	101.0	60	0	—	—	—	GHD Reference Spectra
S148	Truck Unloading	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	111.9	10	0	—	—	—	GHD Reference Spectra
S149	Dozer	PWL (dB)	31.0	110.0	108.0	107.0	105.0	99.0	98.0	91.0	90.0	114.2									
		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	91.9	98.4	101.8	99.0	99.2	92.0	88.9	**106.3**	No	0	109.1	60	0	—	—	—	GHD Reference Spectra
S150	Wheeled Loader	PWL (dB)	31.0	119.0	115.0	112.0	115.0	107.0	101.0	99.0	92.0	122.2									
		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	**114.2**	No	0	109.2	60	0	—	—	—	GHD Reference Spectra
S151	Excavator	PWL (dB)	31.0	116.0	109.0	108.0	108.0	104.0	102.0	96.0	94.0	118.1									
		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	**109.8**	No	0	108.8	60	0	—	—	—	GHD Reference Spectra
S152	Dozer	PWL (dB)	31.0	110.0	108.0	107.0	105.0	99.0	98.0	91.0	90.0	114.2									
		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	91.9	98.4	101.8	99.0	99.2	92.0	88.9	**106.3**	No	0	122.8	60	0	—	—	—	GHD Reference Spectra
S153	Dozer	PWL (dB)	31.0	110.0	108.0	107.0	105.0	99.0	98.0	91.0	90.0	114.2									
		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	91.9	98.4	101.8	99.0	99.2	92.0	88.9	**106.3**	No	0	114.4	60	0	—	—	—	GHD Reference Spectra
S154	Excavator	PWL (dB)	31.0	116.0	109.0	108.0	108.0	104.0	102.0	96.0	94.0	118.1									
		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	**109.8**	No	0	123.4	60	0	—	—	—	GHD Reference Spectra

Table 4

Noise Source Sound Level Summary
Atlantic Mining Nova Scotia
Beaver Dam, Halifax, Nova Scotia

Cadna A ID	Noise Source Description		1/1 Octave Band Data									Unadjusted Total Sound Power Level	Tonal Penalty Assessment		Height Absolute	Operating Time Day	Operating Time Night	Vehicle Speed	Daytime Vehicle Trips	Nighttime Vehicle Trips	Reference/Comments
			32	63	125	250	500	1000	2000	4000	8000	(dBA)		(dBA)	(m)	(min)	(min)	(km/h)	(veh/h)	(veh/h)	
S155	Excavator	PWL (dB)	31.0	116.0	109.0	108.0	108.0	104.0	102.0	96.0	94.0	118.1									
		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	**109.8**	No	0	114.3	60	0	—	—	—	GHD Reference Spectra
S156	Truck Unloading	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	125.2	10	0	—	—	—	GHD Reference Spectra
S157	Truck Unloading	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	117.6	10	0	—	—	—	GHD Reference Spectra
S158	Wheeled Loader	PWL (dB)	31.0	119.0	115.0	112.0	115.0	107.0	101.0	99.0	92.0	122.2									
		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	**114.2**	No	0	122.6	60	0	—	—	—	GHD Reference Spectra
S159	Wheeled Loader	PWL (dB)	31.0	119.0	115.0	112.0	115.0	107.0	101.0	99.0	92.0	122.2									
		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	**114.2**	No	0	114.4	60	0	—	—	—	GHD Reference Spectra