We are appealing the following decision to Nova Scotia Minister of Environment and Climate Change, The Honourable Timothy Halman:

> **Industrial Approval for the Donkin Coal Mine (2009-066677-04) issued on December 6, 2022; expiry date: December 31, 2029**

Section 137 of the Nova Scotia *Environment Act* creates a statutory right to appeal, to the Minister of Environment and Climate Change, an administrator's decision to grant or amend an Industrial Approval.

A copy of the Industrial Approval for the mine was provided to us on December 28, 2022.

Sierra Club Canada Foundation Is Aggrieved by this Decision

Sierra Club Canada Foundation is a national, grassroots environmental charity with regional chapters and a national Youth Chapter. Our mission is to empower people to be leaders in protecting, restoring, and enjoying healthy and safe ecosystems.

The Sierra Club Canada Foundation (SCCF) includes four regional chapters: Atlantic, Québec, Ontario, and Prairie, plus the Sierra Youth Coalition, a group whose mandate is to empower young people to become community leaders.

In 2020, our membership recommitted to creating positive change in its Decade of Change Plan. We are focussed on five areas:

- championing climate solutions and a rapid transition to clean energy
- fighting for environmental and social justice
- working to protect and restore nature and endangered species
- getting people outside to explore and enjoy the outdoors; and
- promoting the conservation of resources

Our Atlantic Canada Chapter has members and supporters across the Atlantic region. SCCF participated in the 2012–2013 public consultation process for Xstrata's proposed Donkin Export Coking Coal Project (see our Comments submitted as part of the Environmental Assessment

process, attached). The focus of our participation was gathering information on the potential impacts of the project from community members, evaluating the impacts of the project on water and wetlands, and examining the implications of GHG emissions from the project on climate change targets. As part of this involvement, we hosted community engagement opportunities in the area and engaged a consultant to seek input on impacts on the marine environment, since the project description and scope included plans to transport coal from Donkin Mine via marine vessels.

In 2020, the Chapter launched the Beyond Coal Atlantic project to help accelerate the clean renewable energy transition in the Atlantic region.

This request for review of the Industrial Approval for the Donkin Mine is informed by local residents, experts, and organizations that have contributed information, evidence, and experience to Sierra Club Canada–Atlantic Chapter and requested our assistance in bringing these concerns forward.

Donkin Mine Timeline and Ownership — Background information

July 2012: Xstrata submits Donkin Export Coking Coal Project for a joint federal-provincial Environmental Assessment

July 2013: The Environmental Assessment is approved

Ownership of the Donkin Mine is transferred to Kameron Collieries ULC, a subsidiary of the US-based Cline Group LLC. The Environmental Assessment that was approved for Xstrata is carried over to the new owners. Kameron Coal Management Ltd. (KCML) is created to run the day-to-day operation of the mine.

A note about Kameron Collieries ULC: Nova Scotia is one of only four provinces to allow U.S. companies to incorporate as ULCs. **By incorporating as a ULC, a U.S. corporation becomes a "flow through entity for US tax purposes" and significantly reduces the amount of taxes it is required to pay in Canada.** Contrary to its name, a ULC's liability is very much limited. Practical Law Canada Corporate & Securities explains:

- "Members of a Nova Scotia unlimited company (ULC) might not be liable for torts committed by or contractual damages awarded against the ULC."
- "Parties may expressly contract out of member liability (section 135(f), Nova Scotia Companies Act)."
- "The NSCA [Nova Scotia Companies Act] does not impose liability on directors for wages or other monies due to employees."

February 2017: KCML begins mining operations at the Donkin Mine.

March 2020: KCML closes the mine, citing adverse geological conditions, and places the mine in care and maintenance mode. The timing of the shutdown coincides with several stop work orders issued by the NS Department of Labour for health and safety violations at the mine.

September 13, 2023: Donkin Mine reopens

October 4, 2023: Donkin Mine is producing coal and the washplant is operational

December 6, 2023: NSECC Administrator issues the Industrial Approval for Kameron Coal Management Ltd.

December 31, 2029: The expiry date for KCML's Industrial Approval for the Donkin Mine

Documents/Reports referenced in this appeal letter:

Donkin Export Coking Coal Project: Environmental Impact Statement–Summary, Xstrata Coal, July 2012

Comprehensive Study Report: Donkin Export Coking Coal Project, Canadian Environmental Assessment Agency, April 2013

Government of Canada, *Donkin Export Coking Coal Project* — All Records

Environmental Assessment Decision Statement, *Donkin Export Coking Coal Project*, July 12, 2013

Donkin Export Coking Coal Project – 2012–2013 Nova Scotia Environmental Assessment documents, submissions, and approval

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Basis for the Appeal

The concerns brought forward in this document are grouped under the following five headings:

1. Impact of GHG Emissions and Ability to Meet Provincial Emissions Targets Not Considered
2. Lack of Independent Monitoring of Environmental Contaminants from the Donkin Mine
3. Failure to Remediate and Compensate for Wetlands Loss
4. Noise pollution is pushing local residents to the brink of despair
5. A Tragedy Waiting to Happen on Local Roads

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1. Impact of GHG Emissions and Ability to Meet Provincial Emissions Targets Not Considered

According to data collected by the Government of Canada under the Facility Greenhouse Gas Reporting Program (GHGRP), **the Donkin coal mine (owned by Kameron Collieries ULC / Kameron Coal Management Ltd.), is the largest industrial emitter of methane in Nova Scotia**. This is based on the Donkin Mine's reported emissions from 2020—a year in which the mine operated for *less than 3 months* and still reported emitting 371,000 tonnes CO_2eq of methane.

To put the 371,000 tonnes of CO_2eq into context, that is equivalent to the GHG footprint of 67,000 Nova Scotians, or 15 percent of the province's population.

The Industrial Approval (IA) for the Donkin Coal mine failed to take into account the significant impact that the mine's methane emissions will have on the Province's ability to meet its climate goals, set out in the 2021 *Environment Goals and Climate Change Reduction Act* (EGCCRA) and Nova Scotia's *Climate Change Plan for Clean Growth*, released in December 2022. EGCCRA legislated the Province's climate commitments and enshrined into law GHG emission reduction targets and the 2030 phaseout of coal-generated electricity.

Nova Scotia cannot meet its legislated GHG emission reduction targets *and* mine coal.

Nova Scotia is further obligated to do its fair share to reduce GHG emissions based on Canada's global climate change commitments—and to do so with the urgency that the climate emergency requires. The International Energy Agency and the Intergovernmental Panel on Climate Change have both made it crystal clear that countries must rapidly transition away from fossil fuels—particularly coal—if we are to have any chance at containing global heating to 1.5°C.

The impacts of the Donkin Mine's emission were downplayed in Xstrata's 2012 *Environmental Impact Statement* (EIS), submitted as part of the joint federal-provincial Environmental Assessment process for the "Donkin Export Coking Coal Project":

> "[t]he potential Change in Air Quality, and Change in Acoustic Environment, and Change in GHG Emissions on Atmospheric Resources as a result of the Project during all phases, are rated as not significant." —EIS, Section 7.2 Atmospheric Resources

New research shows that mining coal emits 50 percent more methane into the atmosphere than previously thought. Methane is a more potent and faster-acting (i.e., atmospheric-warming) greenhouse gas than carbon dioxide. In fact, according to the International Energy Agency, the impact of a tonne of methane is equivalent to between 84 and 87 tonnes of CO_2 over a 20-year

timeframe. In the race to reduce emissions by 2030, it's critical that the latest science on methane emissions and coal mining emissions be properly considered.

KCML has been allowed to self-report its greenhouse gas emissions to the Province since 2017, despite the company's own estimates, which put it far above the 50,000-tonne threshold that normally requires the emissions to be independently verified by a third party. According to KCML management, the Donkin Mine emitted 370,743 tonnes of CO_2e in 2020, and 422,934 tonnes of CO_2e in 2019.

Sierra Club Canada reached out to NSECC to inquire about the provincial GHG reporting requirements for the Donkin Mine, and was given the following response:

> There are two primary sources of GHG emissions at the mine. The first is carbon dioxide from stationary combustion of fossil fuels (e.g., propane). These emissions are required under the Quantification, Reporting and Verification Regulations (QRV) to be reported and verified if they exceed 50,000 tonnes of carbon dioxide equivalent. There is a small amount of stationary combustion on site and the associated emissions do not result in Kameron Coal exceeding that threshold.
>
> The second source of GHG emissions is methane, which needs to be ventilated from the mine for safety purposes. According to the QRV Regulations, the methane associated with ventilation and degasification in underground coal mines needs to be reported but not verified as those emissions are not subject to the cap-and-trade carbon pricing program.
>
> —Email received August 11, 2022 from the Associate Deputy Minister of Environment and Climate Change

So the vast majority of GHG emissions reported each year by KCML are unverified—and not included under the Province's cap-and-trade program.

★ **The Industrial Approval issued for the mine was issued in error with regard to GHG emissions for the following reasons:**

1. The Administrator did not properly consider how the mine's GHG emissions would impact Nova Scotia's legislated GHG emission reduction targets set out in EGCCRA. This also contravenes Section 112B of the Environment Act, which recognizes the Governor in Council's authority to set GHG emission reduction targets, based on advances in climate-change science and technology, and other evolving factors.

2. Section 5a of the IA allowed Kameron Collieries ULC / Kameron Coal Management Ltd. (KCML) to submit an updated GHG Management Plan *after* the IA had already been signed by the Administrator. Therefore, the Administrator did not consider whether the

Plan would adequately mitigate the mine's GHG emissions, or require an independent, professional assessment and approval of the Plan in order to sign off on the IA.

3. Section 5b of the IA allowed the mine to resume operations prior to installing a functional degasification system. Therefore, the Administrator failed to consider the impact that the degasification system and other GHG emissions mitigation methods, such as flaring, could have on the local environment, including species at risk protected under Nova Scotia's *Endangered Species Act*.

4. The IA was issued without any independent monitoring and reporting of the Donkin Mine's GHG emissions. KCML has been self-monitoring and self-reporting the mine's GHG emissions to the government since 2017. There is no evidence that KCML's reports are accurate. The Administrator, therefore, did not verify that the mine's emissions are in accordance with the *Environment Act*.

5. The 2013 Environmental Assessment Approval was grandfathered into the purchase of the Donkin Mine by Kameron Collieries ULC / Kameron Coal Management Ltd. (KCML) and does not adequately take into account the latest science on methane and other GHG emissions from coal mining or how these are contributing much more dramatically to global atmospheric heating than was previously known. Moreover, the immediate threat of climate change was not widely publicly understood in 2012–2013, the period in which the EA was undertaken. EGCCRA acknowledges these new circumstances: 4.c."climate change is recognized as a global emergency requiring urgent action."

6. Under subsection 9(2) of the *Approval and Notification Procedures Regulations*, the Administrator has the power to consider whether the activities described in the Industrial Approval are consistent with any policies, programs, guidelines, objectives, or approval processes established by the Department of Environment and Climate Change. The Administrator should have taken reasonable steps to do so, particularly with respect to Nova Scotia's new *Environmental Goals and Climate Change Reduction Act*. The Administrator did not.

7. The Administrator failed to properly determine whether the environmental impact of the proposed activities conforms with the *Environment Act* and applicable regulations and standards, as was required by subsection 9(1) of the *Approval and Notification Procedures Regulations*.

2. Lack of Independent Monitoring of Environmental Contaminants from the Donkin Mine

The negative health outcomes for individuals who work in underground coal mines is no secret, particularly in Cape Breton, which has seen more than its share of coal-mining-related illnesses and deaths.

What's less widely known, however, is that residents living in the *vicinity* of coal mines are also at higher risk of serious illness and death linked to environmental contaminants from the mine.

A supporting letter (attached) from the **Canadian Association of Physicians for the Environment—Nova Scotia (CAPE-NS) emphasizes the serious health concerns associated with the Donkin Mine and its activities.**

A 2018 report published by BMC Public Health, titled *Mortality and morbidity in populations in the vicinity of coal mining*: *a systematic review*, concludes:

> There is consistent evidence of the association of coal mining with a wide spectrum of diseases in populations resident or in the proximity of the mining activities…
>
> Studies using data from hospital records of these populations have found higher rates of morbidity and mortality due to respiratory diseases and cancer, and measures of biomarkers have evidenced greater exposures to environmental contaminants associated with the mining activities.

There are a number of ways that contaminants from coal mining activities can enter the local environment. Contaminants such as acid mine drainage can seep into local groundwater and watersheds, and find their way into the local drinking water and food supply.

According to Xstrata's 2012 *Environmental Impact Statement*, submitted as part of the joint federal-provincial Environmental Assessment process for the "Donkin Export Coking Coal Project," the Donkin Mine was expected to:

- generate 25 million tonnes of waste rock that may contain toxic chemicals, heavy metals, and acid-producing rock
- generate 3 to 7 tonnes of acid waste each day during full operation

The Donkin Mine—including its waste rock piles—is situated close to wetlands, watersheds, and the Atlantic Ocean.

Nova Scotia Provincial Landscape Viewer aerial map of the Donkin Mine site

Sierra Club Canada emailed NSECC on January 9, 2023, asking whether NSECC had independently verified that KCML's activities comply with the separation distances set out in the Industrial Approval (4.a). Specifically, we inquired about the proximity of the mine to the boundary of a public or common highway; the bank or ordinary high water mark of any watercourse or wetland; the property boundary that does not form part of the Site Active Area; and the coastline, where seabird colonies have been identified along the cliffs.

We received the following reply from the Department's Inspection Compliance & Enforcement Division in Sydney:

> Subject to a future inspection by NSECC staff, it is the department's understanding that the separation distances outlined in the Industrial Approval are being maintained.
>
> —Email, January 25, 2023

We take this to mean that NSECC has not independently verified that KCML is complying with the separation distances in the new Industrial Approval or the previous IA.

Similarly, the IA requires KCML to monitor the Site's surface water, groundwater, water runoff, fish toxicity, etc. It does not require the company's measurements and reporting be independently verified.

The current management of mine waste and water is occurring in conjunction with historic mine drainage and waste treatment infrastructure. This raises a number of serious additional concerns:

- Historic mine waste management ponds appear to infringe on setbacks established in the IA.
- KCML is using the historic DEVCO drainage infrastructure to treat acid water runoff from coal waste piles. DEVCO's drainage infrastructure was never designed for this purpose.
- There is no evidence that clay liners were installed in the serpentine pond or settling pond (weir) used to contain contaminated waste at the Donkin Mine. The EA Approval issued in 2013 anticipated the installation of clay liners to contain the contaminants.
- The contaminants from the coal piles, including acid mine drainage and a toxic soup of chemicals from coal waste rock piles, appear to be draining into the surrounding wetlands.

The aerial maps below showing the Donkin Mine site footprint suggest that contaminants are able to enter the surrounding groundwater and wetlands, and seep into watersheds that lie beyond property boundaries owned by KCML.

Inset photo from *Donkin Underground Exploration Project, Vol 1*, 2008

Inset photo from *Donkin Underground Exploration Project, Vol 1*, 2008

A letter from the Port Morien Wildlife Association (PMWA) highlights local concerns about the adverse impacts of the Donkin Mine on wetlands, watersheds, wildlife, and well water. Sierra Club Canada echos their concerns and their requests, including:

- That fish toxicity reports be shared with local wildlife groups and other stakeholders, such as commercial fishers;
- That there be continuous [and independent] groundwater testing in the area, rather than the minimal monitoring by the company currently required. This is necessary to ensure

the safety of nearby residents who rely on well water, and also for the safety of fish and wildlife;
- That there be an adequate plan to deal with the risk of water and ground contamination from runoff, made worse by intensified rainfall and extreme weather events that Cape Breton is experiencing as a result of climate change. This and other plans pertaining to the mine's environmental footprint management need to be shared publicly;
- That NSECC inform the community about any new assessments undertaken to ensure that the [separation] distances described in the IA do not pose a threat to species at risk, particularly endangered birds. PMWA and other local stakeholders want to have input, including access to on-site visits to verify the impact on wildlife and watersheds.

The Port Morien Wildlife Association has expressed dismay about the lack of adequate government oversight and monitoring of the mine's activities and impacts. The group reports that it has been very difficult to have any direct communication with the company itself about these matters. As such, there are many concerns and unanswered questions about the impact of environmental contaminants from the mine.

Contaminants from the mining site can spread through aerosols, the most dangerous of which are invisible to the naked eye. They can also enter into the surrounding communities by trucking coal on public roads (*more on trucking and airborne contaminants below*).

These contaminants pose serious risks to human health, wildlife, and local ecosystems. They should be closely monitored by NSECC, but they are not.

The Industrial Approval for the Donkin Mine puts the onus on KCML to monitor and report all of its activities. The IA states:

> (2.d) It is the Approval Holder's [KCML] responsibility to ensure applicable legislation, approvals and codes of practice are met…

Whether it's air quality monitoring, greenhouse gas management, groundwater and surface water monitoring, or fish toxicity testing, the Industrial Approval allows KCML to self-regulate with little to no actual independent verification or on-site monitoring by NSECC. The IA even stipulates that KCML's "Environmental Management/Protection Plan shall be made available to the Department upon request."

***Upon request*.**

We do not believe that a laissez-faire or "Take our word for it" approach provides adequate environmental protection or ensures that the mine properly adheres to Nova Scotia's *Environment Act*. Our concerns with regard to the adverse environmental and health effects and risks of the Donkin Mine are informed by the knowledge that the Province, in many regards, appears to be "regulating" KCML (and other private companies) using the honour system.

As one local resident remarked, it's akin to going for your motor vehicle inspection and telling a qualified mechanic to take your word that your car is fine and being given your MVI sticker without an inspection.

The communities around Donkin Mine are no strangers to the adverse health, environmental, and financial costs that result when companies like KCML are given authority or leeway to self-regulate, or are regulated by the Province on paper only.

★ **The Industrial Approval issued for the mine was issued in error with regard to environmental contaminants for the following reasons:**

1. The Administrator does not require NSECC to carry out independent testing and monitoring of the water, wetlands, and wildlife impacts resulting from the Donkin Mine operations. KCML is permitted to self-monitor and self-report to NSECC. This amounts to KCML being allowed to say, "Take our word for it."

   A corporate "Take our word for it" approach to the IA does not provide adequate environmental protection, nor does it ensure that Nova Scotia's *Environment Act* is followed.

   Therefore, the Administrator failed to properly determine whether the environmental impacts of the proposed activities conform with the *Environment Act* and applicable regulations and standards, as was required by subsection 9(1) of the *Approval and Notification Procedures Regulations.*

2. The Administrator failed to properly investigate the historic DEVCO serpentine pond, settling pond (weir), and other waste drainage infrastructure that KCML uses to treat acid water runoff and other contaminants from coal waste piles. The Administrator also failed to ensure that the historic waste treatment infrastructure now being used at the Donkin Mine does not infringe on the separation distances contained in the new IA.

3. The Administrator failed to address discrepancies between the scope of the project approved in the 2013 Environmental Assessment Approval and the current operation of the Donkin Mine with regards to coal waste piles and drainage and their precise locations in relation to required separation distances.

4. Under subsection 9(2) of the *Approval and Notification Procedures Regulation*s, the Administrator has the power to consider whether the activities described in the Industrial Approval are consistent with any policies, programs, guidelines, objectives, or approval processes established by the Department of Environment and Climate Change. The Administrator should have taken reasonable steps to do so, particularly with respect to Nova Scotia's new *Environmental Goals and Climate Change Reduction Act*, the

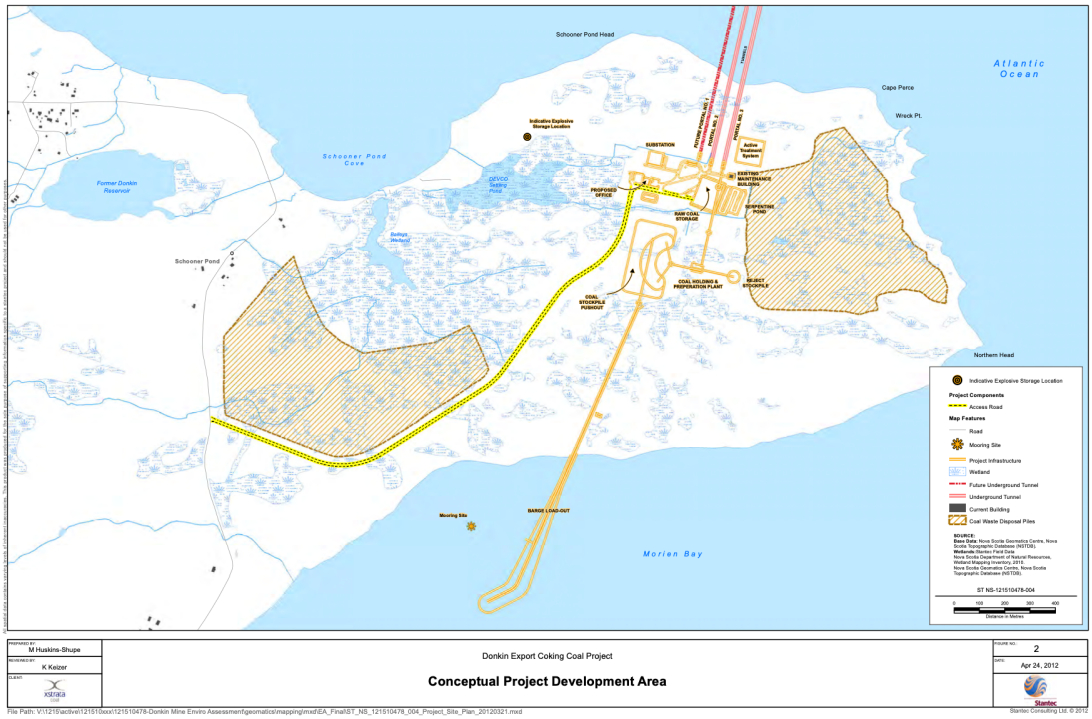
Canadian Environmental Assessment Agency's 2013 *Comprehensive Study Report*, the Nova Scotia *Wetland Conservation Policy*, and other policies and regulations to ensure they were and are being faithfully carried out with regards to environmental contaminants and their impacts on wetlands and other water, wildlife, ecosystems, and human health. The Administrator did not.

5. The Administrator has failed to ensure that buffer areas required by the 2013 Environmental Assessment Approval were not—and are not being—violated. The IA also fails to specify how KCML must monitor environmental contamination and damage to nearby water and wetlands derived from any changes to the project scope as described in the Environmental Assessment process.

3. Failure to Remediate and Compensate for Wetlands Loss

Xstrata's 2012 *Environmental Impact Statement* said the Donkin Mine was expected "to destroy 42 hectares of wetland on the Donkin Peninsula."

The Conceptual Project Development Area map (below) included in Xstrata's 2012 EIS Summary clearly shows extensive areas of wetland becoming future sites for coal waste disposal piles (**See Appendix A for a larger map**).



(Above) Xstrata's Conceptual Project Development Area map, submitted for the 2012-2013 Environmental Assessment

Xstrata anticipated producing "25 million tonnes of waste rock that may contain toxic chemicals, heavy metals, and acid-producing rock."

The EIS submitted as part of the Environmental Assessment process outlined Xstrata's responsibility with regard to wetland loss:

> It is anticipated that the Donkin Export Coking Coal Project will directly affect 42.2 hectares (ha) of wetland habitat on the Donkin Peninsula. Compensation will be required through the enhancement, restoration, or creation of wetland habitat at an area ratio commensurate with the loss. As such, the objective of the compensation is to ensure no net loss of wetland area or wetland function as a result of Project activities on the Donkin Peninsula. It is anticipated that a 2:1 ratio will be required, based on the Nova Scotia

> Wetland Conservation Policy, for areas of wetland habitat loss, which equates to 84.4 ha of wetland compensation.
>
> —2012–EIS, Appendix G, 3.2 Anticipated Compensation Requirements

A Freedom of Information and Protection of Privacy Act (FOIPOP) request submitted by the Port Morien Wildlife Association on May 21, 2020, inquired about the number of wetlands affected by the Donkin Mine site and coal roads, and how much money KCML paid under the Wetlands Compensation Policy for wetland compensation.

The response from NS Environment on December 14, 2020, reads as follows:

> Environment does not actually collect and disseminate monies related to wetland compensation projects. Environment requires a Letter of Understanding (LOU) to be in place between the applicant and the provider of compensation. This LOU is a legal document outlining the compensation requirements, and how they are to be delivered…Once the LOU is in place between the parties, the accounting (both financial-wise and area-wise) is between the signatories of the LOU.
>
> —2020-000746-ENV

An earlier FOIPOP submitted by Port Morien Wildlife Association requested a list of restored wetlands in Cape Breton since 2007, and information about how much money had been awarded for wetland compensation in Cape Breton. The responses from NSE are as follows:

- “Nova Scotia Environment does not have a list of [wetland] areas that have been restored.”
- “For on the ground wetland restoration, Nova Scotia Environment is not privy to this information [the cost to do the work]”

—2017-04947-ENV

To date, we can find no evidence that KCML has provided monies for wetland compensation or engaged in any wetland restoration projects as required under the EA for the Donkin Mine and the Nova Scotia Wetland Conservation Policy. We must therefore conclude that KCML is delinquent in its responsibility.

Furthermore, the Industrial Approval does not clearly identify where the water used to treat coal and coal waste on site will be drawn from, leaving ecological important areas vulnerable. This is of particular concern with regards to the adjacent Schooner Pond, which is an important habitat for fish and birds, and is used by the local community for recreation. PMWA and community members have taken care of the pond for many years, including restocking it with fish for more than 30 years.

★ **The Industrial Approval issued for the mine was issued in error with regard to water and wetlands damage and loss for the following reasons:**

1. The Administrator has either knowingly allowed KCML to continue operating without regard for wetland compensation and restoration, or the Administrator did not perform due diligence to determine that KCML was delinquent in this area.

2. Under Nova Scotia's *Approval and Notification Procedures Regulations* (subsection 9-3.h), the administrator can consider an applicant's past performance in providing for environmental protection with regard to the activities under review in an Industrial Approval application. The Administrator should have exercised this authority in order to adequately protect the environment, local community, and provincial taxpayers.

4. Noise pollution is pushing local residents to the brink of despair

One of the most distressing and immediately harmful impacts of the Donkin Mine has been the effect of noise pollution from the mine's ventilation fans on local residents. The ventilation fans' blade-passing frequency tonal noise is more broadly referred to as low-frequency noise.

Cape Breton University professor Sarah Barnes conducted research on the impacts of Donkin Mine's low-frequency industrial noise on the local community and published the findings in a report titled, *One thousand days and counting: A report on the social and health impacts of industrial noise from the Donkin coal mine in Cape Breton, Nova Scotia*.

In the report, and her letter supporting this appeal to the Minister (attached), Dr. Barnes summarizes the key impacts of the Donkin Mine's industrial noise on community members as follows:

> (1) The industrial noise is linked to sleep loss and deteriorating mental and physical health.
> (2) The industrial noise erodes quality of life, and many people have been forced to change their daily routines and develop (mostly ineffective) coping strategies to evade the sound.
> (3) Indifference and inaction from many government officials, and the failure of the mine to adequately address the noise, have pushed many within the community into a state of exhaustion and despair.

Dr. Barnes also writes, "Community members have sent hundreds of letters to their local representatives, provincial ministries, seeking consultation and solutions and have not received any substantive responses."

We support the local Cow Bay Environmental Coalition and community members who have been harmed by the incessant low-frequency industrial noise and repeatedly called for better mitigation of the noise from the mine.

A growing body of research has demonstrated that low-frequency pure tone noise is not just a pollutant—it is also a mental and physical agent of disease. The adverse effects of exposure to pure tone noise are cumulative; the most serious harm occurs when narrowband noise generation is continuous (e.g., coal mine ventilation fans) and exposure is long-term.

Local residents have been subjected to the low-frequency tonal noise from the Donkin Mine for more than three years.

In the 2020 scholarly review, ***Low-Frequency Noise and Its Main Effects on Human Health—A Review of the Literature between 2016 and 2019***, the authors state:

> Since 2000, the WHO has recognized low-frequency noise as an environmental problem. In addition, the health impacts of low-frequency components on noise are estimated to be more severe.

The negative health impacts of long-term exposure to low-frequency noise are well documented. However, this kind of industrial noise has been overlooked by NSECC under existing provincial noise guidelines.

Nova Scotia's *Guidelines for Environmental Noise Measurement and Assessment* was written in 1990 and amended in 2005. They are woefully outdated. NSECC is aware of this and has recently drafted new guidelines. However, these new guidelines will not address the industrial noise conditions arising from the Donkin Mine ventilation fans.

Low-frequency noise, such as the pure tones generated at the fan blade-passing frequency in the case of the mine's ventilation fans, requires a special kind of analysis, referred to as narrow-band analysis.

Normal broadband noise—such as that of a car engine—decreases with distance. Pure tones, on the other hand, have the unique characteristics of being able to travel great distances and penetrate walls and windows where they are especially harmful once within the enclosure (homes).

Experts with Industrial Noise and Vibration Centre explain:

> If there is the possibility of tones from noise sources (a very common cause of complaints), any environmental noise investigation or report… that does not include narrow-band frequency analyses is, by definition, not fit for purpose. Consequently (confirmed by surveys) around 90% of consultant noise reports are inadequate. Key reasons are:
>
> - Subjective impact: human perception of tonal noise, hums, drones, whines etc is fundamentally narrow-band. Consequently, the only effective way to evaluate the effects of tonal noise is to use narrow-band analysis;

- Objective evaluation: narrow-band noise analysis provides an objective value closely correlated with the subjective impact and tells you exactly how much frequency-specific attenuation is required. Note: low-frequency tones (< c 300Hz) cannot be reduced effectively using conventional silencers or barriers and don't contribute much to dB(A). You **must** find out if they are there.

The noise needs to stop.

Since granting the Industrial Approval for the Donkin Mine in early December 2022, the Minister and NSECC have continued to receive noise complaints from the community regarding Donkin Mine's pure tone noise. The recent installation of a conventional fan silencer has been ineffective in attenuating this low-frequency noise.

Noise testing commissioned by KCML has been conducted on days when the mine is mysteriously quiet—*a very rare occurrence*. It's unlikely that this is a casual coincidence. NSECC must ensure that noise testing occurs under normal operating conditions at the mine, and be done in consultation with impacted community members.

The report prepared by Dr. Sarah Barnes (and Devon Bates) documents the tonal noise frequencies from the mine's ventilation fans that are impacting residents as far away as 7.5 km from the Donkin Mine. The report documents the adverse negative effects that the Donkin Mine's industrial noise is having on community members. Over the longer term, more adverse health impacts, including increased risk of heart disease, can be anticipated based on the extensive body of existing medical research on low-frequency noise impacts on human health.

★ **The Industrial Approval issued for the Donkin Mine was issued in error with regard to industrial noise for the following reasons**:

1. The Administrator knowingly allowed KCML to operate without resolving the low-frequency noise from the mine's ventilation fans, and is thereby **allowing KCML to physically and psychologically harm local residents impacted by the noise**.

   In fact, the IA allows KCML to submit a noise monitoring program to NSECC as late as April 1, 2023—and it does not require any community input or consultation.

2. The Administrator is prioritizing KCML's desire to operate and make a profit over the rights of local residents to sleep and spend time in their own homes without suffering adverse health impacts caused by the mine's industrial noise.

3. The Administrator is placing added stress on Nova Scotia's already overburdened healthcare system by allowing this serious health issue to go unresolved.

4. The Administrator failed to adequately consider the impact of issuing the IA on the Government's legislated commitment to "support the well-being and quality of life of all Nova Scotians" EGCCRA, 5.2 (d).

5. The Administrator failed to properly determine whether the environmental impact of the proposed activities conforms with the *Environment Act* and applicable regulations and standards, as was required by subsection 9(1) of the *Approval and Notification Procedures Regulations.*

6. Under subsection 9(2) of the Approval and Notification Procedures Regulations, the Administrator has the power to consider whether the activities described in the Industrial Approval are consistent with any policies, programs, guidelines, objectives, or approval processes established by the Department of Environment and Climate Change. The Administrator should have taken reasonable steps to do so, particularly with respect to Nova Scotia's new *Environmental Goals and Climate Change Reduction Act*. The Administrator did not.

5. A Tragedy Waiting to Happen on Local Roads

Accident with a truck transporting coal from the Donkin Mine; spilled coal in the foreground

The 2013 joint federal-provincial Environmental Assessment and Approval was based on the plan put forward by Xstrata, outlined in the company's 2012 *Environmental Impact Statement* (EIS). The EIS was subject to a period of public consultation and was evaluated by the Canadian Environmental Assessment Agency, which produced the 2013 *Comprehensive Study Report: Donkin Export Coking Coal Project*.

Nowhere in these documents were there indications that the primary means of transporting the Donkin Mine coal for export would be by trucking on public roads.

The primary means of transporting the coal was explained in Xstrata's EIS (Project Overview) as follows:

> Product coal will be loaded onto barges, each approximately 4,000 tonne in capacity, at a new wharf to be constructed on the Donkin Peninsula. The barges will be moved by tug boats approximately 8.8 km to a transshipment facility in deeper waters in Mira Bay where they will be loaded onto bulk carriers up to Cape Size vessels for transport to international markets.

There was mention of trucking coal to domestic customers, but that was presented as a negligible part of the overall market for the coal.

The Canadian Environmental Assessment Agency, in its *Comprehensive Study Report*, compiled a summary of the concerns raised by the Mi'kmaq of Nova Scotia about the proposed mine and included the responses to those concerns by the proponent (Xstrata). In regard to the Mi'kmaq's concern about noise generated by trucking coal off-site, the company stated:

> Ground transportation of coal off-site will only occur in exceptional circumstances and will be of short duration. Speed restrictions will be in place for all trucks and they will only be permitted to operate during daytime hours.
>
> —*Comprehensive Study Report*, Appendix D, p. 91

The new wharf and transshipment facility in Mira Bay illustrated in Xstrata's planning map were never built (see Appendix B). **Therefore, getting the coal to export markets has relied entirely on trucking the product to the Port of Sydney on public roads.**

The Industrial Approval for the Donkin Mine permits KCML to "Extract up to 3.6 million tonnes of coal per year from the underground coal mining operation."

Let's do the math:

- Moving 3.6 million tonnes of coal per year will require approximately 120,000 truckloads at 30 tonnes per truck.

If we break down 120,000 truckloads by year and by day, we get:

- 328.75 truckloads per day
- 13.7 truckloads per hour
- One truckload leaving the site every 4.3 minutes

The above estimate requires the Donkin Mine to truck its anticipated coal output on a 24/7 operating schedule.

Obviously, this is not a feasible means of transporting that much coal, which is why it was hardly discussed in Xstrata's original 2012 plans for Donkin Mine submitted for the Environmental Assessment.

The new Industrial Approval does not address concerns about trucking, even though these issues have been repeatedly raised publicly in the community since 2017. The IA only says:

> Any modifications to the Transportation Plan shall be submitted to the Department prior to implementation. An amendment to this approval and/or written authorization from the

Minister may be required before any modification to the Transportation Plan can be made.

The words "*may be required*" provide no assurances.

Members of the Cow Bay Environmental Coalition and other local residents have been closely following the transportation and trucking issues surrounding the Donkin Mine since it opened in 2017. The community has made many efforts to get KCML and elected officials to address their concerns about the trucking of coal on public roads—roads that were never designed for huge transport trucks or truck traffic.

They have publicly called attention to road safety concerns, the coal trucking accidents, the wear and tear on the roads caused by these heavy truckloads, and the costs to taxpayers to then repair the roads.

Another accident involving a Donkin Mine coal transport truck

Residents along the trucking route have seen their properties devalued, their quality of life diminished, and their freedom of movement curtailed because of road safety concerns.

While much of the community's focus has been on safety concerns for the pedestrians and motorists who use these roads, there is also concern about the trucking noise and air pollution, as well as toxic contaminants potentially finding their way into the local environment through the coal dust, sludge, and invisible particles flying off the trucks transporting coal.

Adverse health effects from trucking noise

Currently, the mine's trucking schedule is as follows:

> First shift: 8 trucks an hour, starting at 5 AM and running until 3 PM
>
> Second shift: 4 trucks an hour, from about 3 PM to 2 or 3 in the morning

The steady stream of loud coal transport trucks, including during overnight hours, is having a number of adverse health effects on local residents, such as: negatively impacting their sleep, elevating stress levels, deterring them from going for walks along the road, and doing normal healthy outdoor activities, such as gardening.

The Cape Breton Regional Municipality By-Law Respecting Noise states:

> 3.1 No person shall engage in any activity that unreasonably disturbs or tends to disturb the peace, comfort, and tranquility of a resident of the municipality.

The by-law also prohibits loud activities during overnight hours, starting at 9:30 PM on weekdays and 7 PM on weekends and holidays.

Yet somehow, the Province has seen fit to renew KCML's Industrial Approval, subjecting local residents to the noise pollution from hundreds of coal transport truckloads that disturb "the peace, comfort, and tranquility" of local residents every week.

The noise levels from the trucks along the route are not being properly monitored. *The Environment Act*, including the provincial noise guidelines, cannot be properly enforced without adequate independent monitoring of the trucking noise.

Adverse health effects from trucking air pollution

The trucks transporting coal from the Donkin Mine to the Port of Sydney and domestic customers are internal combustion vehicles that run on diesel. Health Canada's 2016 report, *Human Health Risk Assessment for Diesel Exhaust*, states:

> Diesel emissions are estimated to contribute significantly to ambient concentrations of NO2, PM2.5 and ground level ozone (O3)... The modelling undertaken estimates that on-road diesel emissions are associated with 320 premature mortalities for 2015 (valued at $2.3 billion), with 65% and 35% of the estimated mortalities attributable to ambient PM2.5 and NO2, respectively…

> Diesel emissions are also associated with significant numbers of acute respiratory symptom days, restricted activity days, asthma symptom days, hospital admissions, emergency room visits, child acute bronchitis episodes and adult chronic bronchitis cases across Canada.

Many local residents don't yet know the full extent of the health risk that the steady stream of coal transport trucks driving through their communities poses. The table below summarizes those health risks found in the report. (See Appendix C for definitions of causality determinations contained in the report).

Table 2. Summary of causal determinations for exposure to diesel exhaust

Outcome	Acute/chronic DE exposure	Causality determination
Carcinogenicity	Chronic	Causal (lung cancer) Suggestive (bladder cancer) Inadequate (other cancers)
Respiratory effects	Acute	Causal
	Chronic	Likely
Cardiovascular effects	Acute	Likely
	Chronic	Suggestive
Immunological effects	–	Likely
Reproductive and developmental effects	–	Suggestive
Central nervous system effects	Acute	Suggestive
	Chronic	Inadequate

—*Human Health Risk Assessment for Diesel Exhaust,* Health Canada, p. 6

The conclusion reached in the Health Canada report is unequivocal:

> Overall, it is concluded that DE [diesel exhaust] is associated with significant population health impacts in Canada, and efforts should continue to further reduce emissions of and human exposures to DE.

Adverse health effects of toxic contaminants potentially dispersed from trucking coal

Trucking coal poses an increased risk of contaminants entering the local environment and surrounding communities through coal dust aerosols. Invisible fine-sized particles (e.g., silica) are particularly harmful, as seen in their adverse health impacts on miners.

Detecting these fine-sized particles along the trucking route would require a comprehensive measurement campaign to assess concentrations of fine particles. Currently, there is no such measurement campaign in effect.

Other, more visible debris from the coal trucks can also contain harmful contaminants, and should be carefully monitored by NSECC. There is no evidence that such monitoring is happening.

Debris left by trucks transporting coal from the Donkin Mine

Broken Promises for Rerouting the Coal Trucks

In 2015, the Province announced that a new road would be constructed to reroute the Donkin Mine coal trucks around Glace Bay, thereby diverting them from the densely populated center of town.

A Saltwire article published on August 28, 2015, reports on the announcement of provincial funding for the new road project more than 7 years ago:

> Geoff MacLellan, minister of transportation and infrastructure renewal, said the $1.6 million tender for the paving of the Donkin Highway has been awarded to Municipal Ready Mix and the work is expected to start within the next couple of weeks.

Today, the new road remains unfinished and unpaved, and therefore not in service. The obstacle appears to be KCML's unwillingness to pay the cost to have the company's 8 km private coal haul road paved.

The Province has already spent the $1.6 million to construct the entrance to the new road and the exit to Hwy 104 to Sydney. That's a lot of taxpayers' money for a road that (more than 7 years later) remains unfinished and unused—and may never be used—to reroute the Donkin coal trucks.

The mine's coal transport trucks regularly cross the centre line because the road is too narrow for them.

The community has been unable to get any resolution to the trucking issue, and residents have felt stonewalled by KCML and their former local MLA, Geoff MacLellan, *who now works for KCML*.

As one local resident put it, "We have been snookered in every way."

Sierra Club Canada reached out to NSECC on January 9, 2023, to ask about KCML's transportation plan. We received the following reply from the Department's Inspection Compliance & Enforcement Division in Sydney:

> The Donkin Mine Transportation Plan, prepared by Kameron Coal Management Limited, was submitted to NSECC in January of 2018. Questions related to the Transportation of Coal should be directed to the Provincial Public Works Department. NSECC does not have regulatory authority regarding public roadways.

★ **The Industrial Approval issued for the Donkin Mine was issued in error with regard to transportation for the following reasons:**

1. The Administrator allowed KCML to radically depart from the project's primary transportation plan by marine vessels, which had been assessed and approved by the 2012–2013 joint federal-provincial Environmental Assessment. Under the Terms and Conditions of Environmental Assessment Approval, any change in the primary means of

transporting coal was to be submitted to the Environment Assessment Branch of NSECC and could trigger an Environmental Assessment. The Industrial Approval does not indicate that such a consultation took place, or that a proper assessment of this change in the project activities and scope was undertaken.

2. Transportation via road rather than shipping means greater pressure on local public roads, increased risk of accidents, noise pollution, adverse impacts on local air quality, and damage to ecosystems. The Administrator should have required public consultation to identify risks associated with this major change in the scope of the project, and these concerns should have been addressed in the Industrial Approval. As it stands, the IA failed to address the adverse effects and risks of trucking coal, because NSECC did not undertake a process to identify them.

3. There are no stipulations in the renewed IA to ensure that adverse effects from the coal truck traffic will be mitigated (with regard to safe operation, noise, air quality, and environmental contaminants). It is therefore foreseeable that there will continue to be adverse effects caused by trucking coal, including the risk of accidental injury or death from a collision.

4. The Administrator failed to properly determine whether the environmental impact from the trucking of Donkin Mine's coal conforms with the Environment Act and applicable regulations and standards, as was required by subsection 9(1) of the Approval and Notification Procedures Regulations.

5. Under subsection 9(2) of the Approval and Notification Procedures Regulations, the Administrator has the power to consider whether the activities described in the Industrial Approval are consistent with any policies, programs, guidelines, objectives, or approval processes established by the Department of Environment and Climate Change.

The Administrator should have taken reasonable steps to do so. The Administrator did not. Nor did the Administrator take steps to understand the adverse health effects attributed to trucking coal and require a new transportation plan to mitigate those impacts.

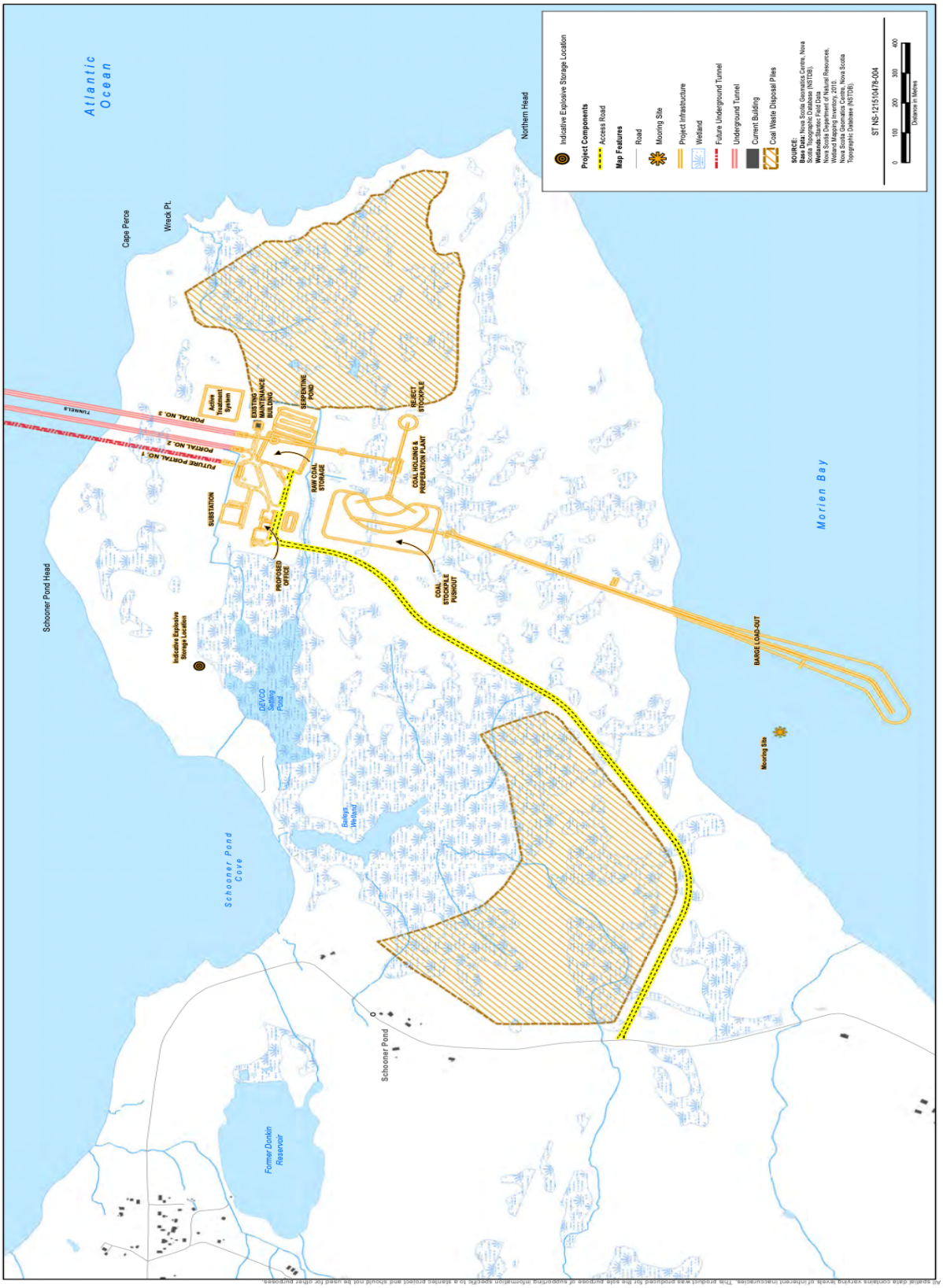
Conclusion

The information and concerns presented here reflect the collaborative efforts of many individuals from the communities directly impacted by the Donkin Mine; experts in a variety of fields, including coal mining and GHG emissions, environmental contaminants, and health; and Sierra Club Canada's decade-long involvement with the Donkin Mine, dating back to the 2012–2013 Environmental Assessment.

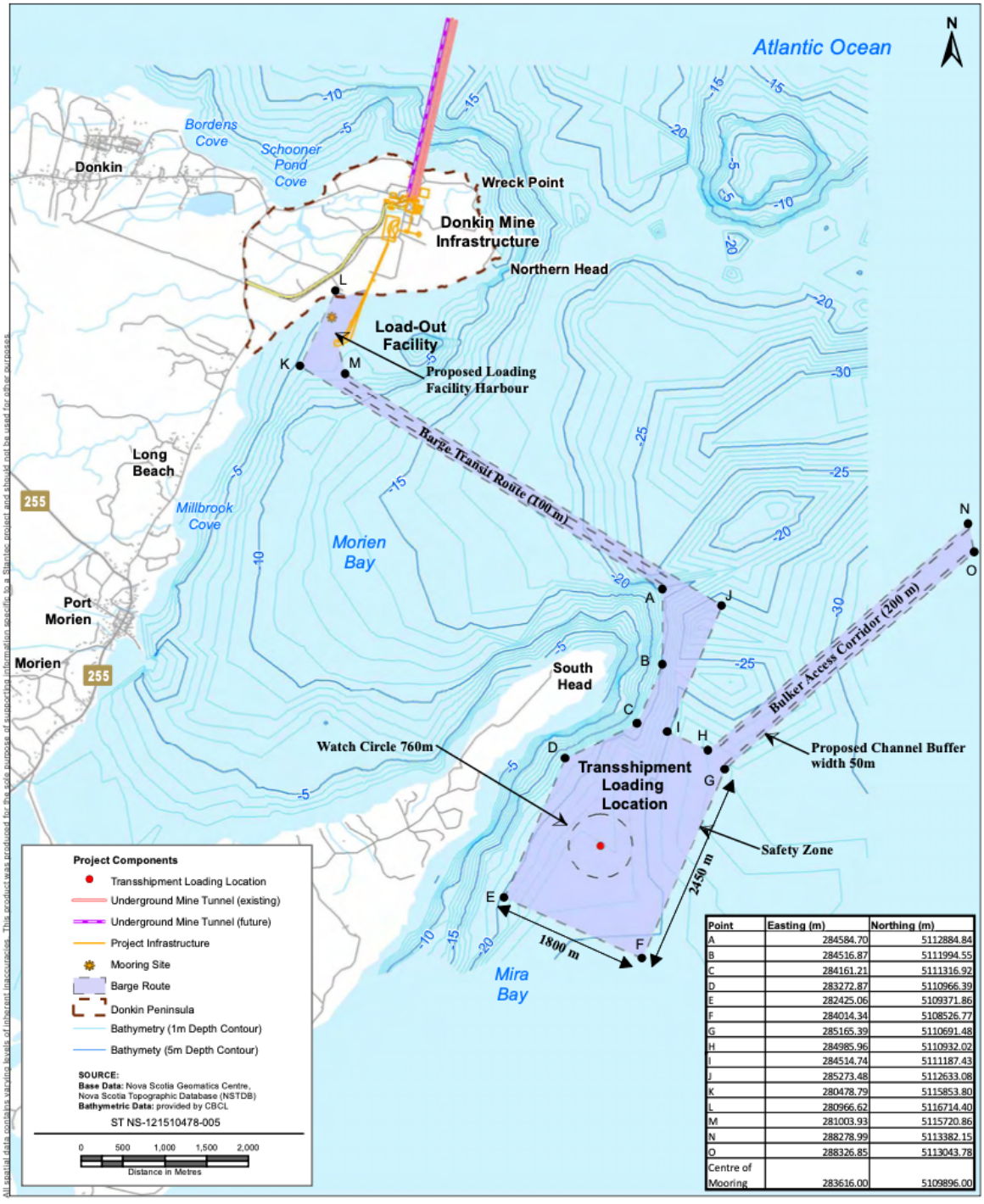
We recognize that the current government was not in power when the Environmental Assessment for Donkin Mine was approved in 2013, nor was it in power when the previous Industrial Approval was issued to KCML.

The current government has declared its commitment to reduce greenhouse gas emissions, protect the environment, and support sustainable prosperity. We ask that as Minister of the Environment and Climate Change, you give urgent consideration to the issues raised in this appeal. Nova Scotians need good, safe jobs that support the health and well-being of their communities and surrounding ecosystems. We look to this government to correct the mistakes made by previous governments with respect to the Donkin Mine by demonstrating environmental leadership and protection.

Appendix A


Atlantic Ocean
Cape Perce
Wreck Pt.
Northern Head
Schooner Pond Head
Morien Bay
Schooner Pond Cove
Schooner Pond
Former Donkin Reservoir
Bailey's Wetland
TUNNELS
FUTURE PORTAL NO. 4
PORTAL NO. 2
PORTAL NO. 3
Active Treatment System
EXISTING MAINTENANCE BUILDING
SEDIMENTATION POND
REJECT STOCKPILE
RAW COAL STORAGE
COAL HOLDING & PREPERATION PLANT
SUBSTATION
PROPOSED OFFICE
COAL STOCKPILE PERIMETER
Indicative Explosive Storage Location
DEVCO Settling Pond
BARGE LOAD-OUT
Mooring Site
Indicative Explosive Storage Location
Project Components
Access Road
Map Features
Road
Mooring Site
Project Infrastructure
Wetland
Future Underground Tunnel
Underground Tunnel
Current Building
Coal Waste Disposal Piles
ST NS-12151478-004
0
100
200
300
400
Distance in Metres
SOURCE:
Base Data: Nova Scotia Geomatics Centre, Nova Scotia Topographic Data (NSTDB).
Wetlands: Significant Field Data
Nova Scotia Department of Natural Resources.
Wetland Mapping Inventory, 2010.
Natural Land Cover: Nova Scotia Nova Scotia Topographic Database (NSTDB).
All spatial data contained vary in levels of coherent measurement. This product was produced for the sole purpose of supporting information specific to a separate project and should not be used for other purposes.
Donkin Export Coking Coal Project
Conceptual Project Development Area
FIGURE NO: 2
DATE: Apr 24, 2012
PREPARED BY: M Huskins-Stupe
REVIEWED BY: K Keizer
CLIENT: xstrata coal
Stantec
Stantec Consulting Ltd. © 2012
File Path: V:\1215\active\121510\oax\121510478-Donkin Mine Enviro Assessment\geomatics\mapping\mxd\EA_Final\ST_NS_12151047 8_004_Project_Site_Plan_20120321.mxd

Appendix B



Point	Easting (m)	Northing (m)
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B	284516.87	5111994.55
C	284161.21	5111316.92
D	283272.87	5110966.39
E	282425.06	5109371.86
F	284014.34	5108526.77
G	285165.39	5110691.48
H	284985.96	5110932.02
I	284514.74	5111187.43
J	285273.48	5112633.08
K	280478.79	5115853.80
L	280966.62	5116714.40
M	281003.93	5115720.86
N	288278.99	5113382.15
O	288326.85	5113043.78
Centre of Mooring	283616.00	5109896.00

PREPARED BY: M. Huskins-Shupe
REVIEWED BY: C. Shupe
CLIENT: xstrata coal

Donkin Export Coking Coal Project

Project Location - Concept Only

FIGURE NO.: 1
DATE: Jul 03, 2012

Stantec

File Path: V:\1215\active\121510xxx\121510478-Donkin Mine Enviro Assessment\geomatics\mapping\mxd\EA_Final\ST_NS_121510478-005_Project_Overview_with_Text.mxd

Appendix C

Health Canada Santé Canada

Your health and safety… our priority. *Votre santé et votre sécurité… notre priorité.*

Human Health Risk Assessment for Diesel Exhaust

Canada

Table 1. Weight of evidence for determination of causality

Relationship	Description
Causal relationship	Evidence is sufficient to conclude that there is a causal relationship with relevant pollutant exposures. That is, the pollutant has been shown to result in health effects in studies in which chance, bias and confounding could be ruled out with reasonable confidence – for example: a) controlled human exposure studies that demonstrate consistent effects; or b) observational studies that cannot be explained by plausible alternatives or are supported by other lines of evidence (e.g. animal studies or mode of action information). Evidence includes replicated and consistent high-quality studies by multiple investigators.
Likely to be a causal relationship	Evidence is sufficient to conclude that a causal relationship is likely to exist with relevant pollutant exposures, but important uncertainties remain. That is, the pollutant has been shown to result in health effects in studies in which chance and bias can be ruled out with reasonable confidence, but potential issues remain – for example: a) observational studies that show an association, but co-pollutant exposures are difficult to address and/or other lines of evidence (controlled human exposure, experimental animal or mode of action information) are limited or inconsistent; or b) animal toxicological evidence from multiple studies from different laboratories that demonstrates effects, but limited or no human data are available. Evidence generally includes replicated and high-quality studies by multiple investigators.
Suggestive of a causal relationship	Evidence is suggestive of a causal relationship with relevant pollutant exposures, but is limited because chance, bias and confounding cannot be ruled out – for example, at least one high-quality epidemiological study shows an association with a given health outcome, but the results of other studies are inconsistent.
Inadequate to infer a causal relationship	Evidence is inadequate to determine that a causal relationship exists with relevant pollutant exposures. The available studies are of insufficient quantity, quality, consistency or statistical power to permit a conclusion regarding the presence or absence of an effect.
Not likely to be a causal relationship	Evidence is suggestive of no causal relationship with relevant pollutant exposures. Several adequate studies, covering the full range of levels of exposure that human beings are known to encounter and considering susceptible subpopulations, are mutually consistent in not showing an effect at any level of exposure.

Adapted from US EPA (2009)

Table 2. Summary of causal determinations for exposure to diesel exhaust

Outcome	Acute/chronic DE exposure	Causality determination
Carcinogenicity	Chronic	Causal (lung cancer) Suggestive (bladder cancer) Inadequate (other cancers)
Respiratory effects	Acute	Causal
	Chronic	Likely
Cardiovascular effects	Acute	Likely
	Chronic	Suggestive
Immunological effects	–	Likely
Reproductive and developmental effects	–	Suggestive
Central nervous system effects	Acute	Suggestive
	Chronic	Inadequate

controlling for key potential confounders. Therefore, it is considered unlikely that the observed results are due solely to chance, bias or confounding.

ACME
Association canadienne des médecins pour l'environnement
Comité régional de la Nouvelle Écosse

CAPE
Canadian Association of Physicians for the Environment
Nova Scotia Regional Committee

January 31, 2023

Minister of Environment & Climate Change Nova Scotia Environment
PO Box 442 Halifax NS
B3J 2P8

RE: Donkin Mine Industrial Approval Reconsideration

To the Honourable Tim Halman: We are writing to you in support of the Sierra Club of Canada's appeal regarding the renewed industrial approval granted to Kameron Coal Management Limited, on behalf of the Nova Scotia Regional Committee of the Canadian Association of Physicians for the Environment (CAPE NS). We are a group of around 70 professionals across the spectrum of health care, including physicians, nurses, medical and nursing students, laboratory technologists, counselors, scientists, and others.

As health care professionals we deeply appreciate the government's commitment to make health care for Nova Scotians a priority, and the government's significant efforts in this regard to date. However, we were surprised and deeply concerned about the renewed industrial approval granted to Kameron Coal for reasons stated below, and implore the government to reconsider in keeping the health of Nova Scotians front of mind.

Occupational hazards of coal mining are well known and include pulmonary diseases—including coal workers' pneumoconiosis, chronic obstructive pulmonary disease, silicosis and other diseases—that can bring about disability and premature death [1]. There is also consistent evidence associating coal mining with a wide spectrum of diseases in populations who live and work in close proximity to these mines [2].

We are concerned that Kameron Coal has not sufficiently considered the health of workers and local communities in its operations. The mine was closed citing geological conditions that made the mine unsafe. These conditions have not changed and, after reopening the past September, the site incurred 14 warnings, 19 compliance orders, and 8 administrative penalties or fines [3]. Moreover, operating the mine produces noise pollution which has degraded Port Morien residents' quality of life, particularly in regards to sleep deprivation.

ACME Association canadienne des médecins pour l'environnement
Comité régional de la Nouvelle Écosse

CAPE Canadian Association of Physicians for the Environment
Nova Scotia Regional Committee

Beyond the direct effects on coal miners' health and the health of people living in the area, climate change has far-reaching effects on the health of populations in Nova Scotia and around the globe [4]. Climate change has negative effects on many metrics that will affect quality of life and the Nova Scotian economy. The costs of climate mitigation—such as management and recovery from sea level rise, increasingly common floods, and intense weather events like tropical storm Fiona—need to be considered when projects like the Donkin coal mine are evaluated.

The argument may be made that metallurgic coal is necessary for steel production and this form of coal will be used regardless of where it is mined, so why not mine it in Nova Scotia and create 150 jobs? This is a regressive argument considering that this underground mine will create far greater methane emissions than above ground mines elsewhere [5], and that green steel making alternatives such as hydrogen are currently under development [6]. There is a reason Donkin coal is the only underground coal mine still active in Nova Scotia and Canada; progressive policies must be considered by our government. There are many ways that the economy of Cape Breton can be supported with investments in green energy and other government initiatives that would cause less harm to the environment and population health.

Will Nova Scotia look to the future with progressive policies or continue to allow corporations to contribute to declines in the health of our environment and health of Nova Scotians? Please reconsider the approval of the Donkin coal mine. CAPE NS hopes to work collaboratively with the government of Nova Scotia on this and other important initiatives.

Sincerely,

Laurette Geldenhuys, MBBCH, FFPATH, MMED, FRCPC, MAEd, FCAP

Chair, CAPE NS

1. Center for Disease Control and Prevention. “Coal Mine Dust Exposures and Associated Health Outcomes A Review of Information Published Since 1995.” www.cdc.gov. (accessed January 28, 2023)

2. Cortes-Ramirez, J., Naish, S., Sly, P.D. et al. Mortality and morbidity in populations in the vicinity of coal mining: a systematic review. BMC Public Health 18, 721 (2018). https://doi.org/10.1186/s12889-018-5505-7

3. E. Pottie. “Cape Breton's Donkin coal mine fined for safety violations after fall reopening.” www.cbc.ca. (accessed January 28, 2023)

4. Doctors Without Borders. “The Lancet Countdown on Health and Climate Change: Policy brief for Médecins Sans Frontières” www.doctorswithoutborders.ca. (accessed January 28, 2023)

5. United States Environmental Protection Agency. “Sources of Coal Mine Methane”. www.epa.gov. (accessed January 28, 2023)

6. The European Parliament. “The potential of hydrogen for decarbonising steel production”. www.europarl.europa.eu. (accessed January 28, 2023)

January 16, 2023

Minister of Environment & Climate Change
Nova Scotia Environment
PO Box 442 Halifax NS
B3J 2P8

To the Honourable Tim Halman:

This letter regards the matter of industrial noise emitted from the Donkin coal mine and its adverse effects on community health in Port Morien and surrounding areas.

I offer these comments in my capacity as Assistant Professor at Cape Breton University and as someone who has been studying the history and politics of sleep, health, and social justice for a decade. More specifically, my remarks develop out of an empirical research project that I carried out with impacted community members in the summer of 2022.

To better understand the direct and cumulative impacts of the industrial noise being from the Donkin coal mine, I conducted eighteen one-on-one semi-structured interviews with a cross-section of people living in and around Port Morien, Nova Scotia. Five open-ended questions were developed in consultation with a small group of community members. All conversations were recorded and then transcribed. Names and other identifying information were removed to ensure confidentiality.

Analysis of the qualitative data confirmed that the industrial noise has adverse effects on the personal health and collective wellbeing of the community; and further, that experiences of the noise have become more intense and debilitating over time. The following themes also emerged from the data:

> (1) The industrial noise is linked to sleep loss and deteriorating mental and physical health.
>
> (2) The industrial noise erodes quality of life, and many people have been forced to change their daily routines and develop (mostly ineffective) coping strategies to evade the sound.
>
> (3) Indifference and inaction from many elected officials, and the failure of the mine to adequately address the noise, has pushed many within the community into a state of exhaustion and despair.

This study offers a holistic assessment of the multiple and complex impacts of industrial noise in peoples' lives and links these experiences to the long-term ecological and health disasters of coal mining in Nova Scotia. The findings show that community members have been treated as if they are disposable and less important than the coal mine that is in their backyard.

The study concludes by urging elected officials and decision-makers to address the industrial noise and to restore the personal and collective wellbeing of the residents in Port Morien through actions that prioritize community health, support a green transition, and honour the treaties.

I would welcome the opportunity to speak with you in greater depth about this study or more broadly on the matter of industrial noise, sleep, community health. Please do not hesitate to contact me by email (sarah_barnes@cbu.ca) or phone (902-565-6118) if you need any additional information.

Sincerely,

Sarah Barnes, PhD
Assistant Professor
Department of Experiential Studies in Community and Sport
Cape Breton University