St Barbara

15-Mile Processing Hub Project
Initial Project Description
Plain Language Summary

Land Acknowledgement

We at St Barbara respectfully acknowledges that our operations and projects are located in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq People. We acknowledge them as the past, present, and future caretakers of this land. The territory is covered by the Treaties of Peace and Friendship. We are all Treaty People.

We also recognize that people of African descent have been in Nova Scotia for over 400 years. We honour and thank the ancestors of African descent who came before us to this land.

Contents

List of Acronyms

ACCDC	Atlantic Canada Conservation Data Centre
AMNS	Atlantic Mining NS Inc.
CLC	Community Liaison Committee
CO	Carbon Monoxide
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CPA	Community Partnership Agreement
dBA	Decibel
DFO	Department of Fisheries and Oceans Canada
ECCC	Environment and Climate Change Canada
GHG	Greenhouse Gas
IAAC	Impact Assessment Agency of Canada
ILE	Institution of Lighting Engineers
M	Metre
MBCA 1994	*Migratory Birds Convention Act, 1994*
MDMER	*Metal and Diamond Mining Effluent Regulations*
ML/ARD	Metal Leaching and Acid Rock Drainage
NAD 83	North American Datum of 1983
NO_2	Nitrogen Dioxide
NSECC	Nova Scotia Environment and Climate Change
NSESA	Nova Scotia *Endangered Species Act*
NSNRR	Nova Scotia Natural Resources and Renewables
NTS	National Topographic System
PDA	Project Development Area
$PM_{2.5}$	2.5 micrometres
PM_{10}	10 micrometres
SAR	Species at Risk
SARA	*Species at Risk Act*
SOCI	Species of Conservation Interest
SO_2	Sulphur Dioxide
TMF	Tailings Management Facility
TSP	Total Suspended Particles
UTM	Universal Transverse Mercator
$\mu g/m^3$	Micrograms per cubic metre

1 Introduction and General Information

1.1 Introduction

15-Mile Minerals and Renewables (the Company) is a division of St Barbara Ltd., a gold mining company in Nova Scotia. The Company plans to build and operate a gold mining project in Nova Scotia, near Halifax. The planned project is called the 15-Mile Processing Hub Project (the Project).

The Project will take place on land owned by the Company and on provincial Crown land. The area is within the traditional territory of the Mi'kmaq First Nations.

The Project includes three sites:

- 15-Mile Mine (formerly referred to as the Fifteen Mile Stream Gold Project)
- Old Austen Mine (formerly referred to as the Beaver Dam Mine Project)
- Old Mitchell Mine (formerly referred to as the Cochrane Hill Gold Project)

The 15-Mile Mine will process material from all three sites.

- The 15-Mile Mine will have four open pits and facilities to manage water, waste rock, soil and tailings (mine processing waste).
- The Old Austen and Old Mitchell will each have one open pit. These sites will operate like quarries and send material to the 15-Mile Mine for processing.

Each site has a defined Project Development Area (PDA). A PDA is the total area where Project activities may occur. The PDA shows the largest possible area that may be disturbed during construction, operation, and closure. This includes:

- Mining areas
- Roads and utilities
- Storage and work areas
- Temporary construction zones

The Project is expected to:

- Operate for about 11 years
- Extract about 11.9 million tonnes of material each year
- Process about 3 million tonnes of ore (rock that contains valuable minerals or metals to be mined and processed) a year
- Produce about 103,000 ounces of gold a year
- Create 1,600 jobs during construction and 950 jobs during operations
- Generate about $559 million in tax revenue (municipal, provincial and federal)
- Contribute about $5 billion to Nova Scotia's economy over the life of the Project

All three sites were mined before by other companies in the late 1800s and early 1900s. Old mine waste remains at the sites, including tailings (mine processing waste), waste rock and contaminated soil. The Company plans to manage and clean up this material under a formal plan, similar to work completed at the Touquoy Mine (a mine which is also owned and operated by St Barbara Limited).

Almost 10 years of environmental studies have also been completed to guide the design of the Project. The Company has worked with the following groups to collect feedback:

- federal and provincial regulators
- local communities
- the Mi'kmaq of Nova Scotia

The current design reflects the feedback received from these groups. Changes include reducing the PDAs, moving infrastructure away from sensitive waterways, removing the Beaver Dam haul road, and eliminating the Old Mitchell Tailings Management Facility (TMF). These updates aim to reduce environmental effects, improve safety, and respect Mi'kmaq Rights and community concerns.

Historic mining activity has taken place at all three sites The latest recorded production at each site concluded in 1998 for the 15-Mile Mine, 1988 for the Old Austen Mine, and 1930 for the Old Mitchell Mine. Documentation for gold production at the Old Mitchell

Mine is limited, and further production may have continued until 1960. All three sites have historic contamination from old mining activities, which will be remediated during the Project.

Each site was previously reviewed as a separate project under the *Canadian Environmental Assessment Act, 2012*:

- Fifteen Mine Stream Gold Project (15-Mile Mine): Environmental study submitted in 2018. The review included one round of information requests and was then withdrawn in 2023.
- Beaver Dam Mine Project (Old Austen Mine): Environmental study submitted in 2017. The review included three rounds of information requests and was then withdrawn in 2023.
- Cochrane Hill Gold Mine Project (Old Mitchell Mine): Assessment started in 2018; no full study submitted; process ended in 2023.

Figure 1.1-1 shows the names of the Company and the Project over time. An earlier version of the Project was called Moose River Consolidated Project. That earlier project was proposed by Atlantic Mining NS Inc. (AMNS), a subsidiary of St Barbara Ltd. The Moose River Consolidated Project, including three potential developments, provides the basis for the current 15-Mile Processing Hub Project. For more information about how the Project changed see Section 2.6.3.

Figure 1.1-1 Project Terminology

1.2 Project Name, Sector, and Location

Project Name	15-Mile Processing Hub Project
Sector	• Mines and Minerals – precious metal mine
Location	• 15-Mile Mine: approximately 100 km northeast of Halifax, Nova Scotia • Old Austen Mine: approximately 85 km northeast of Halifax, Nova Scotia • Old Mitchell Mine: approximately 145 km northeast of Halifax, Nova Scotia

15-Mile Processing Hub Project

Project Location

St Barbara

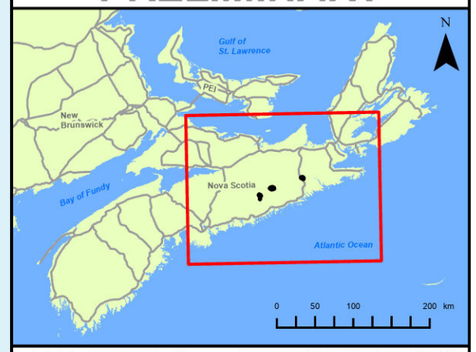
PEI
Northumberland Strait
CUMBERLAND
COLCHESTER
Truro
Minas Basin
HANTS
PICTOU
New Glasgow
ANTIGONISH
Antigonish
INVERNESS
VICTORIA
CAPE BRETON
RICHMOND
Port Hawkesbury
Guysborough
GUYSBOROUGH
Trafalgar
Melrose
OLD MITCHELL MINE
Sherbrooke
15-MILE MINE
OLD AUSTEN MINE
Marinette
Malay Falls
Sheet Harbour
HALIFAX
Halifax
Atlantic Ocean
0 10 20 30 km

Project Location
Town/City

County Boundary

- Antigonish
- Cape Breton
- Colchester
- Cumberland
- Guysborough
- Halifax
- Hants
- Inverness
- Pictou
- Richmond
- Victoria

PRELIMINARY



Coordinate System: NAD 1983 UTM Zone 20N

Sources: Esri, CGIAR, USGS, GeoNOVA, SNSIS, NSNRR, ACCDC, IBA Canada, CNWI, HERE, Garmin, USGS

Date: 2026-03-05	Project #: 25-11616
Scale: 1:750,000	Drawing #: 1.2-1
Drawn By: E. Johnson	
Checked By: S. Allain	

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1.3 Proponent

Item	Detail
Proponent	• 15-Mile Minerals and Renewables, a subsidiary of St Barbara Ltd. • https://stbarbaragold.ca
Corporate Contact	• Craig Hudson, General Manager Projects • 15-Mile Minerals and Renewables Ltd. • 30 Damascus Road Suite 201 • Bedford, Nova Scotia, B4A 0C2 • craig.hudson@stbarbara.ca
Supporting Consultant	• Callie Andrews, Business Group Leader – Natural Resources and Impact Assessment Eastern Canada • GHD Ltd. • 120 Western Parkway Suite 110 • Bedford, Nova Scotia, B4B 0V2 • callie.andrews@ghd.com

1.4 Project and Company History

In July 2019, AMNS was bought by St Barbara Ltd. After the purchase, AMNS became a fully owned division of St Barbara Ltd. The purchase included:

- The Touquoy Mine
- Three planned mining projects: Fifteen Mile Stream, Beaver Dam, and Cochrane Hill
- All exploration licences previously held by Atlantic Gold Corporation

On May 1, 2025, AMNS was reorganized into two separate companies:

- AMNS kept ownership of the Touquoy Mine, which is now being closed and reclaimed, with new approval to process the remaining ore already stored at the site while reclamation continues.
- 15-Mile Minerals and Renewables took ownership of:
  - The proposed 15-Mile Mine, Old Austen Mine, and Old Mitchell Mine
  - Exploration licences and related lands across Nova Scotia

Both AMNS and 15-Mile Mineral and Renewables are owned by St Barbara Ltd. The two companies have different roles. AMNS manages work at the Touquoy Mine and 15-Mile Minerals and Renewables is responsible for developing new mine projects and managing exploration activities in Nova Scotia.

1.5 Summary of Engagement with Government Departments, Agencies and Regulators

1.5.1 Overview

The Company is working closely with municipal, provincial, and federal governments and regulators throughout the Project and has completed early engagement to provide information and seek input from the following groups:

- Local municipalities
- Elected officials
- Key regulatory agencies

1.5.2 Government Departments, Agencies and Regulator Engagement

15-Mile Processing Hub Project

Engagement is ongoing and will continue as the Project moves forward. The Company is focused on being open and transparent, working with others and maintaining ongoing communication. This approach helps ensure that feedback is heard and considered at each stage of the Project. Current and ongoing engagement activities include:

- Hosted three open houses in late 2025 to share project information and discuss job and supplier opportunities.
- Opened community offices in Stellarton and Guysborough in 2024, where people can ask questions and learn more about the Project.
- Creating a Project website (https://stbarbaragold.ca/) to share updates, information, and job opportunities.
- Sharing Project updates through news and media releases.

Invitations to these activities were sent to local municipalities, councillors and elected officials.

The Company is working with local, provincial, and federal government departments to share updates and improve the Project during the planning stage. These updates help the Company align with regulators, understand environmental and social impacts and improve Project design. Key groups involved include:

- Fisheries and Oceans Canada (DFO)
- Halifax Regional Municipality
- Impact Assessment Agency of Canada (IAAC)
- Invest Nova Scotia
- Municipalities (District of Guysborough, Pictou County, District of St. Mary's)
- Nova Scotia Natural Resources and Renewables (NSNRR)
- Nova Scotia Environment and Climate Change (NSECC)
- Nova Scotia Office of L'nu Affairs
- Nova Scotia New Democratic Party
- Towns (New Glasgow and Stellarton)

The Company also provides updates on Project planning to provincial departments, including the following:

- Nova Scotia Department of Agriculture
- Nova Scotia Department of Energy
- NSECC
- Nova Scotia Department of Finance
- Nova Scotia Department of Opportunities and Social Development
- NSNRR

Previous Engagement with Government Departments, Agencies, and Regulators

Since 2016, the Company (under its previous name) has worked with government departments and regulators. Past activities include:

- Sharing information by email, letters, phone calls, and presentations
- Arranging meetings to discuss project plans, changes, and approvals
- Organizing site visits for regulators to review existing conditions and project plans
- Participating in Technical Advisory Group meetings
- Engaging in discussions about changes to regulations

These previous activities allowed the Company to collect feedback from federal and provincial departments and regulators. This included:

- DFO provided feedback on the Beaver Dam Mine Project through an information request letter.
- Other agencies and government departments provided feedback on 15-Mile Mine through an information request.

1.5.3 Main Concerns Raised by Government Departments and Regulators

Table 1.5-1 below summarizes the main issues and concerns that were raised about the previous projects and explains how they have been addressed or will be addressed. The Old Mitchell Mine (formerly called the Cochrane Hill Gold Project) is not included in the table as it was never formally submitted for review. As a result, government regulators have not issued any formal information requests and have provided very little feedback on the project so far. 15-MMR will continue to work with government departments, agencies, and regulators to discuss concerns, answer questions, and find solutions together.

Table 1.5-1 Concerns Raised by Government Departments, Agency and Regulators

Key Issue or Concern	Action Taken and/or Planned
15-Mile Mine	
Detail surrounding the Fish & Fish Habitat Offsetting Plan	15-MMR is working with independent experts to develop a detailed plan to make up for any impacts the Project may have on fish and fish habitat. The plan will describe projects and actions that will help protect, restore, or improve fish habitat. These proposed measures will be discussed with Fisheries and Oceans Canada before they are included in future regulatory submissions.
Seloam Brook Realignment design, focusing on fish movement	15-MMR has updated the Seloam Brook realignment design to help fish move through the area more easily. The updated design will be shared with Fisheries and Oceans Canada for review and feedback.
Explain if a liner system is planned for the potentially acid generating waste rock	15-MMR has made changes to the mine plan to reduce the amount of material that needs to be mined at one time and to reduce the size of surface stockpiles. The updated Project design includes placing potentially acid generating rock in the tailings management facility as soon as it is produced. This material will also be placed in mined-out pits and stored underwater, which is a common industry practice that helps reduce environmental risks.
Removal and treatment of Historic Tailings	The Project will include the cleanup and management of historic tailings. Soil affected by mercury will be dug up, safely moved, and stored in a specifically designed containment area within the tailings management facility. If any soil disturbed during construction exceeds environmental quality standards, it will also be cleaned up or managed appropriately. More studies will be completed to identify the areas that require cleanup as planning for the historic tailings management program continues. Details on how historic tailings, waste rock, and contaminated soil will be managed and stored will continue to be developed as the Project moves forward. 15-MMR will work with independent experts to ensure these materials are handled safely and effectively.
Level of detail provided for the tailings management facility, including use of an unlined tailings facility	In 2025, 15-MMR completed a study to compare different options for the tailings management facility. This led to improvements in where it is located and how it is designed. The project design has now advanced to the pre-feasibility stage and is using lessons learned from the St Barbara Touquoy Mine. Detailed engineering work is underway, and an independent consultant is reviewing each step to ensure quality and build confidence with stakeholders. An Engineer-of-Record will be identified for the life of the dam. This is a qualified professional engineer who is responsible for the safety and performance of the dam design and construction. An Independent Tailings Review Board will also review the dam's performance each year. Early groundwater and surface water studies have already been completed to support the design. More detailed studies are ongoing to confirm that the design meets environmental rules and protects water quality. The tailings management facility will also be designed and operated in line with Canadian Dam Association guidelines.
Lack of specific surveys for bird and bats within and around the Project Development Area	15-MMR has completed a review to identify missing environmental information for the 15-Mile Mine Project. In 2025, surveys were completed to study breeding birds, nightjars, and fall bird migration. In 2026, spring migration surveys was also completed at each site. In addition, bat surveys were carried out, including acoustic monitoring and checks for maternity roosts where bats may give birth and raise their young. These surveys focused on areas where bats are most likely to live, breed, or raise pups.
Old Austen Mine	
Possible impacts to downstream fish habitat in WC-23 (tributary to	The Old Austen Mine has been redesigned to reduce environmental impacts as much as possible and improve the overall design. As part of these changes, the

Cope Brook) and from the planned Haul Road	Project area has been reduced by 45%, and the Cope Brook watershed has been completely removed from the Project area.
Not enough information in the Environmental Effects Assessment	15-MMR hired an independent consultant to review existing fish and fish habitat information and identify what information was missing. A full field survey program was carried out in the summers of 2024 and 2025, with additional work planned for 2026 to fill in the identified information gaps. Some concerns were raised that there was not enough information to fully understand how the Project could affect fish and fish habitat, including water temperature and other impacts. 15-MMR is working to collect more complete information so that better-informed decisions can be made.
Due to the high reactivity of historic tailings all historic tailings, waste rock, and till affected by previous mining activities should be stored in a lined cell within the potentially acid generating waste rock stockpile footprint	The Project will include the cleanup and management of historic tailings. Soil affected by mercury will be dug up, safely moved, and stored in a specifically designed containment area within the tailings management facility. If any soil disturbed during construction exceeds environmental quality standards, it will also be cleaned up or managed appropriately. More studies will be completed to identify the areas that require cleanup as planning for the historic tailings management program continues. Details on how historic tailings, waste rock, and contaminated soil will be managed and stored will continue to be developed as the Project moves forward. 15-MMR will work with independent experts to ensure these materials are handled safely and effectively.
Method for storing potential acid generating waste rock	Potentially acid generating waste rock will be temporarily stored on the surface and then placed back into the emptied Austen Pit. Based on testing, this material may produce acidic drainage, so a clay or synthetic liner will likely be needed to collect and manage any water that meets the stockpile. The material will be stored this way until it can be placed back into the pit. This approach follows common industry practice and is supported by guidance from the Mine Environment Neutral Drainage (MEND) program and Nova Scotia Environment and Climate Change.
Possible impacts on mainland moose population	The Project has been redesigned to reduce environmental impacts where possible and improve the overall design. This includes carefully placing infrastructure to avoid important moose habitat areas. The Project also reduces the breaking up of wildlife habitat by using and upgrading existing roads instead of building many new ones. Workers will receive training on how to safely work around wildlife to reduce encounters. A Wildlife Management Plan will also be prepared and approved before construction starts.
Not affecting wetlands should be completed where possible	The Old Austen Mine has been redesigned to reduce environmental impacts where possible and improve the overall design. As part of these changes, the Project area has been reduced by 45%, and the number of wetlands affected has been reduced by 61%.

1.5.4 Plan for Future Engagement

As the Project moves forward, the Company will continue to engage with government departments, agencies, and regulators. The Company will continue working with existing organizations and involve new groups as Project planning continues. The Company also plans to:

- Develop a Regulatory Engagement Plan.
- Share a draft Initial Project Description for review before official submission, and incorporate feedback where possible.
- Hold regular meetings with regulators at key Project stages to discuss studies, requirements, and timelines.
- Share updated technical information as studies are completed.
- Continue offering site tours so regulators can see conditions, review plans, and ask questions.
- Keep regulators informed about public engagement activities, including timing and topics.
- Maintain clear and timely communication so regulators have the information they need.

- Continue working with federal and provincial regulators to provide feedback on the draft Co-operation Agreement between Nova Scotia and Canada on Environmental Impact Assessment.

1.6 Summary of Engagement with the Mi'kmaq

1.6.1 Overview

The Mi'kmaq are the founding people of Nova Scotia. They hold Aboriginal and Treaty rights confirmed by the *Constitution Act, 1982* (Canada). The Company is committed to working with the Mi'kmaq of Nova Scotia throughout the Project. The Company aims to build strong relationships based on trust, respect, and open communication.

Since 2016, the Company (under its previous name) has engaged with Mi'kmaq communities. This work helps the Company understand community priorities and include Mi'kmaq perspectives in Project planning and decisions. The Company will continue to work with the Mi'kmaq of Nova Scotia, this includes:

- Learning about Mi'kmaq history, values, knowledge, and teachings
- Sharing Project information early and clearly
- Listening to interests and concerns
- Following community engagement protocols
- Allowing enough time for review and feedback
- Identifying and addressing barriers to participation
- Working together to:
  - Develop mitigation plans
  - Identify opportunities to take part in the Project
  - Develop skills, knowledge and resources

1.6.2 Mi'kmaq Engagement

15-Mile Processing Hub Project

The Company is working to build positive relationships with the Mi'kmaq of Nova Scotia. The Company aims to:

- Respect Mi'kmaq Rights
- Understand community interests
- Identify and address potential Project impacts
- Include Mi'kmaq knowledge and perspectives in decisions

The Company is committed to long-term relationships based on respect, clear communication, and ongoing engagement. Figure 1.6-1 shows the locations of Mi'kmaq communities in relation to the PDAs. The Company is working with First Nations and organizations within closest distance to the Project, including:

- Millbrook First Nation
- Paq'tnkek Mi'kmaw Nation
- Pictou Landing First Nation
- Sipekne'katik First Nation
- Kwilmu'kw Maw-klusuaqn
- Maritime Aboriginal Aquatic Resources Secretariat
- Maritime Aboriginal Peoples Council
- Native Council of Nova Scotia

Engagement began in 2016 and restarted in early 2025. The goal of engagement is to share Project updates, including changes made in response to concerns raised in earlier discussions and to receive input. Current engagement for the Project includes:

- Inviting Mi'kmaw Chiefs to meet with Company leadership to hear community views.
- Meeting regularly with Kwilmu'kw Maw-klusuaqn to discuss Project updates, data sharing, and plans.
- Applying to the Sipekne'katik First Nation Governance Initiative Protocol (a community-based consultation process required when a project could impact Mi'kmaq rights).
- Inviting communities to take part in site visits and environmental (baseline) studies.

- Hosting open houses and meetings to share information and answer questions.
- Meeting regularly with Native Council of Nova Scotia and Maritime Aboriginal Peoples Council / Maritime Aboriginal Aquatic Resources Secretariat.
- Sending information packages to Mi'kmaw Chiefs with Project updates and responses to earlier concerns.
- Signing Community Partnership Agreements (CPAs) to help create respectful relationships between the Company and communities. The Company is committed to working with Mi'kmaq First Nations to develop CPAs and other benefit agreements that create shared benefits and long-term partnerships.

Information from Mi'kmaq Ecological Knowledge Studies is used, and will be continued to be used, in Project planning. Updated studies will be completed for the Old Austen Mine and the Old Mitchell Mine. These studies provide important cultural and environmental knowledge. The following studies have been prepared:

- 15-Mile Mine Mi'kmaq Ecological Knowledge Study was completed in November 2024 by Membertou Geomatics Solutions.
- Cochrane Hill Mi'kmaq Ecological Knowledge Study was completed in April 2019 by Mi'kma'ki All Points Services Inc. An updated Mi'kmaq Ecological Knowledge Study is underway by Membertou Geomatics Solutions to be completed in 2026.
- Beaver Dam Mi'kmaq Ecological Knowledge Studies were completed in 2009 by the Confederacy of Mainland Mi'kmaq and in 2016 by Mainland Mi'kmaq Development Inc. A new Mi'kmaq Ecological Knowledge Study is planned for 2026 and expected to be completed in 2027. It will be completed by Membertou Geomatics Solutions.

As the Project moves forward, the Company will continue to:

- Work with Mi'kmaq communities
- Strengthen relationships
- Communicate clearly and openly
- Provide opportunities for input at every stage of the Project

Previous Engagement with the Mi'kmaq

The Company and its previous owners have engaged with the Mi'kmaq since 2016. From previous engagement, Mi'kmaq communities and organizations have provided formal feedback on Project activities and proposed mitigation measures for all three previously proposed projects (15-Mile, Beaver Dam and Cochrane Hill Projects). This includes input from:

- Millbrook First Nation
- Native Council of Nova Scotia
- Kwilmu'kw Maw-klusuaqn

1.6.3 Main Concerns Raised by the Mi'kmaq

Table 1.6-1 summarizes the main interests, concerns, and questions raised about the Project and its individual sites and explains how they have been or will be addressed. 15-MMR is committed to continuing to work with the Mi'kmaq of Nova Scotia to discuss concerns, share information, and find solutions together.

Table 1.6-1 Main Concerns Raised by the Mi'kmaq of Nova Scotia

Key Issue or Concern	Action Taken and/or Planned
15-Mile Mine	
Monitoring dust and particle release during construction and operations	The design of the 15-Mile Mine has been changed to reduce the amount of material stored on the surface. Some stockpiles have been removed, and potentially acid generating waste rock will be placed directly into the tailings management facility or into mined-out pits instead of being stored on surface. A Dust Management Plan will be created for the Project. This plan will explain how dust will be monitored and controlled during construction, operation, and closure of the mine. Equipment from the former Touquoy Mine will be reused and includes dust-control features designed to reduce the amount of dust released into the air.
Protection of Mi'kmaq artifacts	15-MMR hired an independent consultant to carry out an archaeological field program of the project development area. No Mi'kmaq artifacts from before European contact were found during this work.

Key Issue or Concern	Action Taken and/or Planned
	If any archaeological artifacts or sites are discovered during construction or mine operations, established procedures developed by the Mi'kmaq of Nova Scotia and the Nova Scotia Museum will be followed to ensure they are properly protected and managed.
Missing water treatment for Project	15-MMR has updated the Project design to have water treatment and will continue to improve the system as more studies are completed and permits are obtained. The Project will use studies and monitoring to understand how water quality could affect fish and other aquatic life. If harmful effects are identified, measures will be put in place to reduce or prevent those impacts. 15-MMR has also completed testing to reduce the amount of cyanide and other chemicals needed during processing. This will help reduce the number of unwanted by-products released in treated water. Additional treatment steps have been included in the design to remove arsenic from water before it is released. 15-MMR will continue to monitor water quality throughout the life of the Project to make sure environmental standards are being met. A Human Health Ecological Risk Assessment will also be completed to evaluate any potential risks to people. Monitoring will continue during construction, operation, and closure of the Project.
Seloam Brook Realignment design, focusing on fish passage and dust impact on fish	15-MMR continues to update the design of the Seloam Brook realignment to help fish move through the area more easily. The updated design will be shared with KMKNO, NCNS, other Mi'kmaq organizations, and Fisheries and Oceans Canada for review and feedback. A Dust Management Plan will be developed for the Project. This plan will explain how dust will be monitored, controlled, and reduced during construction, operation, and closure of the Project. 15-MMR has hired an independent consultant to study whether dust could affect fish and fish habitat. A Human Health Ecological Risk Assessment will also be completed to evaluate any potential risks to people. Monitoring will continue throughout all stages of the Project.
Harmful impacts to fish and fish habitat, loss of habitat and migration of Indigenous fish species	15-MMR hired an independent consultant to review existing information about fish and fish habitat and identify where more information was needed. Field studies of fish and fish habitat were completed in the summers of 2024 and 2025, with additional studies planned for 2026 to fill in these information gaps. 15-MMR will develop a plan to make up for any impacts the Project may have on fish and fish habitat, as required under the Fisheries Act. The company is committed to working with the Mi'kmaq of Nova Scotia and Fisheries and Oceans Canada to identify projects that can help protect, restore, or improve fish habitat. 15-MMR will also complete a Human Health Ecological Risk Assessment to evaluate any potential risks to people. Monitoring will continue throughout all stages of the Project.
Lack of specific surveys for bird and bats within and around the Project Development Area	15-MMR has completed a review to identify missing environmental information for the 15-Mile Mine Project. In 2025, surveys were completed to study breeding birds, nightjars, and fall bird migration. In 2026, spring migration surveys was also completed at each site. In addition, bat surveys were carried out, including acoustic monitoring and checks for maternity roosts where bats may give birth and raise their young. These surveys focused on areas where bats are most likely to live, breed, or raise pups.
Accidents and malfunctions in relation to the tailings management facility	In 2025, 15-MMR completed a study to compare different options for the tailings management facility. This led to improvements in where it is located and how it is designed. The project design has now advanced to the pre-feasibility stage and is using lessons learned from the St Barbara Touquoy Mine. Detailed engineering work is underway, and an independent

Key Issue or Concern	Action Taken and/or Planned
	consultant is reviewing each step to ensure quality and build confidence with stakeholders. An Engineer-of-Record will be identified for the life of the dam. This is a qualified professional engineer who is responsible for the safety and performance of the dam design and construction. An Independent Tailings Review Board will also review the dam's performance each year. Early groundwater and surface water studies have already been completed to support the design. More detailed studies are ongoing to confirm that the design meets environmental rules and protects water quality. The tailings management facility will also be designed and operated in line with Canadian Dam Association guidelines.
Flow decreases in East Lake and East Brook waterbodies	15-MMR has updated the Project design to remove infrastructure from the East Lake watershed. This change is expected to reduce or eliminate potential impacts on water flow in the area.
Reclamation planning and timing for renewed access to the site after active mining is completed	The Project has been redesigned with cleanup and site restoration in mind. Simpler layouts, better control of waste materials, and less infrastructure will help make cleanup faster and easier. For example, filling in empty pits during operations will allow the land to be restored much sooner than in older designs that relied on flooding pits at the end of mine life. The design has also been improved using experience from the Touquoy Mine to support better planning for ongoing and long-term cleanup. More details will be developed during the permitting process and through ongoing engagement with the Mi'kmaq. 15-MMR also plans to carry out cleanup work during the life of the mine where possible, including placing potentially acid generating waste rock back into mined-out pits while operations are still ongoing.
Old Austen Mine	
Food uncertainty and rising food costs	15-MMR recognizes concerns in the community about food insecurity and rising food costs. The project has been redesigned to reduce its impact on traditional food sources and land use. This includes reducing the overall disturbed area, making the open pit smaller, and removing the Beaver Dam Haul Road. 15-MMR is open to working with Millbrook First Nation to discuss possible ways to provide support.
Concerns about the timing and on-set of acid rock drainage	Potentially acid-generating waste rock will be stored on the surface for a short time and then placed back into the emptied Austen Pit to reduce how long it is exposed above ground. Water studies will be updated during the permitting process as more information becomes available. If needed, additional measures will be added to manage the risk of acid rock drainage. The smaller open pit design has also reduced the total amount of waste rock and overall material produced.
Haul Road and potential impact on Traditional Land Use	Millbrook First Nation raised concerns that the proposed haul road could disturb Crown land and affect traditional land use. 15-MMR has removed the haul road from the Project and will not build, upgrade, or use it to transport ore.
Loss of Traditional Land Use	15-MMR has redesigned the Old Austen Mine to make the open pit smaller and reduce the overall Project area by 45% to help address concerns. The design also keeps access to the Killag River from the west side so people can continue fishing. 15-MMR is open to talking with Millbrook First Nation about site access during all stages of the Project, as long as it is safe and practical.
Safety concerns relating to emergency response	A Project Emergency Response Plan will be written and submitted for approval. 15-MMR would like to work with Millbrook First Nation to include their input to address concerns relating to emergency response.

Key Issue or Concern	Action Taken and/or Planned
Concerns relating to contingency planning for accidents and malfunctions	Possible hazards will be identified and assessed based on their level of risk, and plans will be put in place to reduce those risks and respond if something goes wrong. An Emergency Response Plan will be developed and submitted for approval by regulators. 15-MMR would like to work with Millbrook First Nation to help develop this plan so it can be used if there is an accident or equipment failure. The Project has reduced its level of risk because it is designed to be more like a typical quarry, with less infrastructure and smaller stockpiles, which reduces the chance of problems. The Project will also follow industry-leading safety standards.
How close the community is to the pollution source	15-MMR has redesigned the Old Austen Mine to use a smaller open pit and reduce the overall Project area by 45%, resulting in a much smaller land disturbance. There is known historical contamination in the project area from old tailings material. During operations, these areas will be cleaned up, which will improve current environmental conditions and reduce the risk of ongoing pollution. 15-MMR will complete a Human Health Ecological Risk Assessment to understand any potential risks to people. 15-MMR is also open to working with Millbrook First Nation to help develop emergency and contingency plans in case of an accident or equipment failure.
How close the community is to the mine site	15-MMR has made major changes to the Old Austen Mine design to reduce environmental impacts and address community concerns. The number of watersheds affected by the Project has been reduced from seven to four, including removing the Cope Brook watershed from the Project area. Cope Brook flows into Millbrook IR17, so this change was made to help address concerns about water quality. The Project has also been improved to remove 23 million tonnes of surface waste rock, which is expected to further reduce potential impacts on water quality.
Concern that noise and activity may affect the quietness of the area, affect wildlife behaviour	Noise studies will be completed for the Project, and noise-reducing measures will be used where needed. Where possible, trees and vegetation will be kept in place to help act as natural sound barriers. A Blast Management Plan will be developed. Blasting will only take place during the day, and nearby communities will be notified ahead of time. Workers will receive training on how to safely interact with wildlife to reduce human–wildlife interactions. A Wildlife Management Plan will also be developed and submitted for approval before construction begins. The Project redesign includes a smaller open pit and lower mining and hauling rates. These changes reduce the overall size and intensity of the operation and mean fewer machines will be needed on site. 15-MMR remains open to working with Millbrook First Nation to continue discussing and addressing Project concerns.
Old Mitchell Mine	
Environmental impacts, including potential impact to wetlands	15-MMR has redesigned the Old Mitchell Mine to reduce environmental impacts where possible and improve the overall design. 15-MMR has reduced the open pit by 14 Mt and made the project development area smaller. The revised design removes the need for a tailings management facility and a process plant, and reduces environmental effects, including a 55% reduction in the wetland disturbance footprint.
Volume of water withdrawal from Archibald Lake	15-MMR has redesigned the Old Mitchell Mine so a surface water withdrawal is no longer needed. Archibald Lake has been designed out of the project development area.
Impacts to old growth forest	The Old Mitchell Mine has been redesigned to avoid sensitive environmental areas, including identified old-growth forest within the project development area. 15-MMR plans to carry out field studies of old-growth forest in early

Key Issue or Concern	Action Taken and/or Planned
	spring 2026. Where possible, the mine layout will be adjusted to avoid these areas.
Concerns with proximity to St. Mary's River	15-MMR has redesigned the Old Mitchell Mine to avoid direct contact with the St. Mary's watershed. Both the project area and open pit size have been reduced to further increase the buffer.
Concern over cumulative effects of multiple developments	15-MMR has updated the Project design to take up less land, reduce environmental impacts where possible, and continue improving the overall design. By combining the three mine sites into one coordinated Project, operations can be planned and managed together. This also allows the combined environmental effects of all three sites to be studied more effectively, instead of looking at each site separately. 15-MMR will also complete a Human Health Ecological Risk Assessment to assess any potential risks to people.

1.6.4 Plan for Future Engagement

In 2025, the Company restarted engagement with the Mi'kmaq of Nova Scotia. Engagement will continue throughout all phases of the Project. Engagement will include:

- Meeting with Mi'kmaw Chiefs and Council members
- Holding community open houses to share information, answer questions, and gather feedback (these will be planned with the communities to meet their needs and interests)
- Inviting communities to take part in environmental studies, including site visits and review of results
- Sharing draft documents (such as the Initial Project Description) for review and feedback
- Providing funding and opportunities to take part in regulatory review processes
- Sharing job and training opportunities through Mi'kmaq job boards
- Developing agreements with communities, such as:

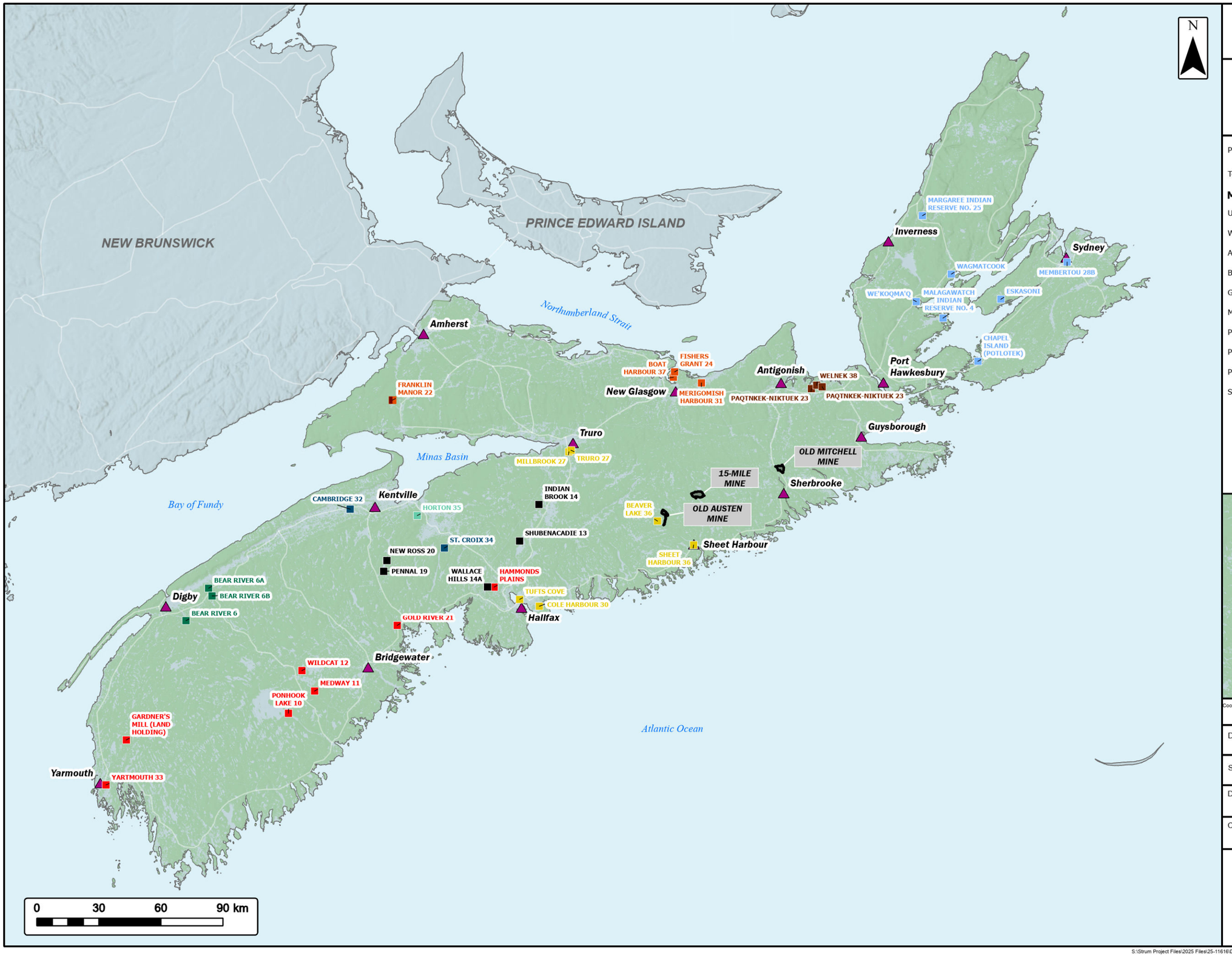
– Exploration Agreements
– Memoranda of Understanding
– Mutual Benefits Agreements

- Taking part in community events and provide sponsorships

15-Mile Processing Hub Project

Mi'kmaq First Nation Communities of Nova Scotia

St Barbara



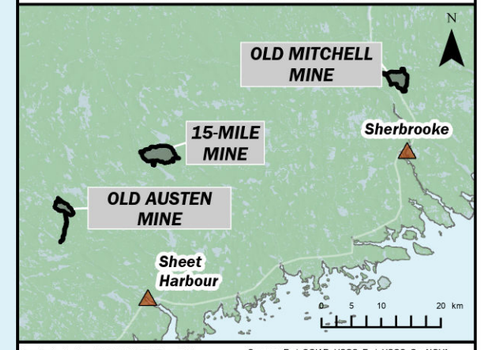
Project Location

Town/City

Mi'kmaq First Nation Communities of Nova Scotia

- Unama'ki First Nation
- Wasoqopa'q First Nation
- Annapolis Valley First Nation
- Bear River First Nation
- Glooscap First Nation
- Millbrook First Nation
- Paqtnkek Mi'kmaw First Nation
- Paqtnkek Mi'kmaw First Nation / Pictou Landing First Nation
- Pictou Landing First Nation
- Sipekne'katik First Nation

PRELIMINARY



Coordinate System: NAD 1983 UTM Zone 20N

Sources: Esri, CGIAR, USGS, Esri, USGS, GeoNOVA, SNSIS, NSNRR, ACCDC, IBA Canada, CNWI, HERE, Garmin, USGS

Date: 2026-03-05	Project #: 25-11616
Scale: 1:1,750,000	Drawing #: **1.6-1**
Drawn By: E. Johnson	
Checked By: S. Allain	

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1.7 Summary of Engagement with Stakeholders

1.7.1 Overview

The Company follows St Barbara's Community and External Relations Policy, which focuses on working with and supporting communities where the Company operates. The Company recognizes mining can contribute to social and economic development, build strong relationships and create long-term benefits for communities by working to:

- Identify and understand risks and impacts on local communities, these will be used to develop performance objectives and included in management practices
- Respect the culture, wellbeing, and human rights of workers and communities affected by the Project
- Work with communities to build positive and mutually beneficial relationships
- Invest in community projects that provide benefits beyond the life of the mine
- Share clear and timely information about project activities
- Provide ways for people to raise concerns or complaints, and respond to them
- Support community health and wellbeing through education and health programs
- Take part in local events and support community organizations
- Follow all laws, regulations, and permit requirements, including those related to human rights.

1.7.2 Engagement Activities with Stakeholders

15-Mile Processing Hub Project

Since 2016, the Company (under its previous name) has worked with local communities, groups and organizations related to the Project. Ongoing engagement will continue as the Project moves forward. The Company focuses on:

- Clear and open communication
- Working together with others
- Making sure feedback is heard and considered

The Company is working with communities in the following ways:

Community Liaison Committees (CLCs)

- CLCs help connect the Company and the community.
- Committees were created for the Fifteen Mile Stream and Beaver Dam projects.
- CLC members include residents with varying backgrounds and views.
- Meetings were held in 2025 and early 2026 to share Project updates and discuss changes.
- A CLC had been established for the Old Mitchell Mine under the previous version of the Project. A new CLC is being considered for the Old Mitchell Mine area.

Community events and information sharing

- Open houses were held in late 2025 to share Project information and discuss jobs and business opportunities.
  - Environmental experts were present to help answer questions.
- A community survey was distributed to learn how people would like to be engaged.
- A newsletter with Project information was sent to more than 40,000 households.

Community offices and contact options

- Community offices were opened in Stellarton and Guysborough in 2024.
- The community office in Sheet Harbour remains open to the public.
- A dedicated phone line and email are available for questions, updates, and job inquiries.
- A Project website (https://stbarbaragold.ca/) shares updates and job opportunities.

Community participation and education

- Presentations about the mining industry have been delivered at local high schools.

- The Company has participated in community events and local activities (e.g., Dalhousie Go Eng Girl, 2025 Feast for A Cause, Remembrance Day ceremonies, Sheet Harbour Decorating Day Event, Sheet Harbour Annual Christmas on Main Street Event).

Community partnerships and support

- 17 CPAs have been signed creating collaboration between the Company and communities.
- Financial support has been provided for:

– Graduating student bursaries
– Local sports and recreation groups
– Community events and organizations
– Food banks and holiday programs

- In 2024, over $50,000 was donated to food banks, helping more than 1,000 families.
- During a drought in 2025, water was supplied to the Municipality of the District of St. Mary's.

The Company is also engaging with many local groups, businesses, and organizations to share information and seek feedback. The updates focus on sharing Project updates including changes to reduce environmental impacts, community benefits, and addressing community concerns. Types of groups include:

- Communities
- Universities and colleges
- Community/recreation centres
- Clubs/societies and associations
- Chambers of commerce
- Schools/academies
- CLCs for previous 15-Mile Projects
- Non-profits

Previous Engagement with Stakeholders

The Company and its previous owners have engaged with communities and stakeholders since 2016. Engagement activities have included:

- Sharing information through emails, websites, letters, pamphlets, meetings, open houses, and mailouts
- Opening community offices where residents can ask questions and stay informed
- Issuing media and press releases to share accurate project information
- Preparing plain language summaries and other materials related to environmental assessment work

Issues and concerns presented during these activities have been used to help shape the current Project design.

1.7.3 Key Issues and Concerns Raised by Stakeholders

Key issues raised during ongoing engagement for the Project, as well as issues from earlier engagement on previous plans have been, or will be addressed, through ongoing engagement and Project planning.

1.7.4 Plan for Future Engagement

The Company has developed a Community Engagement Plan to guide how it works with communities. As the Project develops the Company will:

- Continue to engage with local communities and stakeholders
- Reconnect with existing groups and identify and involve new groups
- Extend hours at community offices in Sheet Harbour, Stellarton, and Guysborough
- Hold open houses to share Project updates, including environmental data and modelling results

– Have technical experts available at open houses to answer questions and hear concerns

- Share a draft Initial Project Description with CLCs for review before submission, and consider feedback where possible
- Continue taking part in local events and supporting community organizations

1.8 Studies/Assessments

The Company is not aware of any public regional studies or assessments related to the Project. The Company has completed several Mi'kmaq Ecological Knowledge Studies for the three mine sites. It is not aware of any publicly available Indigenous-led assessments related to the Project.

1.9 Strategic Assessments

The Project is expected to be closed and under reclamation by 2050, with no expected emissions from heavy equipment or transportation. Because of this, a plan for net-zero emissions after 2050 is not required under the Environment and Climate Change Canada (ECCC) Strategic Assessment of Climate Change (2020). If a federal impact assessment is required, the Company will follow this guidance to:

- Measure greenhouse gas (GHG) emissions
- Identify ways to reduce emissions
- Assess how the Project will respond to climate change

Potential effects on air quality are described in Section 5.4.2.

The Company is not aware of any other strategic assessments that apply to this Project.

2 Project Information

2.1 Purpose and Need for Project

The Project aims to produce gold in Canada to help meet growing global demand, with a focus on responsible development, creating local jobs, and investing in host communities while protecting the environment. The Company plans to follow responsible environmental practices and provide a stable, sustainable source of gold.

The Project also supports Nova Scotia's goal to clean up old mine tailings. It includes plans to safely manage and reduce these tailings, some of which are on public (Crown) land. This work could reduce cleanup responsibilities for the province and create opportunities to restore other nearby areas.

Nova Scotia has identified gold as a key mineral. The province wants to grow this sector to create jobs, attract investment, and support clean energy. Gold is widely used in electronics, dentistry, and finance; demand is increasing.

The Project aligns with provincial and federal priorities. Both levels of government support responsible mining to strengthen the economy, improve supply chains, and help address climate change. The Project could also support large national goals, such as improving infrastructure and connecting regions.

The Project is expected to bring economic benefits, especially in rural areas. It could create jobs, support training, and increase economic activity. It may also improve infrastructure in the region.

Overall, the Project could boost Nova Scotia's economy by about 1% with a meaningful increase in jobs, investment, and long-term growth.

2.1.1 Potential Benefits

The Project is expected to provide strong economic benefits locally, provincially, and nationally by creating jobs, supporting economic growth, and generating significant tax revenue for governments. Key benefits include:

- About $5 billion added to Nova Scotia's gross domestic product over the life of the Project
- More than 1,600 full-time jobs across Canada, including about 1,380 jobs in Nova Scotia, during construction
- More than 950 full-time jobs across Canada, including about 740 jobs in Nova Scotia, during operations
- About $900 million spent locally
- About $66 million in tax revenue (federal, provincial and municipal) each year during construction
- About an average $41 million per year in tax revenue to governments (federal, provincial and municipal) for 11 years during operations
- More than $2.1 billion in total spending over the life of the Project

2.2 Physical Activities Regulations Provisions

The *Impact Assessment Act* and its *Physical Activities Regulations* (SOR/2019-285) are expected to apply to the Project. These rules address construction, operation and decommissioning of mines. In this case, they include:

- 18(c) New metal mines that produce 5,000 tonnes of ore per day or more

- 18(d) New metal mills that process 5,000 tonnes of ore per day or more.

The Project is expected to exceed both these limits. The current plan is to produce about 3 million tonnes of ore per year, which is about 8,200 tonnes per day. Because of this, the Company must submit an Initial Project Description to the Impact Assessment Agency of Canada. This is required under federal law before the Project can move forward.

2.3 Activities, Infrastructure, Structures, and Physical Works

The Company plans to build, operate, and reclaim open pit mines in the three main mining areas:

- The 15-Mile Mine, the main site, will include four open pits and facilities to manage waste rock, process ore, and tailings.
- The Old Austen Mine will have one open pit.
- The Old Mitchell Mine will have one open pit.

At the Old Austen and Old Mitchell sites, ore will be mined and transported to the 15-Mile Mine for processing. The final product will be gold bars (called doré bars), which are partially refined gold.

Table 2.3-6 (at the end of Section 2.3) outlines construction, operation, and closure activities. In total, the Project will process about 33.4 million tonnes of ore. A site-by-site breakdown is shown in Table 2.3-1.

Table 2.3-1 15-Mile Processing Hub Project Mined Material Breakdown

Relevant Site	**Mined Ore**		**Total Mined Material**	
	Million tonnes	Percentage for site (%)	Million tonnes	Percentage for site (%)
15-Mile Mine	18.5	55	70.6	48
Old Austen Mine	4.5	13	22.5	15
Old Mitchell Mine	10.5	31	54.6	37
Total	33.4		147.7	

2.3.1 15-Mile Mine Facilities and Infrastructure

The 15-Mile Mine will be the main processing site for the Project. Some land at this site is owned by the Company, but most is Crown land. A small portion is privately owned. All Project infrastructure and roads will be located on land owned by the Company or Crown land.

Mining and processing is expected to run continuously at the 15-Mile Mine for about 11 years, with mining rates varying over that period. The 15-Mile Mine will process about 3 million tonnes of ore each year from all three Mines.

The Project has been designed to limit its footprint as much as possible, and the Company will continue improving the design to further reduce impacts. The proposed layout of 15-Mile Mine is shown in Figure 2.3-1. Major infrastructure in the current design includes:

- Four open pits (Egerton MacLean, Hudson, Plenty, and 149)
- Areas to store waste rock, soil and mined ore
- A processing plant to crush, mill, and refine the ore into gold
- Buildings for workers, equipment maintenance, and storage
- A facility to store tailings
- Water management systems, including ponds, ditches, and treatment plants
- Waste management systems, including sewage treatment
- Power supply systems, including backup generators and electrical equipment
- Roads, safety systems, and communications infrastructure

To reduce costs and environmental impacts, the Company plans to reuse equipment and buildings from the Touquoy Mine, provided the infrastructure in good condition. The following major infrastructure may be reused:

- Processing buildings (crushing, grinding and reagents)
- Mine truck shop building
- Gold room
- Process plant equipment (pumps, pipes, mechanical equipment etc.)
- Cranes

- Electrical equipment (panels, transformers, motor control centres)

Open Pits

The material at the 15-Mile Mine will be mined in four open pits. In total, about 70.6 kilo tonnes of material will be mined. This includes about 18.5 kilo tonnes of ore, 52.2 kilo tonnes of waste rock, and the rest made up of overburden (soil and sod cleared from above the ore). Table 2.3-2 shows the breakdown of mined material by pit.

Table 2.3-2 15-Mile Pits and Mined Material Breakdown

Pit	Mined Ore		Total Waste Rock Mined	
	Kilo tonnes	Percentage (%)	Kilo tonnes	Percentage (%)
Egerton-McLean	13,326	72	45,976	65
Hudson	1,885	10	7,779	11
Plenty	1,931	10	11,674	17
149	1,326	7	5,173	7
Total	18,467		52,135	

Note: all values rounded.

The 15-Mile Mine pits are smaller in size and depth, with moderate slopes compared to the previous mine plans:

- The Egerton-McLean will be approximately 800 metres (m) m long east to west, 160 m deep at the east end, and 80 m deep at the west end.
- The Plenty pit will be approximately 600 m long, 300 m wide and 90m deep.
- The Hudson pit will be approximately 350 m long, 250 m wide and 70 m deep.
- The 149 pit will be approximately 320 m long, 200 m wide and 70 m deep.

In addition to the open pits, the 15-Mile Mine will need clay for construction, to be used when building the TMF and as a liner for ditches and ponds. Clay will come from on-site sources or be purchased from an off-site supplier.

Stockpiles

The 15-Mile Mine will generate excess materials such as tailings, topsoil, overburden, and waste rock. Topsoil, overburden, and non-acid generating rock will be stored at the surface during operations. These materials will eventually be stored in open pits (to be completed by about year 10). Table 2.3-3 shows estimated storage capacities, which may change as engineering design work continues. Historic tailings will be managed under a separate plan.

Table 2.3-3 15-Mile Stockpile Masses at End of Operation

Infrastructure	Non-Acid Generating Rock (Million tonnes)	Potentially Acid Generating Rock (Million tonnes)	Organic Material (Millon tonnes)	Total (Million tonnes)
Non-acid generating rock and overburden stockpile	15.7 (Max: 19.7, Year 8)		4.8 (Year 8: 3.8)	20.5 (Max: 23.6, Year 8)
Organic materials stockpile	-	-	2.5	2.5
Topsoil stockpile	-	-	0.3	0.3
Pit backfill	7.0	4.0	-	11.0
TMF potentially acid generating rock storage*	-	7.5	-	7.5
All Infrastructure	22.7	11.5	7.5	41.7

Note: All values rounded. Rounding may result in apparent summation differences.

Table 2.3-3 does not include all potentially acid-generating rock (i.e., rock that has the potential to release acid when it becomes exposed) or all non-acid generating rock. About 2.4 million tonnes of potentially acid-generating rock may be used in TMF construction if it can remain saturated and if not, it will be stored in the TMF. About 4.6 million tonnes of non-acid generating waste rock will be used to build the TMF and other site infrastructure.

Potentially acid generating rock will not be stored at the surface. It will be safely stored in the TMF and later placed in the mined-out Egerton McLean or Plenty pits and covered with water. This method prevents acid from forming and is in accordance with mine reclamation best practices. More details on impacts and management of potentially acid generating rock are available in Section 5.4.6. Further details on reclamation can be found in Section 2.3.3.

Process Plant Area

The 15-Mile Mine processing plant will handle whole ore from 15-Mile, Old Austen, and Old Mitchell. The plant will use standard methods to recover gold and will produce two main outputs:

- Gold (in the form of doré bars)
- Tailings (mine processing waste)

The plant is designed to process about 8,200 tonnes of ore per day and will run most of the time. Main parts of the processing plant include:

- Equipment to crush and screen the ore
- An area to store ore before processing
- A building for grinding and separating gold from ore
- Tanks to extract gold and treat waste
- A building for storing chemicals (reagents)
- A secure area to produce gold bars

Most of the equipment will come from the Touquoy Mine, although a new ball mill will be needed. Reusing equipment helps lower environmental impacts by reducing construction and waste. The site will also include:

- Office space for workers
- A lab to test samples
- A maintenance shop
- A security gatehouse
- Electrical and water systems
- A plant to treat water before it is released

The layout of the 15-Mile Mine has been designed to keep buildings close together and reduce the amount of land disturbed. A pad will be built to temporarily store up to 0.5 million tonnes of ore before crushing, helping maintain a steady feed to the plant.

Mine Infrastructure

Mining operations facilities will be west of the plant and accessed by Project roads. Facilities will include a fuel station, explosives storage, a truck repair shop, warehouse, plant workshop, offices (administration and mine) and worker changerooms. No on-site housing will be required as workers will commute daily and park in a parking lot made of compacted gravel.

The truck shop will have a large overhead crane to help move heavy equipment. The warehouse will also have lifting equipment. The fuel station will store diesel and provide fuel for both large mining equipment and smaller vehicles. Explosives will be stored and handled according to all federal and provincial laws. There will be two main storage areas:

- A secure storage area (called a magazine) for packaged explosives and detonators, with a capacity of about 6,000 kilograms.
- A separate area for bulk explosives, with a capacity of up to 40,000 kilograms.

Explosives will be delivered to the mine as needed and stored in a fenced area with secure locks and controlled access. The bulk explosives area will include space for related materials, a water tank, and a small office for blast management staff. This area will have its own power supply. The selected explosives supplier will be responsible for delivering, storing, and managing all explosives.

Tailings Management Facility

The Project will include a TMF to safely store mine waste. This facility will store:

- Tailings (waste left after processing ore)
- Certain types of waste rock that can produce acid
- Water that has come into contact with mine disturbance, as required

The TMF will include a dam built with a clay core to contain tailings materials. It will be constructed in stages over time as needed. The TMF will be designed to meet Canadian safety standards established by the Canadian Dam Association and the Mining Association of Canada.

Water from the TMF will be collected, treated, and reused where possible. Any water released will be sent to a water treatment facility before being discharged to the Anti Dam Flowage, a nearby waterbody (Figure 2.3-1). The facility will also include:

- Ditches and ponds to collect runoff
- A road around the site for monitoring and maintenance

The location and design of the TMF were carefully selected after reviewing different options. Key factors included:

- Reducing impacts to nearby watersheds
- Using natural land features to limit the size of the facility
- Avoiding sensitive environmental areas, such as important wetlands and habitat of rare species

Other waste storage options were considered, but this approach was chosen as it best fits conditions at 15-Mile Mine and helps to effectively manage potentially acid generating rock.

Historic Tailings and Waste Rock Management

There is a history of mining activity at the 15-Mile Mine, which resulted in some areas of contaminated soil, sediment, and surface water. Locations where soil and sediment were impacted by historic mining activities were identified through a series of drilling and test pitting across the 15-Mile Mine PDA. Soils were classified as either non-impacted or impacted based on the proximity to historic mining features such as historic infrastructure, waste rock piles, and tailings.

The drilling and test pitting program showed elevated soil concentrations of arsenic in areas that were both non-impacted and impacted by historic mining activities. Environmental guidelines regarding arsenic soil contamination limits will be determined through conversations with regulators to be reflective of site conditions. Soils which are deemed as passable based on the site-specific environmental guidelines may be used for soil cover material during closure.

Soils impacted by mercury have also been mapped. Areas with higher mercury concentrations in soil were typically found near historic tailings areas.

Any soils which exceed site-specific soil environmental guidelines that are proposed to be disturbed by Mine infrastructure will be remediated. Soil which is impacted by elevated mercury, including historic tailings, will be stored in the TMF. Other forms of contaminated soils (e.g. arsenic) will be temporarily stored in the TMF until the Plenty pit has been fully mined, at which point the contaminated soils will be transferred to the Plenty pit for permanent storage.

The Historic Tailings Management Plan will outline historic tailings remediation, including excavation, transportation, and storage of historic tailings materials. See Figure 2.3-2 for more details on impacts from historic tailings and waste rock within the PDA.

Water Management

The Company will manage water carefully to reduce use of fresh water use by directing excess water, including water from open pits and underground seepage to the TMF. The stored water will be used in gold processing. Overall, about 96% of the water used at the site is expected to be recycled, making the system largely water-efficient and reducing environmental impact.

Surface water that has been in contact with mine disturbance will be collected in ditches and directed to water storage infrastructure. These ditches and ponds will be lined with clay to reduce water infiltrating into the ground. Smaller settling ponds will be used as backup storage and pumping areas when needed.

Water will either be sent to the TMF for potential re-use or released. The Project will use two approved discharge points: Seloam Brook and Anti Dam Flowage. Before any water is released, it will be treated to meet environmental standards. Treatment will include best practices such as adding chemicals (e.g., lime, ferric sulphate, hydrogen peroxide) to remove harmful substances.

Fresh water for the site will be taken from Seloam Lake and stored at the processing plant. This water will be used for drinking water systems, fire protection, and other safety needs.

Waste Management

At the 15-Mile Mine, sewage will be collected in septic tanks and treated using a filtration system. During construction, temporary septic and waste facilities may be used. All waste from these systems will also be collected and transported off site for treatment and disposal.

Non-hazardous waste will be stored in bins and collected for disposal at a licensed off-site facility. Hazardous materials that need special handling will be stored safely and sent to approved facilities for proper disposal following all regulations.

Some materials, such as slag (a by-product formed during processing) and collected dust, will not be disposed of off-site. Instead, they will be reprocessed on site to recover any remaining gold.

Power Supply

The 15-Mile Mine will use electricity supplied by Nova Scotia Power Inc. The Mine's expected electricity needs are:

- About 15.1 megawatts of total connected power
- About 10.0 megawatts during normal operations
- About 1.1 megawatts for essential systems that must stay running in an emergency

Power will come from an existing 69 kilovolt transmission line near 15-Mile Mine. It will be stepped down to 25 kilovolts and distributed to the mine through a new substation near the processing plant.

A backup diesel generator (600 kilowatts) will be installed to provide emergency power for key systems in the plant, offices, and workshop if grid power is interrupted. Additional smaller diesel generators may be used during early construction, closure, or in remote areas where grid power is not available. These may also be used for emergency or mobile equipment needs.

Other Project Infrastructure

The Project will have standard communication systems, including phones, radios, and internet, to support daily operations.

Fire safety systems will be designed to meet all required federal and provincial standards in Nova Scotia. The design will follow the National Building Code of Canada and related safety rules.

15-Mile Mine will be accessed from Seloam Lake Road, which connects to Nova Scotia Route 374. Parts of the current Seloam Lake Road pass through the PDA, the road will be rerouted to go around these areas. Inside the PDA, will be two main types of roads:

- Haul roads, used to move ore and waste rock between pits, stockpiles, and TMF
- Access roads, used for general travel around the Mine

All Project roads will be built using non-acid generating rock taken from the mining operations.

A new access road will be built from Seloam Lake Road to 15-Mile Mine.

A new *Traffic Safety Act* was introduced in 2025 to improve road safety and set vehicle standards. Project truck traffic will follow these rules. In addition, all haul trucks will have tracking systems installed to monitor speed and location to improve safety and control.

Aggregate Operations

All natural materials needed for construction will come from within the PDA. Non-acid generating waste rock from the open pits will be used as building material. If needed, a mobile crusher will be used to break rock for construction.

Seloam Brook Realignment

Seloam Brook is a naturally branching stream that flows from Seloam Lake toward Fifteen Mile Stream near Highway 374. In the current design, this Brook flows through the planned Egerton-MacLean, Hudson, and Plenty pits. The Company is proposing to re-route Seloam Brook around the pits. The new channel will be designed to allow fish to move through the Brook and will also include features intended to improve fish habitat over current conditions.

2.3.2 15-Mile Mine Proposed Decommissioning Activities

Reclamation and closure of the Project will follow Nova Scotia's *Mineral Resources Act* and regulations. It will also follow international best practices for mine closure established by the International Council on Mining and Metals. A closure plan will be submitted to the regulator, along with an estimate of the financial security (amount of money required to complete the closure plan) needed for closure.

Main closure activities are expected to take about five years after mining ends. This allows time for the TMF to safely settle. Monitoring and follow-up work will continue for at least another five years after that. Key milestones are shown in Section 2.5.

The goal of closure is to leave the site safe, stable, and environmentally secure. The land will be reshaped and restored so it can support natural vegetation and fit in with the surrounding landscape. A detailed reclamation plan will be developed to provide guidelines (e.g., water quality, revegetation, slope stability) to establish reclamation procedures.

Some progressive reclamation work (i.e., reclamation work that occurs at the same time as mining activities) will happen while the mine is still operating. This will reduce the total amount of disturbed land and lower environmental and financial risks at the end of the Project. Mine site design will also account for future climate conditions, including heavier rainfall. After closure, the Mine site will continue to be monitored. This includes checking:

- Surface water and groundwater quality
- Water quality in the pit areas
- Vegetation growth
- Stability of remaining infrastructure

The Company will continue to work with Mi'kmaq communities and local stakeholders to include their input on long-term land use, access, and environmental protection measures.

Open Pit

At the end of mining, about 11 million tonnes of non-acid generating and potentially acid generating rock will already be placed in some of the pits through progressive reclamation. The pits will be closed in various ways:

- Plenty Pit will be filled with non-acid generating waste rock up to the surface. It will then be covered with a dry protective layer. The edges of the pit will be reshaped to make slopes stable and safe.
- Egerton-MacLean, Hudson, and 149 Pits will be made into pit lakes that will form naturally over time as they fill with rain and local runoff.
- Some steep pit walls will be made safer by reshaping the land or building protective berms.

The Company is assessing whether it would be helpful to speed up filling the pit lakes by directing additional water into them. Any such approach would only be used if it is shown to be safe and approved by regulatory authorities.

Water quality in the pit lakes will be carefully monitored. If needed, treatment will be used to meet environmental standards. Water will only be released from the pits once it is safe to do so. Once water quality meets requirements, pit lakes may be reconnected to the natural environment and allowed to flow into Seloam Brook.

The closure design will focus on preventing water and air from reacting with certain waste rock types in ways that could create pollution (potential for acid rock generation and metals leaching). This will be done by separating materials, placing some waste under water, and using engineered covers. Ongoing monitoring will be used to confirm that the closure design is working as expected and to make changes if needed.

Stockpiles and Tailings Management Facility

Waste materials will be managed and used throughout the Project and during closure.

- Potentially acid generating rock will already be placed in safe storage areas, such as the TMF or backfilled into selected pits, during operations.
- Non-acid generating rock will be used to help build covers for the TMF and to fill pits.
- Soil and overburden will be used to build site features and to cover and reshape land during reclamation.

Left over stockpiled soil and topsoil will be spread over reclaimed areas to support plant growth. Most of this material is expected to be used by the end of the Project but if any remains, it will be spread out, shaped, and seeded to allow vegetation to grow.

The TMF will be closed using a specially designed cover to reduce water entering the site, control runoff and support vegetation growth. Its long-term stability and seepage control will be confirmed through detailed engineering.

Water management systems will remain in place after mining ends until no longer needed. Once conditions are stable, these systems will be removed, and natural drainage patterns will be restored.

Areas used for stockpiles and infrastructure will be de-compacted, reshaped, covered with soil, and replanted. Slopes around the TMF will be adjusted as needed to ensure stability and support vegetation growth.

Water Management

Water in the pits and contact ponds will be regularly tested to make sure it meets environmental standards. If needed, water will be treated or managed on site until it is safe to release. Once water meets the required standards without treatment, water management systems will be decommissioned. Before decommissioning these systems, any remaining water will be tested to make sure it meets water quality requirements. Structures such as ponds and ditches will then be drained, reshaped or opened to allow natural drainage to return.

Water quality will continue to be monitored during closure and after the Project ends. This will help ensure that nearby streams and water bodies remain protected. If monitoring shows any water quality concerns, changes will be made to address them.

Operations Infrastructure

Equipment will be handled based on its value at the end of the Project. Equipment that still has value will be sold or recycled as scrap metal. Equipment with no value will be disposed of.

Non-hazardous waste from buildings and equipment that cannot be reused or recycled will be taken to approved landfills. Hazardous materials will be managed as required to meet regulatory requirements.

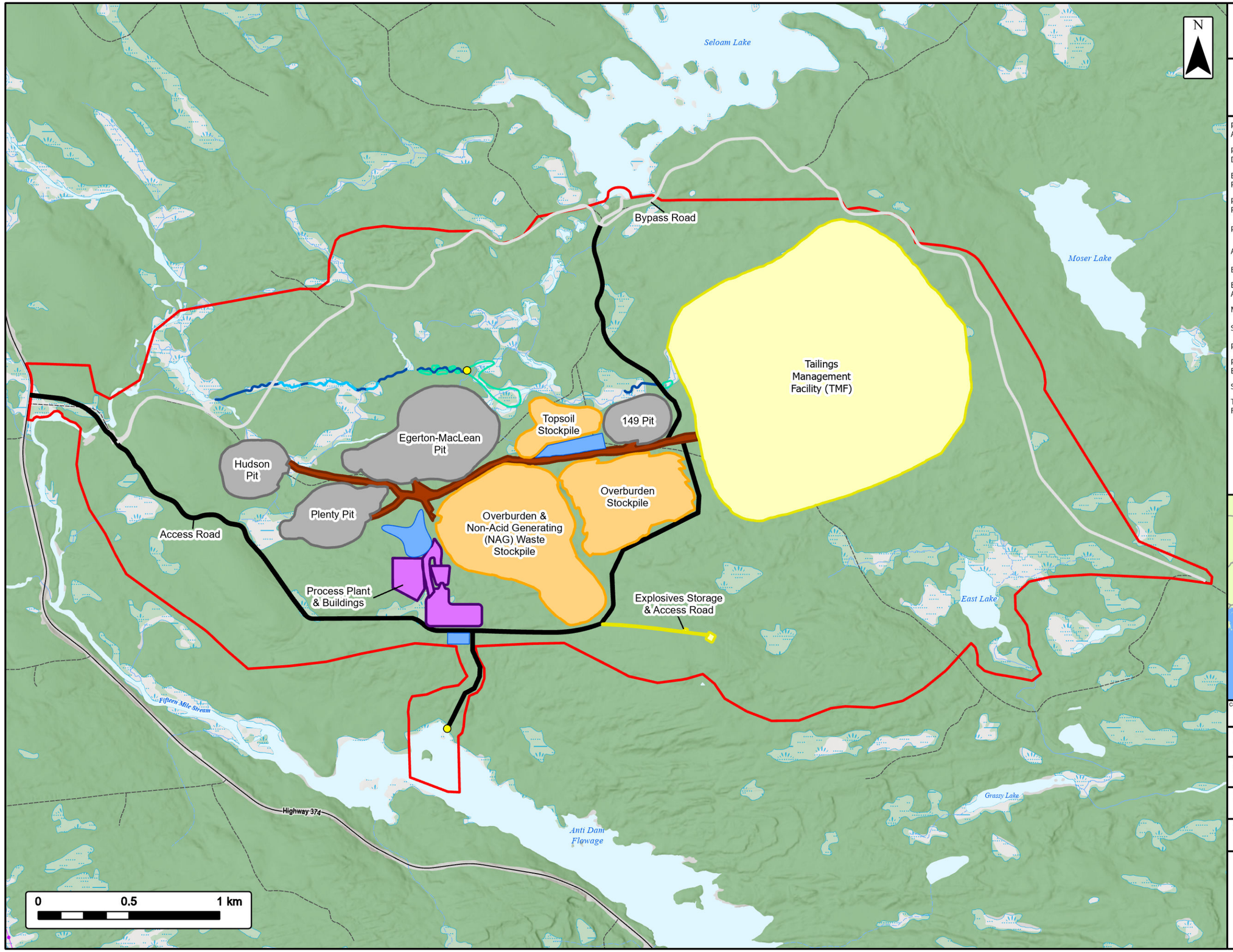
Buildings and infrastructure no longer needed will be removed. Concrete foundations will be broken up, any exposed steel will be removed, and the material will be buried on site and covered with soil.

Disturbed areas no longer required will be reshaped, covered with soil, and replanted to support vegetation.

15-Mile Mine

Site Overview

St Barbara



Project Development Area

Proposed Water Discharge Location

Existing Watercourse To Remain

Proposed Seloam Brook Realignment

Proposed Wetland

Access Road

Bypass Road

Explosives Storage & Access Road

Mine Haul Road

Stockpile

Pit

Process Plant & Buildings

Settling Pond

Tailings Management Facility

Transportation

Road

Unpaved Road

Utilities (Line)

Existing Transmission Lines

Water Features

Mapped Stream

Mapped Indefinite Stream

Mapped Lakes and Rivers

Mapped Wetlands

PRELIMINARY

Coordinate System: NAD83 UTM Zone 20N

Sources: ESRI Basemaps, Google Basemaps, GeoNOVA, SNSIS, NSNRR, ACCDC, IBA Canada, CNWI, HERE, Garmin, USGS

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Scale: 1:20,000	Drawing #: **2.3-1**
Drawn By: E. Johnson	
Checked By: S. Allain	

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15-Mile Mine

Characterization of Impacts from Historical Tailings and Waste Rock

St Barbara

Seloam Lake

Moser Lake

East Lake

Grassy Lake

Anti Dam Flowage

Fifteen Mile Stream

Highway 374

Bypass Road

Tailings Management Facility (TMF)

Egerton-MacLean Pit

Topsoil Stockpile

149 Pit

Hudson Pit

Plenty Pit

Overburden Stockpile

Overburden & Non-Acid Generating (NAG) Waste Stockpile

Access Road

Process Plant & Buildings

Explosives Storage & Access Road

0 0.5 1 km

- Project Development Area
- Potential Areas of Metals Impacted Soil Related to Historical Mining Operations (Mercury)
- Potential Areas of Metals Impacted Soil Related to Historical Mining Operations (Arsenic)
- Proposed Water Discharge Location
- Existing Watercourse To Remain
- Proposed Seloam Brook Realignment
- Proposed Wetland
- Access Road
- Bypass Road
- Explosives Storage & Access Road
- Mine Haul Road
- Stockpile
- Pit
- Process Plant & Buildings
- Settling Pond
- Tailings Management Facility

Transportation

- Road
- Unpaved Road

Utilities (Line)

- Existing Transmission Lines

Water Features

- Mapped Stream
- Mapped Indefinite Stream
- Mapped Lakes and Rivers
- Mapped Wetlands

PRELIMINARY

Coordinate System: NAD83 UTM Zone 20N

Sources: ESRI Basemaps, Google Basemaps, GeoNOVA, SNSIS, NSNRR, ACCDC, IBA Canada, CNWI, HERE, Garmin, USGS

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2.3.3 Old Austen Mine Facilities and Infrastructure

The Old Austen Mine will be developed as a typical quarry. Mined ore will be transported to the 15-Mile Mine for processing.

Most of the land at the Old Austen Mine is privately owned, with a small portion on Crown land. The Company plans to buy or lease the land before starting work and is in discussions with the landowner.

Construction is expected to begin in Year 4 of the Project. Mining will start later the same year and continue for about seven years. The Old Austen Mine will operate at a lower mining rate than originally planned. This means fewer truck trips to and from 15-Mile Mine, which will reduce traffic and related impacts.

The design of the Old Austen Mine aims to keep the overall footprint as small as possible, and further improvements will be planned during detailed design. The layout of Old Austen Mine is provided in Figure 2.3-3. Main features include:

- One open pit (Old Austen Pit)
- Areas to store rock, soil, and mined ore
- Basic mine facilities such as offices, a truck shop, fuel storage, and explosives storage
- Water management systems, including ponds, ditches, and treatment systems
- Waste management systems for solid waste and sewage
- Power supply from generators
- Roads, fire safety systems, and communications

Open Pit

The Old Austen Mine has one main ore deposit. In total, about 22.6 million tonnes of material will be mined. This includes about 4.5 million tonnes of ore (to be sent to the 15-Mile Mine for processing), 15.5 million tonnes of waste rock and 2.8 million tonnes of soil and overburden.

The open pit will be long and narrow, following the gold deposit. It is planned to be about 750 m long, 320 m wide, and 112 m deep.

The size of the pit has been reduced from earlier designs to help limit impacts on the nearby Killag River.

Only a small amount of clay will be needed for construction for things like lining ponds and ditches. This clay will be sourced from within the PDA or bought from outside suppliers.

Stockpiles

The Old Austen Mine will produce several types of materials, soil, overburden, and waste rock. These materials will be stored at on site during operations.

Some older (historic) mine waste and contaminated soil in the area will be collected and moved to the TMF at the 15-Mile Mine for long-term management.

After mining is complete, the open pit at Old Austen Mine will be used to store certain types of waste rock that can produce acid. This material will be placed back into the pit, covered with non-acid generating rock, and then kept under water. Keeping the material underwater helps prevent pollution. More details on reclamation are in Section 2.3.5.1.

Until the potentially acid generating waste rock material can be placed in the pit, it may be stored on a lined surface to safely collect and manage any water that has contact with it. Storage amounts for these materials may change as the Project design is refined. Current estimated storage volumes for each material at the end of operations is provided in Table 2.3-4.

Table 2.3-4 Old Austen Mine Stockpile Masses at End of Operation

Infrastructure	Non-Acid Generating (Millon tonnes)	Potentially Acid Generating (Million tonnes)	Organic Materials (Million tonnes)	Total (Million tonnes)
Non-Acid Generating waste rock and organics stockpile	11.0	-	-	11.0
Potentially Acid Generating waste rock stockpile	-	3.9	0.	4.3
Organic Materials stockpile	-	-	2.3	2.3
Topsoil stockpile	-	-	0.2	0.2
All Infrastructure	11.0	3.9	2.8	17.6

Note: All values rounded.

At the Old Austen Mine, soil and organic material will be stored in two places: with the non-acid generating rock stockpile and in a separate stockpile of organic material. This approach helps reduce the total area used by the project.

A pad will be built to temporarily store ore before it is trucked to the 15-Mile Mine. This pad will be made of crushed non-acid generating rock and hold up to about 0.15 million tonnes of ore. Because the ore will not be stored for long, the pad is not expected to need a liner. This will be confirmed during detailed design through water quality studies.

The totals of waste material listed in the table above do not include about 0.6 million tonnes of non-acid generating rock that will be used for construction.

Process Plant Area

There will be no Process Plant Area at the Old Austen Mine as ore will be transported to and processed at 15-Mile Mine.

Mine Infrastructure

At the Old Austen Mine, most mining support facilities (except explosives storage) will be located along the access road to the pit. Support facilities will include a parking lot, a fuel station, a truck repair shop, a warehouse, and offices.

A compacted gravel parking lot will be used by workers. The fuel station will store diesel and provide fuel for large mining equipment and smaller vehicles. The final size of the fuel station will be based on supplier recommendations.

Explosives storage will be located separately and designed to meet all safety rules under Nova Scotia and federal regulations. See Section 2.3.1 for detailed information on explosive storage.

Tailings Management Facility

There will be no TMF at Old Austen Mine as ore will be processed at 15-Mile Mine.

Historic Tailings and Waste Rock Management

There is a history of mining activity at the Old Austen Mine, which resulted in some areas of contaminated soil, sediment, and surface water. Locations where soil and sediment were impacted by historic mining activities were identified through a series of drilling and test pitting across the Old Austen Mine. Soils were classified as either non-impacted or impacted based on the proximity to historic mining features such as historic infrastructure, waste rock piles, and tailings.

The drilling and test pitting program showed elevated soil concentrations of arsenic in areas that were both non-impacted and impacted by historic mining activities. Environmental guidelines regarding arsenic soil contamination limits will be determined through conversations with regulators to be reflective of site conditions. Soils which are deemed as passable based on the site-specific environmental guidelines may be used for soil cover material during closure.

Soils contaminated with mercury are also present, typically associated with historic tailings areas. Delineation of mercury impacted soils is ongoing.

Near Crusher Lake, there are two known areas of historic tailings and associated mercury impacted soils. Remediation of this material will involve removal of the historic tailings and mercury impacted soils from Old Austen Mine, followed by transportation to and storage within the 15-Mile TMF footprint. Once all mercury impacted soils and historic tailings have been transferred to the 15-Mile Mine, the material will be capped with clay and included in the 15-Mile TMF closure activities.

The Historic Tailings Management Plan will outline historic tailings remediation, including excavation, transportation, and storage of historic tailings materials. See Figure 2.3-4 for more details on impacts from historic tailings and waste rock within the PDA.

Water Management

The Old Austen Mine will manage water to reduce fresh water use and protect the environment. No water will be taken from nearby lakes or rivers. The Mine will use limited fresh water; water for sanitation and drinking water will be brought in from off site. Collected water will be reused for dust control. Overall, the system is designed to reuse water where possible and ensure any released water is treated and safe.

Water that contacts with mine disturbance (mine contact water) and groundwater from the pit will be collected and pumped to the contact water pond. Water from other parts of the Mine will be collected in ditches and directed to the contact pond. Ditches and ponds will be lined with clay to reduce infiltration into the ground.

If needed, smaller ponds will be used to collect and pump water to the main pond. Water from the main pond will be pumped to the treatment facility before discharging to one of the two discharge locations. Figure 2.3-3 shows two potential discharge locations. Most water from the Mine will be treated and released to the Killag River. Water from soil and organic stockpiles is expected to be directed toward the Tent Lake watershed.

Waste Management

At the Old Austen Mine, sewage will be collected in septic tanks and treated. Septage will be collected by truck and taken off site for disposal at an approved facility. During construction, temporary septic and waste facilities may be used. All waste from these systems will also be collected and transported off site for treatment and disposal.

Non-hazardous waste will be stored in bins and collected for disposal at a licensed off-site facility. Hazardous materials that need special handling will be stored safely and sent to approved facilities for proper disposal following all regulations.

Power Supply

Because the Old Austen Mine is far from power lines, it will not be connected to the grid. Instead, it will be powered by two 275 kilovolt-amperes diesel generators supplied by a nearby fuel tank. Smaller diesel generators may also be used for emergencies, mobile work, or to run pumps.

Other Project Infrastructure

There will be standard communication systems, including phones, radios, and internet, to support daily operations.

Fire safety systems will be designed to meet all required federal and provincial standards. The design will follow the National Building Code of Canada and related safety rules.

The Old Austen Mine will be accessed from Old Austen Road off NS-224. A new access road and additional haul roads will be built to connect the pit and other facilities. These roads will be built with non-acid generating rock taken from the Mine.

Aggregate Operations

All natural materials needed for construction will come from within the Old Austen PDA.

Non-acid generating waste rock from the open pit will be used as building material. If needed, a mobile crusher will be used to break the rock for construction use.

Haul Route and Operations

The current plan is to transport about 600,000 tonnes of ore each year from Old Austen Mine to 15-Mile Mine using 38-tonne B-train trucks.

Studies have been completed to assess traffic impacts, road conditions, and operating schedules. The preferred trucking route uses existing public roads. Trucking will not occur at night to reduce impacts on nearby communities and to manage traffic levels.

The Company will continue to communicate with local communities about trucking routes and schedules and is open to making changes where appropriate.

2.3.4 Old Austen Mine Proposed Decommissioning Activities

Reclamation and closure will follow *Nova Scotia's Mineral Resources Act* and associated regulations. A closure plan will be submitted as part of the provincial regulatory review.

Main closure activities are expected to take about five years after mining ends. Monitoring work will continue for at least another five years after that. Key milestones are shown in Section 2.5.

The goal of closure is to leave the site stable, and environmentally secure (protecting the Killag River watershed). A detailed reclamation plan will be developed to provide reclamation objectives (including guidelines for water quality, vegetation, stability).

The Company will also continue to work with Mi'kmaq communities and local stakeholders to include their input on long-term land use, access, and environmental protection.

Open Pit

At the end of mining, the Old Austen Pit will be filled with potentially acid generating waste rock. This material will stay in the pit and be covered with non-acid generating rock. After that, the pit will be allowed to fill with water from rain and runoff, creating a pit lake. This helps limit contact with air and reduces the risk of acid forming. As the pit fills with water, the potentially acid generating waste rock will remain under water. This helps prevent chemical reactions that could release contaminants.

Testing and modelling will be used to predict how the materials behave and to guide how the Mine is closed and monitored over time.

Water levels and water quality will be studied to understand how the pit is expected to fill and what the long-term conditions will be. Water in the pit will be monitored as it fills and after closure. If needed, it will be treated to meet environmental standards. Water will only be released once it is safe and meets all requirements. At that point, the pit may be reconnected to the natural environment and flow into the Killag River.

Steep pit walls will be made safer by reshaping the land or building protective berms.

Stockpiles

At the end of mining, only the non-acid generating waste rock stockpile will remain above ground. The potentially acid generating waste rock stockpile will be placed back into the pit. Topsoil and organic material will be spread across the site.

Old stockpile areas will be reshaped to manage drainage, covered with soil, and replanted. The remaining non-acid generating waste rock stockpiles will be reshaped for long term stability, covered with soil, and seeded to support revegetation.

The final land shape will be designed to handle anticipated future weather conditions, including heavier rainfall.

After closure, the Mine will be monitored to check water quality in pit lakes and nearby surface water as well as the success of vegetation growth and long-term stability of the land. If any issues are found, adjustments will be made to address them.

The Company will also provide financial security to ensure all closure work can be completed as required by the province.

Water Management

Water in the pit and contact pond will be monitored and treated if needed before release. Once the water meets environmental standards, water management systems will be shut down. Ponds and other structures will be drained, reshaped, or removed so water can flow naturally in the environment.

Operations Infrastructure

Equipment at the Old Austen Mine will be managed the same way as at 15-Mile Mine. Additional details are provided in Section 2.3.3.

Old Austen Mine

Site Overview

St Barbara

Explosives Storage Area & Access Road

Austen Pit

Mine Haul Road

Temporary Potentially Acid-Generating (PAG) Stockpile

Run of Mine (ROM) Pad

Topsoil Stockpile

Organic Stockpile

Overburden & Non-Acid Generating (NAG) Waste Stockpile

Administrative Area

Seven Mile Stream

Como Lake

Mud Lake

Cameron Flowage

Paul Brook

Tent Lake

Killag River

Jakes Lake

Beaver Dam Mines Rd

Cape Brook

West River, Sheet Harbour

Lower Beaver Lake

River Lake

Tent Brook

Ivey Brook

0 0.5 1 km

- Project Development Area
- Proposed Water Discharge Location
- Access Road
- Administrative Area & ROM Pad
- Explosives Storage
- Main Haul Road
- Pit
- Stockpile
- Settling Pond

Transportation

- Road
- Unpaved Road

Water Features

- Mapped Stream
- Mapped Indefinite Stream
- Mapped Lakes and Rivers
- Mapped Wetlands

PRELIMINARY

Coordinate System: NAD83 UTM Zone 20N

Sources: ESRI Basemaps, Google Basemaps, GeoNOVA, NSNRR, ACCDC, IBA Canada, CNWI, HERE, Garmin, USGS

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Drawn By: E. Johnson	
Checked By: S. Allain	

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Old Austen Mine

Characterization of Impacts from Historical Tailings and Waste Rock

St Barbara

Explosives Storage Area & Access Road
Austen Pit
Mine Haul Road
Temporary Potentially Acid-Generating (PAG) Stockpile
Run of Mine (ROM) Pad
Topsoil Stockpile
Organic Stockpile
Overburden & Non-Acid Generating (NAG) Waste Stockpile
Administrative Area
Beaver Dam Mines Rd
Como Lake
Seven Mile Stream
Mud Lake
Cinnamon Flowage
Paul Brook
Tent Lake
Killag River
Jakes Lake
Lower Beaver Lake
River Lake
West River Sheet Harbour
Tent Brook
Marg Brook
Cogie Brook

N

0 0.5 1 km

- Project Development Area
- Potential Areas of Metals Impacted Soil Related to Historical Mining Operations
- Proposed Water Discharge Location
- Access Road
- Administrative Area & ROM Pad
- Explosives Storage
- Main Haul Road
- Pit
- Stockpile
- Settling Pond

Transportation
- Road
- Unpaved Road

Water Features
- Mapped Stream
- Mapped Indefinite Stream
- Mapped Lakes and Rivers
- Mapped Wetlands

PRELIMINARY

0 1.5 3 6 km

Coordinate System: NAD83 UTM Zone 20N

Sources: ESRI Basemaps, Google Basemaps, GeoNOVA, SNSIS, HSNRR, ACCDC, IBA Canada, CNWI, HERE, Garmin, USGS

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2.3.5 Old Mitchell Mine Facilities and Infrastructure

Old Mitchell Mine will be developed like a typical quarry. Ore mined at this site will be transported to the 15-Mile Mine for processing. Most of the land at Old Mitchell Mine is Crown land, with a small portion owned by the Company.

Construction is expected to begin in Year 3 of the Project. Mining will start later that year and continue for about 8 years. The site has been designed to limit its overall footprint, with further refinements planned during detailed design. The layout of Old Mitchell Mine is provided in Figure 2.3-5. Main features of the site include:

- One open pit (Mitchell Pit)
- Areas to store rock, soil, and mined ore
- Mine facilities such as offices, a truck shop, fuel storage, and explosives storage
- Water management systems, including ponds, ditches, and treatment systems (if needed)
- Waste management systems for solid waste and sewage
- Power supply systems, including generators and electrical infrastructure
- Roads, fire safety systems, and communications

Open Pit

Old Mitchell Mine has one ore deposit. In total, about 54.6 million tonnes of material will be mined. This includes about 10.5 million tonnes of ore, 42.1 million tonnes of waste rock and 2 million tonnes of soil and overburden.

The open pit is designed to follow the ore while avoiding nearby infrastructure, including Nova Scotia Trunk Highway 7 (Marine Drive). The pit is planned to be about 800 m long, 450 m wide, and 195 m deep.

Clay needed for construction will come from within the PDA or bought from outside suppliers. This clay will be used to line ditches and ponds. It will also be used to line temporary storage area for potentially acid generating waste rock.

Stockpiles

The Old Mitchell Mine will produce several types of materials, soil, overburden, and waste rock. These materials will be stored at surface during operations. Some older (historic) mine waste and contaminated soil in the area will be managed according to the project's plan for historic tailings.

A pad will be built to temporarily store ore before it is hauled to the 15-Mile Mine. The pad will be made from crushed non-acid generating rock.

After mining is complete, all potentially acid generating waste rock will be placed back into the open pit. It will be covered with non-acid generating rock and then kept under water as the pit fills. Some backfilling will begin before mining fully ends, once parts of the pit are no longer in use. More details on closure are in Section 2.3.7.1.

Until the potentially acid generating rock can be placed in the pit, it will be stored on a lined surface (i.e., clay) to safely collect and manage any water that contacts it.

Current estimated storage volumes for each material at the end of operations is provided in Table 2.3-5. Storage amounts for these materials may change as the project design is refined.

Table 2.3-5 Old Mitchell Mine Stockpile Masses at End of Operation

Infrastructure	Non-Acid Generating (Millon tonnes)	Potentially Acid Generating (Million tonnes)	Organic Materials (Million tonnes)	Total (Million tonnes)
Non-Acid Generating stockpile	19.3	-	-	19.4
Potentially Acid Generating stockpile	-	19.9 Max: 21.0 (Year 10)	0.2	20.1 Max: 21.2 (Year 10)
Organic Materials stockpile	-	-	1.6	1.6
Topsoil stockpile	-	-	0.2	0.2
All Infrastructure	19.3	19.9	2.0	41.3

Note: All values are rounded.

Table 2.3-5 does not include the 0.5 million tonnes of non-acid generating rock that will be used for construction (i.e. roads, pads, etc.) or the 10.4 million tonnes of ore sent to the 15-Mile Mine for processing.

Process Plant Area

There will be no process plant at Old Mitchell Mine, ore will be transported to 15-Mile Mine for processing.

Mine Infrastructure

At the Old Mitchell Mine, most mining support facilities (except explosives storage) will be located along the access road to the pit. Support facilities will include a compacted gravel parking lot for workers, a fuel station, a truck repair shop, a warehouse, and offices. The fuel station will store diesel and provide fuel for large mining equipment and smaller vehicles. Its final size will be based on supplier recommendations.

Explosives storage will be located separately and designed to meet all safety rules under Nova Scotia and federal regulations. See Section 2.3.1 for detailed information on explosive storage.

Tailings Management Facility

There will be no TMF at Old Mitchell Mine as ore will be processed at 15-Mile Mine.

Historic Tailings and Waste Rock Management

There is a history of mining activity at the Old Mitchell Mine, which resulted in some areas of contaminated soil, sediment, and surface water. Locations where soil and sediment were impacted by historic mining activities were identified through a series of drilling and test pitting across the Old Mitchell Mine. Soils were classified as either non-impacted or impacted based on the proximity to historic mining features such as historic infrastructure, waste rock piles, and tailings.

The drilling and test pitting program showed elevated soil concentrations of arsenic in areas that were both non-impacted and impacted by historic mining activities. Environmental guidelines regarding arsenic soil contamination limits will be determined through conversations with regulators to be reflective of site conditions. Soils which are deemed as passable based on the site-specific environmental guidelines may be used for soil cover material during closure.

Soils contaminated with mercury are also present, typically associated with historic tailings areas. Delineation of mercury impacted soils is ongoing.

Remediation of mercury impacted historic tailings and soils will involve material removal from Old Mitchell Mine, followed by transportation to and storage within the 15-Mile TMF. Once all mercury impacted soils and historic tailings have been transferred to the 15-Mile Mine, the material will be capped with clay and included in the 15-Mile TMF closure activities.

Any soils which exceed site-specific soil environmental guidelines that are proposed to be disturbed by infrastructure will be remediated. Impacted soils will be temporarily stored in the potentially acid-generating rock stockpile until the Old Mitchell pit has been fully mined, at which point the contaminated soils will be transferred to the Old Mitchell pit for permanent storage.

The Historic Tailings Management Plan will outline historic tailings remediation, including excavation, transportation, and storage of historic tailings materials. See Figure 2.3-6 for more details on impacts from historic tailings and waste rock within the PDA.

Water Management

Old Mitchell Mine operations will manage water to reduce fresh water use and protect the environment. The Mine will use limited fresh water. Well water for sanitation and drinking water will be brought in from off site.

No water will be taken from nearby lakes or rivers for operations. Instead collected water will be reused for dust control.

Overall, the system is designed to reuse water where possible and ensure any released water is treated and safe. Mine contact water and groundwater from the pit will be collected and pumped to ponds. Water from other parts of the Mine will be collected in ditches and directed to these ponds. Ditches and ponds will be lined with clay to reduce leakage into the ground. If needed, smaller ponds will be used to collect and pump water to the main ponds.

Two main contact ponds will be used. One near the potentially acid generating rock stockpile and one near the non-acid generating waste rock pile. Water from these ponds will be treated if required before being released to the environment. Two possible discharge locations have been identified: Cargill Lake and a nearby stream to the northwest of the site. Most water will be released to Cargill Lake. Some water may be directed to the stream to help maintain its natural flow.

Waste Management

Sewage will be collected in septic tanks and be treated using a filtration system. Septage will be collected by truck and taken off site for disposal at an approved facility. During construction, temporary septic and waste facilities may be used. All waste from these systems will also be collected and transported off site for treatment and disposal.

Non-hazardous waste will be stored in bins and collected for disposal at a licensed off-site facility. Hazardous or materials that need special handling will be stored safely and sent to approved facilities for proper disposal following all regulations.

Power Supply

Power for the project will be supplied by Nova Scotia Power Inc. through an existing power line. Electricity will be stepped down to a lower voltage at a transformer near the truck shop. From there, it will be distributed to facilities, including the water treatment plant and temporary buildings.

Diesel generators may be used during early construction and during closure when grid power may not be available. Smaller generators may also be used in emergencies, for mobile equipment, or in areas without access to the main power supply.

Other Project Infrastructure

Old Mitchell Mine will have standard communication systems, including phones, radios, and internet, to support daily operations.

Fire safety systems will be designed to meet all required federal and Nova Scotia provincial standards. The design will follow the National Building Code of Canada and related safety rules.

Old Mitchell Mine will be accessed from roads connected to Nova Scotia Trunk Highway 7 (Marine Drive). A new access road will be built from Indian River Road. Inside the Mine, haul roads will be built to move ore and waste rock between operational areas. All access roads and haul roads will be built using non-acid generating rock taken from the Mine.

Aggregate Operations

All natural materials needed for construction will come from within the Mine. Non-acid generating waste rock from the open pit will be used as building material. If needed, a mobile crusher will be used to break the rock into the right size for construction use.

Haul Route and Operations

About 1.1 million tonnes of material per year will be trucked from Old Mitchell Mine to 15-Mile Mine using 38-tonne B-train trucks.

Studies have been completed to assess traffic impacts, road conditions, and operating schedules. The preferred trucking route uses existing public roads. Trucking will not occur at night to reduce impacts on nearby communities and to manage traffic levels.

The Company will continue to communicate with local communities about trucking routes and schedules and is open to making changes where appropriate.

2.3.6 Old Mitchell Mine Proposed Decommissioning Activities

Reclamation and closure of Old Mitchell Mine will follow Nova Scotia's *Mineral Resources Act* and related regulations. A formal closure plan will be submitted to the province for review and approval. Mine closure work is expected to take about five years after operations end. After that, monitoring and follow-up work will continue for at least another five years. A Gantt chart showing important milestones is in Section 2.5.

The goal of closure is to return the site to a stable condition that protects nearby water bodies and allows natural vegetation to grow back. A detailed reclamation plan will be developed which will provide reclamation objectives (e.g., water quality, vegetation, slope stability).

Open Pit

At the end of mining, the Old Mitchell Mine pit will be filled with potentially acid generating rock. This material will stay in the pit and be covered with non-acid generating rock. After that, the pit will be allowed to fill with water from rain and surface runoff, forming a pit lake. This helps limit contact with air and reduces the risk of acid forming. As the pit fills with water, the potentially acid generating waste rock will remain under water. This helps prevent chemical reactions that could release contaminants.

Water quality will be closely monitored while the pit fills and will continue post closure. If needed, water will be treated to meet environmental standards. Water will only be released once it is safe and meets all regulatory requirements. At that point, the pit may be reconnected to a nearby stream in the northwestern part of the site.

Water quality monitoring and modelling will be used to understand how the pit will fill with water and what long-term water conditions will be like. Any option to speed up filling will only be considered if it is shown to be safe and beneficial.

Steep pit walls will be made stable using reshaping or protective berms.

Stockpiles

At the end of mining, only the non-acid generating waste rock pile will remain above ground. The potentially acid generating waste rock stockpile will be placed back into the pit. Topsoil and organic material will be spread across the site to help restore the land.

Remaining stockpile areas will be reshaped and de-compacted to help water drain properly. These areas will then be covered with soil and replanted. The remaining non-acid generating stockpiles will be reshaped for long term stability, covered with soil, and seeded to support vegetation.

The final land shape will be designed to remain stable over the long term and resist erosion. The design will also take future climate conditions into account, including heavier rainfall and extreme weather events.

Water Management

Water in the pit and contact ponds will be regularly tested to make sure it meets environmental standards, treatment will be used as required. Once the water meets all required standards, the water management systems will be shut down.

Before closure, any remaining water will be tested to make sure it meets water quality requirements and drained. Water control structures such as ponds and ditches will then be reshaped or opened so that water can flow naturally back into the environment.

Operations Infrastructure

Equipment at the Old Mitchell Mine site will be handled in the same way as at 15-Mile Mine. More details are provided in Section 2.3.3.4.

Old Mitchell Mine

Site Overview

St Barbara

Project Development Area

Proposed Water Discharge Location

Admin Area / Truck Stop / ROM Pad

Effluent Treatment Plant

Access Road

Explosives Storage Area & Access Road

Mine Haul Road

Stockpile

Pit

Settling Pond

Transportation

Road

Unpaved Road

Water Features

Mapped Stream

Mapped Indefinite Stream

Mapped Lakes and Rivers

Mapped Wetlands

PRELIMINARY

Cummings Lake
McKeen Brook
Cameron Lakes
Nine Mile Wds. O.R. 2
Melrose
Highway 348
Highway 7
Melrose Country Harbour Rd
Admin Area & Truck Stop
Access Road
Run of Mine (ROM) Pad
Overburden Stockpile
Mitchell Pit
Mine Haul Road
Topsoil Stockpile
Explosives Storage Area & Access Road
Indian River Rd
Temporary Potential Acid Generating (PAG) Stockpile
Non-Acid Generating (NAG) Stockpile
Effluent Treatment Plant
Cargill Lake
Twin Lakes
St. Marys River
Waternish Rd
St. Marys River
0 0.5 1 km

Gulf of St. Lawrence
PEI
New Brunswick
Nova Scotia
Bay of Fundy
Atlantic Ocean
0 50 100 200 km

Coordinate System: NAD83 UTM Zone 20N

Sources: ESRI Basemaps, Google Basemaps, GeoNOVA, SNSIS, NSNRR, ACCDC, IBA Canada, CNWI, HERE, Garmin, USGS

Date: 2026-03-05	Project #: 25-11616
Scale: 1:17,500	Drawing #: **2.3-5**
Drawn By: E. Johnson	
Checked By: S. Allain	

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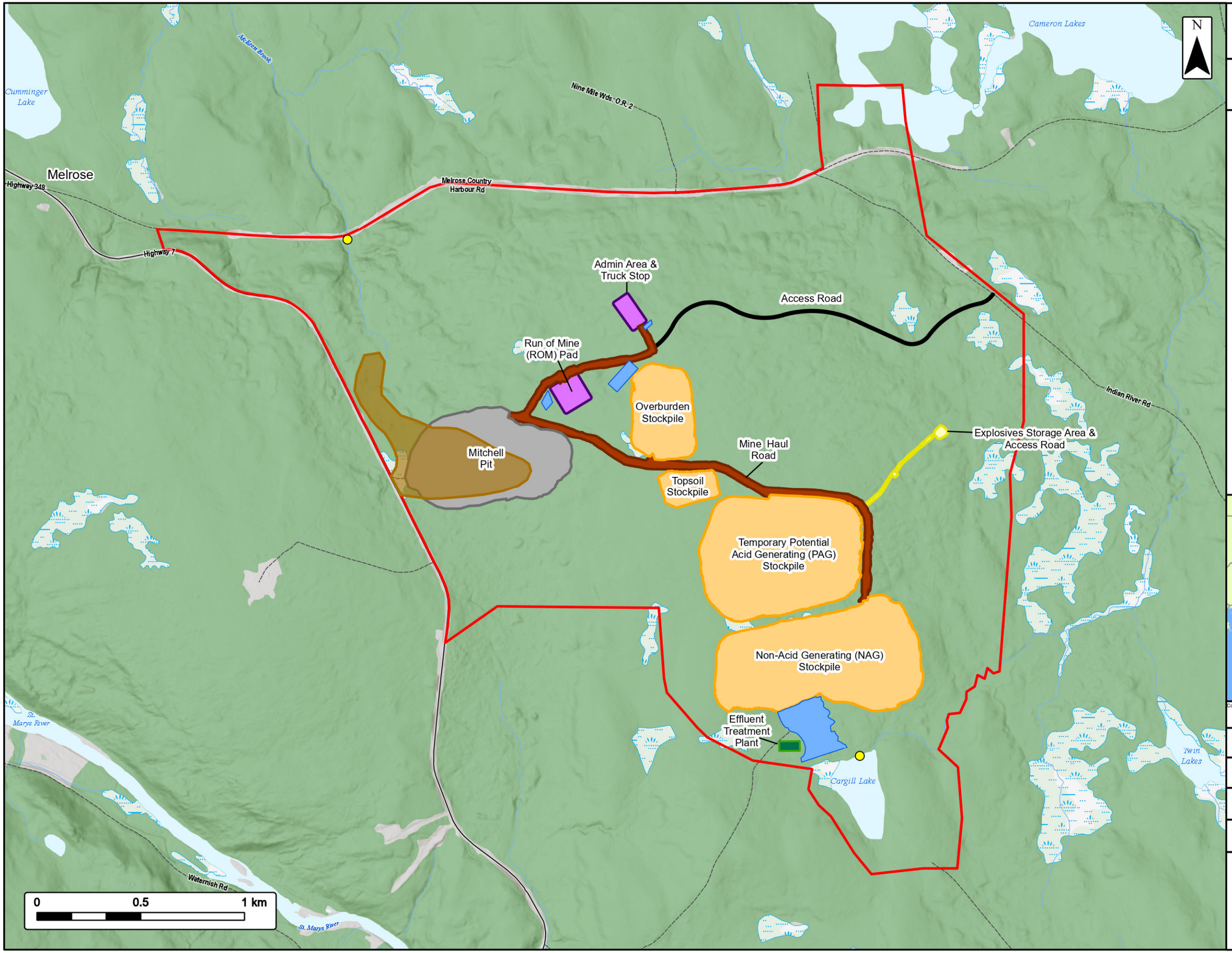
Old Mitchell Mine

Characterization of Impacts from Historical Tailings and Waste Rock

St Barbara



Project Development Area

Potential Areas of Metals Impacted Soil Related to Historical Mining Operations

Proposed Water Discharge Location

Admin Area / Truck Stop / ROM Pad

Effluent Treatment Plant

Access Road

Explosives Storage Area & Access Road

Mine Haul Road

Stockpile

Pit

Settling Pond

Transportation

Road

Unpaved Road

Water Features

Mapped Stream

Mapped Indefinite Stream

Mapped Lakes and Rivers

Mapped Wetlands

PRELIMINARY

Coordinate System: NAD83 UTM Zone 20N

Sources: ESRI Basemaps, Google Basemaps, GeoNOVA, SNSIS, NSNRR, ACCDC, IBA Canada, CNWI, HERE, Garmin, USGS

Date: 2026-05-07	Project #: 25-11616
Scale: 1:17,500	Drawing #: **2.3-6**
Drawn By: E. Johnson	
Checked By: S. Allain	

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Table 2.3-6 Preliminary List of Activities for the 15-Mile Processing Hub Project

Construction Phase	Operations Phase	Decommissioning and Closure Phase
Stripping of organics impacted by infrastructure, pits or stockpiles required to start operation.	Operate water treatment infrastructure prior to discharge locations, ensuring discharge meets regulatory requirements.	Implementation of environmental protection and monitoring plans
General earthworks, site levelling, foundations	Stripping of organics impacted by infrastructure, pits or stockpiles not completed during construction phase, inclusive of supporting water management infrastructure.	Implement all environmental monitoring and reporting plans for closure
Upgrade local access roads to all three PDAs including new culverts/bridges where required[2]	Stockpiling topsoil and other material suitable for reclamation or construction	Remove mine equipment and open pit to floor
Establish water management plan and treatment works, including ponds, pipelines and treatment facilities. Implement water management plan for construction.	Mine all pits, including drilling blasting and excavation activities	Backfill any stockpiled potentially acid generating waste rock into empty pit
Stockpiling topsoil, organics, non-acid generating waste rock and other material suitable for reclamation or construction	Transportation of ore to Run of Mine pad for processing or transport[2]	Backfill designated volume of non-acid generating waste rock into Plenty Pit[1]
Disassemble, transport and reassemble equipment and infrastructure that will be reused[1]	Transportation of waste rock to relevant stockpiles, TMF or pit backfill[2]	Ongoing management of waste to appropriate disposal site, inclusive special considerations for reagents or hazardous goods
Movement of construction material to site	Transportation and hauling from Old Austen Mine and Old Mitchell Mine to 15-Mile Mine	Secure pits with highwalls above 3m, either through cut and fill operations or berms erected around the pits depending on pit topography
Construction of Phase 1 of TMF[1]	Mineral processing[1]	Break-up concrete, scarify compacted grounds
Diversion of Seloam Brook[1]	Construct the remainder of the TMF raises to meet production needs	Demolition and removal of processing and mine support facilities
Construction of new surface infrastructure	Transportation of tailings to the TMF via pipeline[1]	Decommissioning of Project access and haul roads, pipelines and powerlines while maintaining access for monitoring purposes[2]
Construction of power infrastructure inclusive of transmission lines, distribution lines, switchyard and generators[2]	Transportation of supplies to mine and administrative area to support operations	Use topsoil and overburden for closure activities including recontour and scarify disturbed area where required. Establish long-term stability and surface drainage.
Carry out fish and fish habitat offsetting projects	Maintenance activities of infrastructure (*e.g.*, roads)	Place growth material over affected areas to ensure vegetation
Development of on-site utilities and services	Ongoing management of waste to appropriate disposal sites, inclusive special considerations for reagents or hazardous goods	Implement and execute water management plan for closure, inclusive of continued treatment of water as required to meet regulatory requirements.
Implementation of management document	Complete progressive reclamation where able, including potentially acid generating waste rock backfilling	Connect the filled open pit to the local drainage system once the filled pit lake meets regulatory requirements
Manage and treat disturbed historic tailings and waste rock		Reclamation of water treatment infrastructure once no longer required to meets regulatory requirements
Management of waste to appropriate disposal sites		

[1] Activity exclusive to 15-Mile Mine

[2] Some activities or assets mentioned may not be present at one or more PDAs

2.3.7 Background on Historic Tailings

All three sites in the 15-Mile Processing Hub were previously mined. Mining ended at different times:

- 15-Mile Mine: 1998
- Old Austen Mine: 1988
- Old Mitchell Mine: 1930 (possibly as late as 1960 based on limited records)

Each site still has leftover material from past mining, including tailings and waste rock. These materials are mostly located near old mine pits. Any historic tailings disturbed by the new Project will be cleaned up and managed according to a dedicated historic tailings management plan that is being developed.

2.4 Production Capacity Estimate

Volume of material taken from the open pits will change over time, but the goal is to keep a steady flow of ore to the processing plant. Table 2.4-1 shows material extraction rates and production rates for the Project and for each site.

Table 2.4-1 Mining Rates and Ore Production from Open Pits (Total Material)

	Mining Rates from Open Pits (Total Material)		
Location	**Average Rate (Million tonnes per year)**	**Max Rate (Million tonnes per year)**	**Max Rate Year Total (Million tonnes)**
Consolidated Project	11.9	16.8	Year 5
15-Mile Mine	5.8	9.6	Year 3
Old Austen Mine	2.8	3.8	Year 5
Old Mitchell Mine	5.8	7.4	Year 3
	Ore Production Rates from Open Pits (Total Material)[1]		
Consolidated Project	2.9	3.0	Year 2
15-Mile Mine	1.6	3.0	Year 2
Old Austen Mine	0.6	0.6	Year 8
Old Mitchell Mine	1.1	1.2	Year 8

[1]Average ore mining rates are presented for operating period of each site. As each site has a different operating period, the total consolidated Project average over the 11.4y is not the sum of averages for each site.

Note: All values in the table above are rounded.

The processing plant is expected to process about three million tonnes of ore per year (about 8,200 tonnes per day). This would produce an average of 103,000 ounces of gold per year, a peak of about 113,000 ounces in Year 10.

2.5 Anticipated Project Lifespan Schedule

The 15-Mile Mine will be built over about one year and is expected to reach full production within the first three months of starting operations. The main mining operation will run for about 11.4 years. During this time, construction will also take place at the other sites. Old Mitchell Mine will be built in Year 3 and Old Austen Mine will be built in Year 4. Both are expected to take less than one year to build.

After mining ends, closure work will take about five years. This will be followed by a post-closure period of about 10 years for monitoring and follow-up work. A closure monitoring program will be developed as part of the reclamation plan. Monitoring may continue even longer if needed. This will depend on any issues identified during operations or closure, especially where there is uncertainty about long-term performance. Water quality monitoring may continue past closure until it is shown that no treatment is needed and standards are consistently met. Monitoring will also continue as required under the Metal and Diamond Mining Effluent Regulations (MDMER) until the mine is officially recognized as closed.

A detailed breakdown of Project activities is provided in Table 2.5-1. Note:

- If Project approvals are delayed, the timeline of all subsequent phases will shift accordingly.
- The closure plan is flexible (expected to be five years) and may be adjusted based on site conditions and monitoring results.

Table 2.5-1 Gantt Chart of Project Schedule

Activity	*Y-04*	*Y-03*	*Y-02*	*Y-01*	*Y01*	*Y02*	*Y03*	*Y04*	*Y05*	*Y06*	*Y07*	*Y08*	*Y09*	*Y10*	*Y11*	*Y12*	*Y13*	*Y14*	*Y15*	*Y16*	*Y17+*
Studies and Detailed Engineering	X	X	X	X																	
Regulatory Review		X	X																		
15-Mile Processing Hub Project																					
Construction Phase				X																	
Operations Phase					X	X	X	X	X	X	X	X	X	X	X	X					
Closure Phase																X	X	X	X	X	
Post-Closure Phase																					X
15-Mile Mine																					
Construction Activities				X																	
Operations Activities					X	X	X	X	X	X	X	X	X	X	X	X					
Closure Activities																X	X	X	X	X	
Post-Closure Activities																					X
Old Austen Mine																					
Construction Activities								X													
Operations Activities								X	X	X	X	X	X	X	X	X					
Closure Activities																X	X	X	X	X	
Post-Closure Activities																					X
Old Mitchell Mine																					
Construction Activities							X														
Operations Activities							X	X	X	X	X	X	X	X	X	X					
Closure Activities																X	X	X	X	X	
Post-Closure Activities																					X

2.6 Potential Alternatives

2.6.1 Alternate Projects

The Project has limited alternatives because the ore deposits are located in specific places and must be mined using proven, practical methods.

After the Touquoy Mine ceased operating in 2023 and entered reclamation, the Company had an opportunity to redesign the Project. This allowed mining plans to be updated using feedback from earlier regulatory reviews, public engagement, and consultation.

The Company reviewed different ways to develop the 15-Mile Mine, Old Austen Mine, and Old Mitchell Mine together as one connected Project. The goal was to reduce land disturbance, lower environmental impacts, respond to concerns raised by communities and regulators, and improve overall efficiency and costs. The following sections describe the main design changes and the alternatives that were considered.

15-Mile Processing Hub Alternatives

During early planning, the Company considered different ways of designing the Project. This included various layouts for the 15-Mile Processing Hub and the three mine sites. Alternatives considered are provided in Table 2.6-1.

The Company also looked at options that would reuse or restart the former Touquoy Mine site in some way. After this review, processing all ore at the 15-Mile Mine was chosen as the most practical and workable option to move the Project forward

Table 2.6-1 Alternative to 15-Mile Processing Hub Project

Alternative	Description	Technical Feasibility	Economic Feasibility	Key Environmental Considerations	Key Mi'kmaq / Social Considerations	Rationale for Advancement or Elimination
1. No Project	Do not proceed with development of the 15-Mile Project or associated deposits.	Not applicable.	Not applicable.	No new disturbance, no project GHG emissions. No tailings generation. No historic tailings clean up.	No employment, Gross Domestic Product growth or royalty benefits.	Does not meet purpose of responsible resource development or socio-economic benefits.
2. Standalone Mines and Processing at Each Deposit	Each deposit developed with its own mill and tailings facility.	Technically feasible. Highest overall demand for technical expertise due to 3 standalone operating sites.	Highest capital intensity due to duplicate infrastructure. Highest operational costs due to staffing and operating multiple processing plants.	Largest cumulative footprint. Introduces risks and disturbance area impacts of processing and TMF infrastructure at all mines. Greatest GHG emissions and impacts. Surface water withdrawal required.	Increased disturbance area impacts and risks associated with processing and tailings infrastructure. The Old Austen Mine and Old Mitchell Mine are closer to community and First Nations members than 15-Mile Mine.	Eliminated at preliminary stage due to expanded footprint and cumulative effects profile.
3. 15-Mile Processing Hub (Whole Ore Trucking) – Preferred	Construct one new processing plant and TMF at 15-Mile Mine, the Old Austen Mine and Old Mitchell Mine truck whole ore to hub.	Technically feasible, proven hub model. Infrastructure from Touquoy Mine may require refurbishment or replacement.	Economically favourable due to shared infrastructure and economies of scale.	Single tailings dam, increased GHG emissions associated with whole ore. Reduced disturbance area impacts at the Old Austen Mine and Old Mitchell Mine. Eliminates the need for surface water withdrawal at the Old Austen Mine and Old Mitchell Mine. Increased disturbance at 15-Mile Mine.	Processing centralized between the Old Austen Mine and Old Mitchell Mine reducing haul trucks on roads. 15-Mile Mine is less environmentally and socially sensitive location due to remote location and Nova Scotia Power Inc. Dam upstream. Reduced impacts and risks at the Old Austen Mine and Old Mitchell Mine.	Preferred alternative. Balances environmental and social impacts while financially viable.

Table 2.6-1 Alternative to 15-Mile Processing Hub Project

Alternative	Description	Technical Feasibility	Economic Feasibility	Key Environmental Considerations	Key Mi'kmaq / Social Considerations	Rationale for Advancement or Elimination
4. Restart Touquoy Mine as Processing Hub (Whole Ore Trucking)	Restart and repurpose the Touquoy Mine site as a regional mill and tailings facility. The Old Austen Mine and Old Mitchell Mine truck ore to Touquoy Mine.	Existing infrastructure may reduce construction requirements. Existing infrastructure requires refurbishment. New industrial approval and additional tailings capacity required.	Lower initial capital than new build. Insufficient tailings storage in open pit and existing TMF. Truck counts required to support optimal processing rate at Touquoy Mine unreasonably high due to distance from Touquoy Mine to 15-Mile Mine and Old Mitchell Mine.	Reuse of previously disturbed site reduces new footprint, no TMF capacity requiring new disturbance at Touquoy Mine. High GHG emissions impact due to high haul truck usage.	Increased traffic and longer haul routes through communities. Delays Touquoy Mine closure and reclamation works.	Considered feasible. Trade-offs include haul distance, remaining TMF capacity, and closure planning integration.
5. Concentrator Model with Central Processing of Concentrate at 15-Mile or Touquoy Mine	Install crushing, grinding, gravity and flotation circuits at the Old Austen Mine and Old Mitchell Mine. Ship concentrate to central facility for final processing (Carbon-In-Leach or off-site refining).	Technically feasible.	Higher capital at the Old Austen Mine and Old Mitchell Mine. Lower haul volumes. Lower trucking costs. Lower revenue from reduced concentrate recovery or lowest revenue from sale of concentrate. Capital required to upgrade mill to receive and process concentrates.	Reduced trucking volumes. Requires tailings facilities at the Old Austen Mine and Old Mitchell Mine. Reduces tailings requirement at processing hub (Touquoy Mine or 15-Mile Mine). Requires surface water withdrawal at the Old Austen Mine and Old Mitchell Mine. Introduces risks and disturbance area impacts of processing and TMF infrastructure at all mines.	Reduced heavy truck traffic. Increased disturbance area impacts and risks at the Old Austen Mine and Old Mitchell Mine associated with processing and tailings infrastructure.	Considered feasible. Not preferred due to reduced economics and increased disturbance at the Old Austen Mine and Old Mitchell Mine.
6. Reduced Scale Development (4,000 tonnes per day milled)	Develop smaller throughput hub with future expansion option.	Technically feasible.	Lower initial capital. Reduced economies of scale increasing operating costs given the head grade. Longer operating period to process similar volume.	Lower peak water demand. Extended operating timeline delaying closure and land reclamation.	Reduced employment and economic contribution. Increased mine life and job retention time. Proponents have complained about "shifting goalposts" and want submissions to be fulsome, encapsulating all effects.	Considered feasible, does not optimize long-term resource recovery, and carries higher economics risks.

Table 2.6-1 Alternative to 15-Mile Processing Hub Project

Alternative	Description	Technical Feasibility	Economic Feasibility	Key Environmental Considerations	Key Mi'kmaq / Social Considerations	Rationale for Advancement or Elimination
7. Underground Mining	Develop underground operations instead of or in combination with open pits.	Technically feasible. Complex to execute due to limited support for underground mining in Nova Scotia.	Higher operating costs, lower production rate, extended mine life, insufficient head grade to support underground operations, challenging deposit structure for underground, lack of skilled underground mine workers.	Reduced surface disturbance, lower waste rock volumes, groundwater management considerations.	Reduced surface impact, higher risks to workers, higher paying jobs but jobs are less likely to go to locals due to technical experience associated with underground mining.	Not economically feasible due to nature of gold deposits. Limited resources to support operations and safety of underground mining in Nova Scotia. Has failed previously in similar deposits in Nova Scotia.
8. Toll Milling at Existing Regional Facility (Other than Touquoy Mine)	Ship ore to another operating mill in Nova Scotia or Atlantic Canada.	Technically feasible but requires third party mill with capacity in economic distance of mines.	Lower capital, high long-term transportation cost, dependency on third party availability, low head grade does not allow for long transportation.	Increased trucking emissions, avoids new TMF construction at processing hub.	Extended haulage impacts across multiple jurisdictions. Less jobs and benefits. Less job security. Large portion of economic benefits will not impact locals assuming toll milling is not performed locally.	Operationally and economically risky due to reliance on third party and limited availability for toll milling within an economic distance.

Alternative Means (Technologies)

Various ways of carrying out the 15-Mile Processing Hub Project were studied during early economic work, environmental assessments, and engagement with stakeholders. The current design was selected and carried forward into more detailed studies. The sections below explain the main options considered for each site and why certain options were chosen or rejected.

15-Mile Mine Alternatives

Mining approach

- Open-pit mining was chosen as the gold is close to the surface and this method is practical and cost-effective.
- Underground mining was not selected because it is too expensive and not suitable for this type of deposit.

Breaking rock

- Drilling and blasting will be used because it is efficient and widely used.
- Rock breaking was rejected because it is less effective and creates more dust and noise.

Gold recovery

- A standard process (gravity and leaching) was chosen as it recovers more gold and uses proven technology.
- Other options were rejected as they recover less gold or are more costly.

Mine planning

- A balanced mining schedule was chosen to support early revenue and allow safe placement of waste rock in pits.
- Other options were rejected because they increase costs, environmental impacts, or are less practical.

Power supply

- Grid power from Nova Scotia Power Inc. was chosen because it is reliable and lower impact.
- Diesel-only or renewable-only options were not selected due to cost, emissions, or reliability concerns.

Managing potentially acid generating waste rock

- A mix of storing waste in the TMF and backfilling pits was chosen to reduce environmental risks.
- Keeping this material only on the surface was not selected because it increases the risk of pollution.

Managing non-acid generating rock

- A main stockpile with some used for backfilling was chosen to reduce disturbance and support closure.
- Other options were less efficient or caused more land disturbance.

Water supply

- Seloam Lake was chosen as the main water source because it can reliably supply the small amount of water needed.
- Other options (Anti Dam Flowage and groundwater wells) were less reliable or not practical.

Water discharge

- Multiple discharge points were chosen to better manage water and reduce environmental effects.
- A single discharge point was simpler but would have greater environmental impact.

Tailings storage design

- A centerline dam design was selected because it is safe and cost-effective.
- Other designs (downstream and upstream dams) were either more expensive or carried higher risk.

Tailings materials and liners

- A clay core and bedrock base were chosen because they are effective and simpler to build.
- Synthetic liners were not selected due to higher cost and risk of failure.

Tailings disposal method

- Conventional slurry tailings were chosen because they are reliable and suitable for local conditions.
- Alternatives like dry stacking or thickened tailings were not suitable due to climate, cost, or complexity.

Seloam Brook changes

- Realigning Seloam Brook was chosen to allow mining while protecting fish habitat.
- Other options either reduced Project value or did not protect the environment as well.

Old Austen Mine Alternatives

Mining approach

- Open-pit mining was chosen because the gold is near the surface and workers have related experience.
- Underground mining was not selected because it is too expensive and there is limited local experience.

Breaking rock

- Drilling and blasting will be used because it is efficient and creates less dust.
- Rock breaking was rejected because it is noisy, dusty, and not practical for this type of rock.

Gold processing

- Ore will be sent to the 15-Mile Mine for processing. This option reduces the amount of infrastructure needed at the Old Austen site and lowers costs.
- Other options were rejected because they require more infrastructure, cost more, or recover less gold.

Mine planning

- A smaller pit design was chosen to reduce environmental impacts and risks.
- A larger pit would produce more value but would affect the nearby Killag River, which is sensitive.

Power supply

- Diesel generators were selected because they are reliable and avoid building new power lines.
- Grid power and renewable options were not selected due to higher costs and added disturbance.

Managing potentially acid-generating waste rock

- Potentially acid-generating waste rock will be stored temporarily and then placed back into the pit once it is mined. This is practical because the amount of potentially acid-generating waste rock is relatively small.
- Other options were rejected because they increase cost, complexity, or environmental risk.

Managing non-acid rock waste rock and soil

- Non-acid rock waste rock and organic material will be stored together to reduce the overall footprint and simplify water management.
- Separate storage was not selected because it would disturb more land.

Water supply

- Groundwater wells were chosen as the water source. They will provide water for basic needs like sanitation.
- Using the Killag River was not selected because it could have greater environmental impact.

Water discharge

- Water will be released at more than one location (Killag River and Tent Lake watershed) to better manage flow and reduce impacts.
- A single discharge point was simpler but would have greater environmental effects.

Old Mitchell Mine Alternatives

Mining approach

- Open-pit mining was chosen because the gold is near the surface and local workers have relevant experience.
- Underground mining was not selected because it is too expensive and there is limited local experience.

Breaking rock

- Drilling and blasting will be used because it is efficient and creates less dust.
- Rock breaking was rejected because it is not practical and creates more noise and dust.

Gold processing

- Ore will be transported to the 15-Mile Mine for processing reducing infrastructure and lowering costs, but increasing truck traffic.
- Other options were rejected because they require more infrastructure, cost more, or recover less gold.

Mine planning

- A smaller pit design was chosen to reduce environmental impacts and avoid changes to nearby roads.
- A larger pit would generate more value but would affect Highway 7 and the St. Mary's River watershed.

Power supply

- Grid power was selected because nearby infrastructure makes it practical and lowers emissions.
- Diesel-only power was not chosen due to higher emissions and environmental risks.
- Renewable-only options were not practical due to cost and reliability.

Managing potentially acid generating waste rock

- PAG rock will be stored temporarily and then placed back into mined pits.
- Other options were rejected because they increase long-term environmental risks or costs.

Managing non-acid generating waste rock and soil

- Non-acid generating waste rock and organic material will be stored separately.
- This allows better reuse of materials and more flexibility in site design but increases disturbance.

Water supply

- Groundwater wells were chosen as the water source to provide adequate water for site needs.
- Using Cargill Lake was not selected due to higher environmental impact.
- Archibald Lake was not considered suitable because it is a protected and recreational area.

Water discharge

- Water will be released at more than one location (including Cargill Lake) to better manage flows and reduce impacts.
- A single discharge point was simpler but less environmentally effective.
- Other options were rejected because they were too complex or costly.

2.6.2 Reduced Impacts of the 15-Mile Processing Hub Project

This section explains how changes to the Project design have reduced environmental impacts compared to the earlier Moose River plan. Overall, the amount of land disturbed has been reduced:

- By about 23% at 15-Mile Mine
- By about 43% at Old Austen Mine
- By about 55% at Old Mitchell Mine

15-Mile Mine

- The TMF was moved and expanded (to account for ore from the other two mines), and other infrastructure was grouped together.
- A waste rock pile that could potentially produce acid was removed from the design.
- Fewer watercourses (about 35% less) and wetlands (about 19% less) will be affected.
- The updated design avoids impacts to sensitive species like blue felt lichen and boreal felt lichen.
- Fewer watersheds are affected overall.

Old Austen Mine

- Infrastructure was grouped into fewer areas, reducing its spread across the site.
- The number of affected watersheds was reduced from seven to four, including areas connected to Beaver Lake Indian Reserve 17.
- Fewer watercourses (about 22% less) and wetlands (about 61% less) will be affected.

- Impacts to moose habitat areas have been eliminated.
- The design avoids impacts to sensitive lichen species.

Old Mitchell Mine

- Removing on-site processing and tailings storage greatly reduced environmental impacts.
- Fewer watersheds are affected.
- No infrastructure will be in the watershed that drains directly to the St. Mary's River.
- Fewer watercourses (about 23% less) and wetlands (about 55% less) will be affected.
- The design avoids impacts to sensitive lichen species.

Overall, the updated Project design reduces impacts on land, water, and sensitive habitats compared to the earlier plan.

The next sections show the positive changes made to each of the three sites compared to the original Moose River Project.

15-Mile Mine Redesign

The 15-Mile Mine was originally planned to partly process ore and send it to the Touquoy Mine. It is now planned to be the main processing site for all three mines. It will fully process ore and produce gold bars on site. Key improvements to the design include:

- Closure and final landforms are now planned from the start.
- Waste rock that could produce acid will be safely stored in the TMF or placed back into pits to reduce environmental risk.
- Much less material will be left in stockpiles after closure.
- Trails have been added for public and all-terrain vehicle use based on feedback from the Sheet Harbour ATV Society.
- More than one water discharge point will be used to reduce impacts on rivers and lakes.
- Haul roads have been combined to reduce the amount of disturbed land.
- Some stockpiles have been removed from the design to further reduce disturbance.
- Changes were made to reduce how much water is stored in the TMF, lowering risk.
- The plant and other work areas have been moved farther from the TMF to improve safety.
- Infrastructure has been moved away from sensitive areas like East Lake and the Toadfish Lakes Wilderness Area based on community input.
- The TMF has been made larger to handle material from all three mine sites.
- The design of Seloam Brook has been improved to support fish movement.
- Water treatment has been added to better protect the environment.

Old Austen Mine Redesign

The Old Austen Mine will still operate like a quarry, with no on-site processing. However, ore will be sent to the 15-Mile Mine instead of the Touquoy Mine. Key improvements to the design include:

- Closure and final landforms are now planned from the start.
- Waste rock that could produce acid will be placed back into the pit to reduce environmental risk.
- The pit has been made smaller. This reduces gold production but greatly lowers waste rock and moves the pit farther from the Killag River. This change made the distance between the pit and the Killag River larger (from 60 m to 110 m) and was in response to concerns from Mi'kmaq communities and DFO.
- Waste rock has been reduced by about 23 million tonnes, which also reduces the overall disturbed area.
- The design no longer affects the Cope Brook watershed, which flows toward Beaver Dam IR 17.
- Stockpiles have been moved to reduce environmental impacts and now affect fewer watersheds.
- Water discharge has been split between the Killag River and the Tent Lake watershed to reduce impacts.
- Surface water withdrawal is no longer needed because the site footprint is smaller.
- A planned haul road to the Touquoy Mine has been removed due to concerns about impacts on traditional land use.

Old Mitchell Mine Redesign

Old Mitchell Mine was originally planned to process ore to a concentrate, which included storing tailings on site. The concentrate would be shipped to Touquoy Mine for further processing. Based on community feedback and cost considerations, Old Mitchell

Mine has been redesigned as a quarry-style operation, with ore sent to the 15-Mile Mine for processing. Key improvements to the design include:

- Closure and final landforms are now planned from the start.
- Waste rock that could produce acid will be placed back into the pit to reduce environmental risk.
- The Project no longer includes a TMF, which reduces environmental impacts.
- The pit has been made smaller so it no longer affects Highway 7 (Marine Drive), responding to community concerns.
- Waste rock has been reduced by about 14 million tonnes, which also reduces the amount of disturbed land.
- Stockpiles have been moved and grouped to reduce environmental impacts, focusing on the area around Cargill Lake.
- Changing to a quarry-style operation reduced the overall footprint and removed the need for tailings storage at the site.
- The design avoids all watersheds that flow directly into St. Mary's River.
- Water will no longer be discharged into Archibald Lake, addressing community concerns.
- Water discharge has been split between watersheds to reduce impacts.
- Surface water withdrawal is no longer required.

3 Location Information

3.1 Geographic Coordinates

3.1.1 15-Mile Mine

15-Mile Mine site is about 100 km northeast of Halifax in Halifax County, Nova Scotia. The centre of the site is:

- 4998552 N, 537235 E (Universal Transverse Mercator (UTM) coordinates, North American Datum of 1983 (NAD 83) Zone 20T)
- 45.139470° N latitude and 62.526414° W longitude

The site is shown on National Topographic System (NTS) maps 11E01/C and 11E02/D

3.1.2 Old Austen Mine

The Old Austen Mine site is about 85 km northeast of Halifax. The centre of the site is:

- 4989899 N, 521879 E (UTM coordinates, NAD 83 Zone 20T)
- 45.062218° N latitude and 62.722099° W longitude

The site is shown on NTS map 11E02/A.

3.1.3 Old Mitchell Mine

The Old Mitchell Mine is about 145 km northeast of Halifax and about 13 km north of Sherbrooke in Guysborough Country, Nova Scotia. The centre of the site is at:

- 5011088 N, 577392 E (UTM coordinates, World Geodetic System 84 Zone 20T)
- 45.249038° N latitude and 62.013774° W longitude

The site appears on NTS maps 11E/1D, 11E/8A, 11F/4C, and 11F/5B.

3.2 Site Maps

Site maps in this document are:

- Figure 1.2-1 – Project Location
- Figure 1.6-1 - Mi'kmaq First Nation Communities of Nova Scotia

3.2.1 15-Mile Mine

- Figure 2.3-1 – 15-Mile Mine: Site Overview
- Figure 2.3-2 – 15-Mile Mine: Characterization of Impacts from Historic Tailings and Waste Rock

3.2.2 Old Austen Mine

- Figure 2.3-3 – Old Austen Mine: Site Overview
- Figure 2.3-4 – Old Austen Mine: Characterization of Impacts from Historic Tailings and Waste Rock

3.2.3 Old Mitchell Mine

- Figure 2.3-5 – Old Mitchell Mine: Site Overview
- Figure 2.3-6 – Old Mitchell Mine: Characterization of Impacts from Historic Tailings and Waste Rock

3.3 Description of Lands and Ownership

3.3.1 15-Mile Mine

The 15-Mile Mine site is mostly made up of land owned by the Company and Crown land. The Company owns a large share of the surface land, including three of the four main mineral zones. Mineral rights are covered by nine exploration licences held by the Company, including 191 connected claims.

15-Mile Mine is in Halifax Regional Municipality for land use planning. The northern part of the site is in the Musquodoboit Valley/Dutch Settlement Planning Area and is zoned for Mixed Use. The southern part is in the Eastern Shore (East) Planning Area and is zoned Rural Resource. Both zoning types allow mining and related industrial activities, as long as they follow local zoning rules.

Local rules define extractive facilities as including buildings, processing plants, storage areas, and weigh scales, and they can also include housing for workers if proper sewage systems are in place. Mining activity itself is regulated by the Province of Nova Scotia under the *Mineral Resources Act* and is not controlled by municipal zoning rules.

3.3.2 Old Austen Mine

The Old Austen Mine site includes both privately owned land and Crown land in an area that has been used for industrial activities. Much of the privately owned land has previously been used for commercial forestry. Mineral rights are held by the Company through four exploration licences, covering 117 connected claims.

Old Austen Mine is also within the Musquodoboit Valley/Dutch Settlement Planning Area and is zoned Mixed Use. This zoning allows mining and related industrial activities, as long as they meet local zoning rules.

Mining activity is regulated by the Province of Nova Scotia under the *Mineral Resources Act* and is not controlled by municipal zoning.

3.3.3 Old Mitchell Mine

The Old Mitchell Mine site is mostly Crown land. The Company owns one parcel (about 100 hectares), which partially overlaps the PDA and extends beyond it.

Mineral rights are held by the Company through seven exploration licences, covering 172 connected claims.

The site is in the Municipality of the District of St. Mary's and is zoned Rural Resource. This zoning is intended to support resource-based industries (such as mining) as well as rural residential uses.

3.4 Proximity to Residences and Communities

The 15-Mile Mine, Old Austen Mine, and Old Mitchell Mine are in rural areas of Nova Scotia, with widely spaced homes including permanent residences and seasonal camps. No residences are located within any of the PDAs.

3.4.1 15-Mile Mine

15-Mile Mine is near Trafalgar in Halifax County. The nearest town is Sheet Harbour (population of about 800 people), about 33 km south along Highway 374 (Figure 1.2-1). The closest residence is a seasonal property about 4.7 km south of the PDA along Anti Dam Flowage. Two other seasonal residences are farther south along Highway 374 on Marshall Flowage. An inactive warden's cabin in the Liscomb Game Sanctuary is about 7.9 km south of the site.

3.4.2 Old Austen Mine

Old Austen Mine is near Marinette in Halifax County. Sheet Harbour, about 19 km south along Highway 224, is also the nearest town (Figure 1.2-1). The closest permanent residence is at the start of Beaver Dam Mines Road, about 6.5 km from the edge of the Old Austen pit and about 60 m from the proposed access road into the Mine. Three seasonal residences are within 1 km from the proposed access road south along Highway 224.

3.4.3 Old Mitchell Mine

Old Mitchell Mine is near Melrose in Guysborough County (Figure 1.2-1). The nearest town is Sherbrooke (population of about 400), about 13 km south along NS Trunk Highway 7 (Marine Drive). The closest residence is a permanent home on Highway 7, about 600 m from the edge of the Old Mitchell Mine pit and about 40 m from the edge of the PDA. Three other permanent residences are located within 1.5 km of the pit, also along Highway 7 to the south. The community of Melrose is about 2.5 km from the edge of the pit.

3.5 Proximity to Federal Lands

In Canada, federal lands are lands owned by the Crown and administered by the federal government. They include national parks, First Nations reserve lands, Department of National Defence properties, and other federal facilities (e.g., ports operated by Canada Port Authorities, airports in the National Airports System). The Project does not intersect with any federal lands. The nearest Indigenous reserve lands are identified in the following sections. Current use of lands and resources for traditional purposes are discussed in Section 3.7.2.

3.5.1 15-Mile Mine

The closest federal lands to the 15-Mile Mine site are Mi'kmaq First Nation reserves:

- Beaver Lake Indian Reserve 17, about 25 km from the site.
- Sheet Harbour Indian Reserve 36, about 25 km from site.

Both are part of Millbrook First Nation.

3.5.2 Old Austen Mine

The closest federal lands to the Old Austen Mine site are also Millbrook First Nation reserves:

- Beaver Lake IR 17, about 5.5 km from site.
- Sheet Harbour IR 36, about 20 km from site.

3.5.3 Old Mitchell Mine

The closest federal lands to the Old Mitchell Mine site are Mi'kmaq First Nation reserves:

- Paq'tnkek Mi'kmaw Nation, about 23 km east of Antigonish and about 44 km northeast of the mine site.
- Pictou Landing First Nation, about 80 km northwest of the site.

3.6 Environmental Setting

The 15-Mile Processing Hub Project is in a mostly undeveloped rural area of Nova Scotia, but it can use existing infrastructure like highways and power lines. All three sites have been disturbed by past mining, including leftover tailings from earlier operations.

Environmental studies for the Project started in 2015 and are still ongoing. These studies help build a clearer and more up-to-date understanding of site conditions. Information about the physical and natural environment (as described in following sections) is based on this long-term monitoring, along with traditional knowledge gathered through Mi'kmaq Ecological Knowledge Studies. Together, these sources provide nearly 10 years of data. Continuous monitoring for key areas like surface water and groundwater has been in place since 2018.

3.6.1 Noise

The NSECC Guideline defines baseline noise as the existing sound levels in an area without any noise from the Project. The guidelines also set limits for how loud sound can be at nearby locations, known as permissible sound levels.

15-Mile Mine

A noise study, completed in February 2024 near the 15-Mile Mine site, measured existing sound levels at two nearby locations that represent sensitive areas, such as seasonal cabins and cottages. These locations were about 4.5 km, where noise levels were low: about 46 decibels (dBA) during the day, and 24 dBA in both the evening and night, and 7.5 km, where levels were slightly higher: about 47 dBA during the day, 37 dBA in the evening, and 36 dBA at night, southeast of the site. The area is considered "quite rural" under provincial guidelines. Overall, sound levels in the area are low and meet provincial guidelines. During the day and evening, most noise came from passing vehicles. At night, noise mostly came from natural sources, with occasional vehicle noise.

Old Austen Mine

Baseline noise monitoring was completed near the Old Austen Mine between January 2007 and September 2016 (AMNS, 2021). Monitoring stations were selected to represent nearby receptors, areas that would hear the noise.

Measured baseline sound levels were as follows (Atlantic Gold, 2021): 33 dBA during the day, 31 dBA in the evening, and 27 dBA at night

The Atlantic Gold (2021) study found that noise levels in the area are low.

Old Mitchell Mine

Baseline noise monitoring was completed near the Old Mitchell Mine over a 24-hour period on November 1 and 2, 2017, at two locations within the PDA (Wood, 2019).

Average background noise levels were as follows (Wood, 2019): 31 dBA during the day, 28 dBA in the evening, 26 dBA at night.

The baseline noise study found that noise levels in the area are low (Wood, 2019).

3.6.2 Air

In Nova Scotia, air quality is regulated under the *Environment Act* and *Air Quality Regulations*. The NSECC has set limits on how much pollution is allowed in the air at ground level.

15-Mile Mine

The area around the 15-Mile Mine site is rural and not very populated. Forestry and farming are the main industries within the area. The nearest industrial sites are Scotia Atlantic Biomass Company (about 40 km west) and the Touquoy Mine (about 35 km southwest). Main sources of air pollution in the area include forestry work, vehicle traffic on Route 374, road dust, and occasional forest fires.

Because there is limited air quality data in rural areas, monitoring was done at the site in September and October 2024. The study measured dust and fine particles (Total Suspended Particles (TSP), particulate matter smaller than 10 micrometres (PM_{10}) and particulate matter smaller than 2.5 micrometres ($PM_{2.5}$)) as well as metals (arsenic, mercury, and manganese) from September 23 to 27, 2024. Gases (nitrogen dioxide (NO_2), sulphur dioxide (SO_2), ammonia, and benzene) were measured from September 16 to October 16, 2024.

The results showed that air quality in the area is within provincial limits (Nova Scotia *Air Quality Regulations*), with no pollutants exceeding allowable levels.

Old Austen Mine

Air quality data for the Old Austen Mine PDA was taken from the Government of Canada National Air Pollution Surveillance program as there are no permanent stations close to the site. These stations (Lake Major, Port Hawkesbury, Aylesford Mountain, Pictou, Halifax and Sydney) provided background levels for common air pollutants such as carbon monoxide (CO), NO_2, SO_2, and particulate matter smaller than PM_{10} and $PM_{2.5}$). The data used from these stations was from 2014 to 2016.

The concentrations used to define background values are:

- 24-hour $PM_{2.5}$ - 5.7 micrograms per cubic metre (µg/m^3)
- 1-hour NO_2 - 41.4 µg/m^3
- 24-hour NO_2 – 17.0 µg/m^3
- 1-hour SO_2— 7.9 µg/m^3
- 24-hour SO_2 - 5.2 µg/m^3
- Half hour CO - 834 µg/m^3
- 1-hour CO - 687 µg/m^3
- 24-hour CO - 384 µg/m^3

Additional air sampling was done at nine locations directly at the site between 2007 and 2017 to measure dust levels (TSP, particulate matter smaller than PM_{10}). The results showed generally low dust concentrations. One higher reading was later confirmed to be an outlier and was much lower when re-tested. TSP ranged from 1.7 to 41.7 µg/m^3 (41.7 was the outlier, when resampled in 2014 it was 4.6 µg/m^3) and PM_{10} ranged from 7.1 to 13.1 µg/m^3.

Overall, all measured TSP levels were below the limits set by Nova Scotia regulations.

Old Mitchell Mine

The Old Mitchell Mine site is in a rural region with few nearby residents or industries, so pollutant concentrations are expected to be low and overall air quality good. Baseline air monitoring at two locations in November 2017 measured TSP of 10.7 µg/m³ at both sites and PM_{10} of 9.7 and 10.5 µg/m³ over 24-hour periods. Arsenic and mercury were not detected. All results were below limits set by Nova Scotia's Air Quality Regulations.

Baseline data for NO_2 and SO_2 are limited. The nearest monitoring data, from Goldboro, Nova Scotia (about 29 km southeast of PDA), recorded highest 24-hour averages of 5.2 µg/m³ for NO_2 and 10.4 µg/m³ for SO_2 in 2004, both well below the provincial objectives of 200 µg/m³ (NO_2) and 300 µg/m³ (SO_2). Monitoring near Seal Harbour that same year measured a highest 24-hour $PM_{2.5}$ value of 4.0 µg/m³.

3.6.3 Light

Nova Scotia does not currently have rules or guidelines for light emissions from industrial sites. To assess lighting impacts, the Project used guidance from the Institution of Lighting Engineers (ILE).

15-Mile Mine

The 15-Mile Mine site is in a rural area with forest and waterbodies. Based on international lighting guidance, it is classified as a "low district brightness area," which applies to rural settings and small villages.

Light levels were measured at the site on September 9, 2018, at four sample locations. The results showed that ambient light was extremely low and could not be measured (less than 0.01 lumen per square metre). Sky brightness measurements also confirmed very dark conditions, which is typical for a rural, undeveloped area.

Old Austen Mine

The Old Austen Mine site is a former mining area in a rural setting with forests and water bodies. Because it is remote and has low levels of development, it is considered a “low district brightness area” under international lighting guidelines.

No new light measurements were taken at the site. Instead, background light conditions were estimated using data from a similar nearby site, the Touquoy Mine, collected during its 2007 environmental assessment. That data showed very low natural light levels, where light was so low it could not be measured.

Old Mitchell Mine

The Old Mitchell Mine site is in a forested, low-population area with very little artificial lighting. The site meets the “low district brightness area” classification under international lighting guidelines.

Baseline light measurements were taken between September and October 2018 and again in February 2019 at seven locations within the site. Light levels were extremely low and could not be measured (less than 0.01 lumen per square metre). Sky brightness measurements showed mostly dark-sky conditions, typical of rural areas, with one location slightly brighter but still consistent with a rural-to-suburban transition.

3.6.4 Geology, Soils, and Sediment

The PDAs are made up of common regional geology found across Nova Scotia. It includes bedrock, soils, and sediments that were formed and shaped by past glacial movement. Soils are generally shallow, and sediments in nearby lakes and streams are mostly fine-grained materials with some organic matter.

15-Mile Mine

The area around the 15-Mile Mine consists of folded sedimentary rocks from the Goldenville and Halifax groups, which extend across much of southern Nova Scotia. These rock units are tightly folded and cut by faults, including a major fault running northwest–southeast through Seloam Lake. The dominant structure in the area is an overturned anticline known as the 15-Mile Stream anticline.

The landscape was shaped by past glaciation during the Wisconsinan period. As glaciers retreated, they left behind a mix of till plains, drumlins, and exposed bedrock. The terrain is gently rolling, with elevations ranging from about 110 to 175 m above sea level. Soils thickness is variable (1-10 m) and made up of stony, sandy glacial till that drains quickly. The dominant soil type is the Gibraltar series, which is common in Nova Scotia and is typically acidic and low in nutrients.

The site also contains historical mining material that affects soil and sediment quality. Studies have identified multiple historic tailings areas and waste rock piles, mainly concentrated along Seloam Brook. These deposits are relatively shallow but widespread in places, and sediments in nearby water bodies show elevated levels of metals such as arsenic, lead, and mercury.

Soil testing has also found elevated arsenic levels in some areas, linked to naturally mineralized bedrock in the region. Bedrock testing for acid rock drainage potential shows a mix of potentially acid-generating and non-acid-generating rock, with variability depending on rock type and location. Key elements of concern include arsenic, lead, mercury, antimony, silver, and tungsten.

Overall, the area has low risk of earthquakes.

Old Austen Mine

The Old Austen Mine is underlain by similar geology to the 15-Mile Mine, within the Goldenville Group of metamorphosed sedimentary rocks. The bedrock is mainly made up of argillite and greywacke, and gold occurs both in quartz veins and dispersed through these rock layers. The ore body sits on the southern limb of a large overturned anticline formed during the Appalachian mountain-building period. The geology is cut by two northwest-trending faults (the Mud Lake Fault and Cameron Flowage Fault), which offset and bound parts of the mineralized zone. To the southwest, older igneous rocks of the Musquodoboit Batholith intrude the surrounding formations.

The surface geology reflects past glacial activity. The area includes till plains, drumlins, and organic deposits. Two drumlins are present within the PDA, and organic-rich deposits occur in low-lying areas near water bodies and infrastructure corridors. Elevations range from about 125 to 170 m above sea level. Soils are mainly thin, acidic, and nutrient-poor and are classified as Gibraltar-type soils, including Halifax and Bridgewater series.

Some areas have been affected by historic mining activity. Investigations have identified old tailings deposits within and near the proposed pit area, including in the Austen Pit and near Crusher Lake. Sediment sampling has found elevated arsenic across the site and localized mercury concentrations near historic tailings.

Testing of bedrock shows a mix of rock types with varying potential for acid rock drainage. Argillite-rich rock is more likely to be potentially acid-generating, while greywacke-rich rock is less likely to be acid-generating. Overall, about 80% of argillite-dominant material shows PAG potential, compared to about 20% in greywacke-dominant material.

The area is considered to have low risk of earthquakes.

Old Mitchell Mine

The Old Mitchell Mine sits within the same regional Goldenville Group geology as the other PDAs, but the rock units here are more structurally complex. The Goldenville Group is bounded by the Halifax Formation to the south and Horton Group sandstones and conglomerates to the north. The host rocks are mainly argillite and greywacke, but at this location the argillite has been more strongly metamorphosed and is often altered into mica-rich schist. Gold mineralization is contained within an overturned fold structure known as the Cochrane Hill anticline.

The surface geology reflects past glacial activity, with drumlin fields both north and south of the site and three drumlins located within the PDA itself. The area also contains smaller glacial features such as meltwater channels, kame deposits, and alluvial channels, which contribute to a varied and uneven landscape. Elevations range from about 60 to 175 m above sea level. Soils are generally coarse-grained and well drained and are classified as Gibraltar-type soils.

Some areas of the site have been affected by historic mining. Reclaimed tailings are present within the proposed pit area, and small remnants of tailings also occur in a nearby watercourse. Soil and overburden testing has found elevated levels of elements such as arsenic and bismuth compared to natural background levels.

Testing of bedrock shows that argillite-rich areas are more likely to generate acid rock drainage conditions, while greywacke-rich areas are less likely to do so. Overall, most argillite samples are classified as potentially acid generating, with key elements of concern including silver, arsenic, bismuth, cadmium, lead, and zinc.

The area is considered to have low risk of earthquakes.

3.6.5 Groundwater

A groundwater monitoring program is in place at all three mine sites to understand existing groundwater conditions before development. Monitoring wells are used to measure groundwater levels and quality within and around each PDA.

Sampling is completed on a quarterly basis to capture seasonal changes. Water samples are tested for a range of physical, chemical, and metal parameters. All testing follows standard laboratory methods, and detection limits are set to meet applicable regulatory requirements and water quality objectives.

15-Mile Mine

Groundwater monitoring at the 15-Mile Mine has been ongoing since 2018, following the installation of a network of 38 monitoring wells both within and outside the PDA. These wells vary in depth (up to 22 m below ground surface) and are used to monitor groundwater conditions in wetlands, overburden, and bedrock.

Hydrogeological testing has shown that groundwater movement in the area is generally slow and variable. Overall, groundwater flow is expected to occur mainly through shallow soils and the upper portions of bedrock, rather than through deeper rock formations.

Groundwater levels have been continuously tracked in select wells since 2020 using automated sensors. Results show clear seasonal patterns, with levels dropping in the summer due to lower rainfall and recovering in the fall and spring. Groundwater conditions in soil and bedrock generally respond in a similar way over time.

Water quality has been monitored regularly between 2018 and 2025, with a temporary reduction in sampling frequency during part of that period (between 2023 to early 2025). Results show chemistry consistent with the natural bedrock in the area, including slightly acidic conditions and elevated levels of metals such as aluminium, arsenic, iron, and manganese. These conditions are considered typical for groundwater in parts of Nova Scotia according to Groundwater Chemistry Maps released by the Nova Scotia Geological Survey Division (NSDNRR, various dates).

Some higher arsenic concentrations have been observed in wells located near historic tailings deposits along Seloam Brook, compared to other areas of the site.

Old Austen Mine

Groundwater monitoring at the Old Austen Mine has been ongoing since 2018, following the installation of 49 monitoring wells located both within and outside the PDA. The wells target shallow soils, shallow bedrock, and deeper bedrock, with depths reaching just over 63 m below ground surface.

Hydrogeological testing has shown that groundwater movement in the area is generally slow to moderate and varies by depth and material. Groundwater was found to flow more easily near the surface, while deeper rock is less permeable and contributes less to groundwater movement. Overall, groundwater flow is expected to follow surface topography, moving from higher areas toward lower areas (surface water bodies in low lying areas) where it can discharge into surface water bodies.

Groundwater levels have been continuously monitored since installation using automated sensors. Results show clear seasonal patterns, with lower water levels in summer and recovery through fall and spring. Groundwater levels in shallow and deep zones generally respond in a similar way over time, especially in response to rainfall and seasonal recharge.

Groundwater quality monitoring from 2018 to 2025 (with a temporary stoppage in sampling between 2023 to 2024) shows conditions consistent with natural bedrock chemistry in the area. Results include slightly acidic water and elevated levels of metals such as aluminium, arsenic, iron, and manganese, which are commonly found in groundwater in parts of Nova Scotia.

Old Mitchell Mine

Groundwater monitoring at the Old Mitchell Mine has been in place since 2018, following the installation of 27 monitoring wells both within and outside the PDA. The wells are designed to monitor groundwater conditions in shallow soils, shallow bedrock, and deeper bedrock, with depths reaching about 55 m below ground surface.

Hydraulic testing shows that groundwater flow decreases with depth. Shallow soils and shallow bedrock are more permeable, while deeper bedrock is much less permeable. As a result, groundwater movement is expected to occur mainly through shallow soils and fractured shallow bedrock, with limited contribution from deeper rock. Test results from slug and packer testing confirm this pattern, showing higher hydraulic conductivity in shallow zones and very low conductivity in deep bedrock.

Groundwater levels have been continuously monitored from 2020 top 2023 using automated sensors, with monitoring restarted in 2025 after a short pause. Data shows seasonal changes, with lower groundwater levels in summer and recovery during fall and spring. Conditions in shallow and deep zones generally follow similar trends, especially in response to rainfall.

Groundwater quality monitoring from 2020 to 2025 (with a temporary stoppage in sampling between 2023 to 2024) shows conditions consistent with natural bedrock chemistry in the area. Results include slightly acidic water and elevated levels of metals such as aluminium, arsenic, iron, manganese, and zinc, which are commonly found in groundwater in Nova Scotia according to Groundwater Chemistry Maps released by the Nova Scotia Geological Survey Division (NSDNRR, various dates).

Two historic tailings areas remain within the site, including one located within the planned pit area. A monitoring well located near this tailings area has consistently shown higher concentrations of arsenic and lead compared to other wells on site.

3.6.6 Surface Water

A surface water monitoring program is in place at all three mine sites to understand existing water conditions before development. Monitoring is done within and around each PDA to measure both water levels and water quality.

Sampling is completed on a quarterly basis to capture seasonal changes throughout the year. Water samples are tested for a wide range of physical, chemical, and metal parameters. All analyses follow standard laboratory methods, and detection limits meet applicable regulatory requirements and water quality objectives.

15-Mile Mine

Streams within the 15-Mile Mine PDA are located within the East River Sheet Harbour watershed. The watershed is largely forested and natural area that also includes wetlands, lakes, and some protected areas. Forestry is the main land use in the region. Three main drainage systems pass through the site: Fifteen Mile Stream, Seloam Brook, and the East Lake system. All of these ultimately drain south into Anti Dam Flowage and then to the Atlantic Ocean through the East River and Sheet Harbour system.

Fifteen Mile Stream is fed by Seventeen Mile Stream and flows through a chain of lakes ((First Rocky Lake, Second Rocky Lake and Lower Rocky Lake) before joining Seloam Brook. Seloam Brook begins north of the PDA and flows through Seloam Lake, a large lake (surface area of roughly 310 hectares) controlled by a dam operated by Nova Scotia Power. Water levels in Seloam Lake influence flow conditions downstream, including flow into Fifteen Mile Stream which flows into Anti Dam Flowage.

Fifteen Mile Stream and Seloam Brook are generally natural, winding channels that vary in depth and width depending on local geology. In low-energy areas, channels contain fine sediments like silt, clay, and organic material, while higher-energy areas contain coarser materials such as cobbles and boulders. Wetlands and braided channels are also common in parts of the system. The East Lake system is a complex network of lakes, wetlands, and small streams that also drains into Anti Dam Flowage.

Anti Dam Flowage is a large waterbody with a drainage area of about 17,800 hectares. It is part of a managed hydroelectric system that includes multiple dams and generating stations along the East River Sheet Harbour watershed. The 15-Mile Mine PDA lies between the water control dams on Seloam Lake and Anti Dam Flowage.

Surface water monitoring has been ongoing at 19 sampling locations since 2017 and was restarted in 2025. Water quality results show generally acidic to near-neutral conditions. Some parameters, including aluminium, arsenic, iron, and certain metals are above Canadian water quality guidelines for Protection of Freshwater Aquatic Life at times. These exceedances are partly influenced by natural geology in the area, where mineralized bedrock can release metals into surface water. Similar elevated background levels are known to occur in other parts of Nova Scotia, even in relatively undisturbed watersheds.

Old Austen Mine

The Old Austen Mine PDA is located within the West River Sheet Harbour watershed, a large drainage area of about 57,600 hectares. The region is mostly forested and contains many lakes, streams, and wetlands. The PDA sits near the Musquodoboit River Valley system and drains southeast through a network of small streams and wetlands that eventually flow into Cameron Flowage and then the Killag River.

Mud Lake and the Crusher Lakes are located within or near the PDA and both drain into Cameron Flowage. The broader catchment also receives inflow from lake systems to the north and northwest, which feed into the same downstream network.

Surface water in the area is generally described as relatively clean, with low nutrients, low hardness, and low alkalinity. Overall, this suggests limited influence from past mining or industrial activity. Monitoring programs conducted between 2014 and 2015 and again from 2019 to 2020 support this, showing mostly lightly acidic conditions across the site.

However, some variability in pH has been observed. While many readings fall within a mildly acidic range, a few instances of very low pH have been recorded in localized areas. Monitoring between 2019 to 2020 at 16 monitoring location has also detected elevated concentrations of some metals, including aluminium, arsenic, copper, lead, and iron, at or above Canadian water quality guidelines at certain locations.

Old Mitchell Mine

The Old Mitchell Mine PDA is within the St. Mary's River Watershed, a large forested drainage area that flows to the Atlantic Ocean at Sherbrooke. The watershed contains many lakes, streams, wetlands, and bogs. Water from the PDA flows through three main systems: Cargill Lake in the south, Cameron Lake in the central and northeast areas, and Paul Brook in the northeast. These waterways are small, low-energy streams that typically contain fine sediments and organic material.

Quarterly surface water monitoring from 2017 to 2023 shows that water quality is generally clean but slightly acidic. As with the other mine sites, naturally occurring geology contributes to elevated levels of aluminum, arsenic, and iron that often exceed Canadian water quality guidelines. A few other substances, such as manganese, zinc, fluoride, and ammoniacal nitrogen, occasionally exceeded guidelines, but less frequently and often at low levels.

Monitoring of surface water quality and flow restarted in early 2025.

3.6.7 Wetlands

Wetlands are important natural areas that support many plants and animals. They also help store water, reduce flooding, and improve water quality.

In Nova Scotia, wetlands are protected under provincial laws and policies. A wetland is defined as land that is wet or saturated for part or all of the year, such as marshes, swamps, fens, or bogs as per the *Environmental Act*. These areas typically have water-loving plants, poorly drained soils, and natural processes adapted to wet conditions. Any work that changes a wetland usually requires approval from the province, with some small exceptions.

The province's wetland policy aims to protect these areas by preventing overall loss, encouraging conservation, and supporting the recovery of wetland types that have been heavily reduced in the past. Some wetlands can also be designated as especially important (Wetlands of Special Significance) if they support sensitive or at-risk species.

Wetlands within the PDAs were identified using mapping tools, data sources, and aerial images, followed by field surveys carried out between 2015 and 2019. These surveys confirmed wetland boundaries, assessed their functions, and identified any sensitive species or habitats.

All wetlands have been considered in project planning, and their locations are being used to help guide where infrastructure is placed to reduce impacts.

15-Mile Mine

A total of 274 freshwater wetlands were identified within the 15-Mile Mine PDA. Together, they cover about 210 hectares, or roughly 17% of the site.

Most wetlands in the area are swamps (tree and shrub types), making up about 70% of all wetlands. However, most of these are small—under one hectare—and together they only account for about 20% of the total wetland area.

Bogs make up about 18% of wetlands, while fens and marshes are much less common. Wetland complexes, which contain a mix of wetland types, make up only 9% of the total number but represent the majority (about 61%) of the total wetland area.

The largest and most important wetland system follows Seloam Brook. It is fed by smaller streams and groundwater and includes many connected channels and surrounding wetlands. Water generally flows from Seloam Lake toward Fifteen Mile Stream.

Most wetlands (about 90%) are isolated or only loosely connected to others through drainage, rather than through defined streams or rivers.

Many wetlands in the area have been affected by past activities such as mining, hydroelectric operations, and forestry. Wetlands near Seloam Brook show the most disturbance.

Species at risk (SAR) have been found in 28 wetlands. Of these, 21 are expected to provide important habitat and may be considered wetlands of special significance under provincial guidelines.

Old Austen Mine

A total of 236 freshwater wetlands were identified in the Old Austen Mine PDA. Most of these wetlands are swamps, making up about two-thirds of all wetlands. These are mainly forested swamps, similar to others found across Nova Scotia, with a smaller number made up of shrubs. Even though swamps are the most common type, they only make up about 22% of the total wetland area, and most are not connected to other wetlands.

There are also 30 wetland complexes, which are groups of different wetland types such as swamps, bogs, fens, and some marshes. While these complexes make up only 13% of the total number of wetlands, they account for more than half of the total wetland area. Most wetlands in the area are relatively small, with an average size of about one hectare.

Water flow through wetlands generally splits north and south along watershed boundaries. Larger wetland complexes often cross these boundaries and play an important role in supplying water to nearby wetlands, streams, and lakes.

Wetlands in the area have been affected by both natural events, like fallen trees, and human activities such as past mining, forestry, and road building. Some wetlands are located in areas where historic mine tailings were deposited or mixed into the soil.

SAR have been found in 24 wetlands. Of these, 21 are expected to provide important habitat and may be considered especially wetlands of special significance under provincial guidelines.

Old Mitchell Mine

A total of 192 wetlands were identified within the Old Mitchell Mine PDA, covering about 220 hectares.

Most wetlands in the area are swamps, making up about 92% of all wetlands. These are mainly forested (mixed wood or coniferous). Most swamps are small—less than one hectare—but together they still make up more than half of the total wetland area. These wetlands vary in how water moves through them, with some being isolated and others connected by flowing water.

Other wetland types, such as bogs, fens, and marshes, are very limited and each make up less than 1% of the total wetland area. A small number of wetland complexes (groups of different wetland types) account for only 5% of wetlands but represent a large portion (about 41%) of the total wetland area.

A higher area of land in the centre of the site splits water flow to the north and south. Water flowing north moves toward McKeen Brook, while water flowing south drains through wetlands into nearby lakes. Most wetlands are connected in some way through water movement.

The main impacts on wetlands in the area are from roads and forestry. Despite this, most wetlands are considered to be in good condition.

3.6.8 Fish and Fish Habitat

Fish and fish habitat studies have been carried out at the PDAs at different times since 2015. Additional work was completed in 2025 to make sure there is enough baseline information for all areas that could be affected.

15-Mile Mine

Fish and fish habitat studies at the 15-Mile Mine PDA looked at lakes, streams, and wetlands such as Seloam Lake, Seloam Brook, East Lake, Fifteen Mile Stream, and Anti Dam Flowage. In total, 35 aquatic features were identified between 2017 and 2024. During the fish and fish habitat related surveys, surface water quality and primary and secondary productivity assessments were also completed within the PDA.

The assessed water features included permanent and seasonal streams, with different flow types and a variety of bottom materials like gravel, cobble, mud, and bedrock, supporting a range of fish habitat types, such as fast-flowing and slow-moving areas. Most features in the PDA support fish and provide suitable habitat, however, water quality in some areas limits habitat quality. About one-quarter of the sites had oxygen levels too low to support fish at any life stage of cold or warm water fish. Low oxygen, along with warmer water and slightly acidic conditions, reduces habitat quality in some areas, particularly during summer.

Over five years of sampling, 10 fish species were found, with 2,652 individual fish recorded. Species present include brook trout, American eel, common shiner, banded killifish, brown bullhead, golden shiner, lake chub, ninespine stickleback, northern pearl dace and white sucker. Larger streams generally had more fish and greater species diversity.

Hydroelectric dams in the watershed affect fish movement. While fish can move downstream, upstream movement is limited by these barriers. Despite this, the area still provides suitable habitat for different stages of fish life, especially for cold- and cool-water species.

Old Austen Mine

Fish and fish habitat studies in the Old Austen Mine PDA included nearby lakes, streams, wetlands, and rivers such as the Killag River, Cameron Flowage, Mud Lake, and Cope Brook. In total, 21 aquatic features were identified during studies completed between 2015 and 2020. During the fish and fish habitat related surveys, surface water quality and fish passage assessments were also completed.

The water features assessed include permanent and seasonal streams, with different flow conditions and a range of bottom materials like cobble, boulders, and organic material, creating different habitat types such as pools, flowing sections, and shallow areas. While most of these areas provide fish habitat, some were determined not to. Water quality in the PDA is generally acidic, which can limit fish habitat. Some areas, especially in the Cope Brook watershed, have lower pH than others. Efforts (by other parties) have been made to improve water conditions by adding lime to nearby waterways, but some areas still have challenges such as low oxygen levels, warmer water, and low water flow, especially in smaller streams during summer.

Fish surveys confirmed several species in the area, including American eel, brook trout, banded killifish, brown bullhead, creek chub, golden shiner, lake chub, ninespine stickleback, whiter sucker and yellow perch. Juvenile Atlantic salmon were only found in the Killag River, downstream of Cameron Flowage. Larger streams tend to have more fish and a greater variety of species.

Overall, the area includes habitats that support all stages of fish life, from spawning to adult fish, for both cold-water and warm-water species.

Old Mitchell Mine

Fish and fish habitat studies at the Old Mitchell Mine PDA looked at streams, wetlands, and lakes such as Archibald Lake, Cargill Lake, and the Cameron Lakes. In total, 75 streams and 192 wetlands were assessed between 2017 and 2020. The area includes a mix of permanent and seasonal streams with different flow types and a variety of bottom materials like sand, gravel, and organic matter. These create a range of habitats that support fish and provide suitable habitat.

Water quality is generally slightly acidic, which is typical for this region. Smaller streams tend to stay cool enough for species like salmon and trout, while larger lakes and rivers can become too warm for cold-water species in the summer. Low oxygen levels were found in some areas during summer, which can limit habitat quality for sensitive fish.

A total of 15 fish species were documented in the PDA during the assessments, with brook trout being the most common. Fish diversity is higher in larger streams and lakes. Of the 15 species documented, 11 of them including Atlantic salmon, were only found in a few key areas (McKeen Brook, Watercourse 10 and Cameron Lakes) within the site. Smaller streams are mainly used by species like brook trout and American eel.

Overall, the area provides habitat for fish at different life stages, but in some smaller streams, access and habitat quality can be limited at certain times of the year due to natural conditions and barriers.

3.6.9 Habitat and Flora (Vegetation)

In Canada and Nova Scotia, laws protect plant and lichen species that are at risk. These laws make it illegal to harm these species, damage where they live, or destroy important habitat they depend on. These include *Species at Risk Act* (SARA; Canada, 2002) and the *Endangered Species Act* (NSESA; Nova Scotia, 1998).

In this Project, SAR refers to plants and lichens listed under federal or provincial legislation. “Species of conservation interest” (SOCI) are not legally protected but are still considered important because they may be rare, declining, or sensitive. This is designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), they rank species with S1, S2 and S3. These rankings describe how rare or at risk a species is:

- S1 (Critically Imperiled): Very rare or facing a serious decline.
- S2 (Imperiled): Uncommon and declining or at risk.
- S3 (Vulnerable): Not rare, but still at risk due to some decline or limited numbers.

Field studies were carried out between 2014 and 2019 to understand plant communities and identify any SAR. These studies included mapping vegetation types, surveying plant and lichen species, and identifying areas that could support sensitive species. Surveys focused on areas where these species are more likely to be found.

Additional surveys continued in 2025 to update and confirm this information across all three PDAs.

15-Mile Mine

Baseline habitat surveys at the 15-Mile Mine PDA were completed between 2016 and 2019. These included assessments of upland habitats, wetlands, plants, and lichens, with additional species observations recorded during other environmental studies.

The PDA contains eight different ecosites (an area or land that is ecologically different from its surroundings), ranging from dry to wet conditions with different soil nutrient levels. Most areas are coniferous forest growing on acidic, low-nutrient soils. The upland forest area has been affected by past logging and historical mining, so mature, undisturbed forest is limited. The most intact natural habitats are mainly found in wetland areas.

Out of 37 forest stands assessed for old-growth characteristics, seven were excluded due to disturbance or young forest conditions. Of the remaining stands, seven were classified as old-growth forest.

A total of 277 vascular plant (plants that have true roots, stems, and leaves) species were recorded. Two plant SOCI were found (additional details in Section 3.6.12), but no federally or provincially listed rare vascular plants have been identified. Most plants are native species, while non-native species are mainly found in disturbed areas such as cleared land and roads.

Lichen surveys found 59 species in total, including one SAR (blue felt lichen) and eight SOCI. These rare lichens are mostly found in mature forests and wetland areas near water. No boreal felt lichen, which is a listed endangered species, has been found to date.

Old Austen Mine

Baseline habitat surveys at the Old Austen Mine PDA were carried out between 2014 and 2019. These included habitat mapping, plant surveys, and lichen surveys, with a focus on identifying rare or sensitive species.

The surveys identified 12 different ecosites. Most areas are dominated by coniferous forests growing on acidic, low-nutrient soils, with limited plant diversity on the ground. Due to past mining and forestry disturbance, the landscape is a mix of mature, young, and disturbed forest areas. This has created a patchwork of habitats that are unevenly aged.

A total of 295 vascular plant species were recorded, including four SOCI. No legally protected plant species (SAR) have been found. Most plants are native, with relatively few invasive species.

Lichen surveys identified 23 species. Two of these are listed as SAR (blue felt lichen and boreal felt lichen). Another species, frosted glass-whiskers, is considered of special concern under the *Wilderness Area Act*. In addition, eight lichen species are considered SOCI.

Old Mitchell Mine

Studies of habitats, plants, and lichens near the Old Mitchell Mine began in 2014, with more detailed habitat work completed in 2018. These studies looked at different types of land and focused on areas where rare species are more likely to be found.

The ecosites within the PDA includes a mix of forest types with different moisture and soil conditions. Most forests are made up of hardwood trees such as sugar and red maple, yellow birch, and beech. Old growth areas have been identified within the Old Mitchell Mine PDA by NSNRR. Other parts of the area have been disturbed by past logging and mining.

A total of 330 vascular plant species were recorded. Most are native, with a few non-native species found in disturbed areas. Eight of these plants are considered SOCI. No plant species listed under federal law have been found.

Eighteen lichen species were identified, including two SAR (blue felt lichen and frosted glass-whiskers) and fourteen SOCI. These rare lichens are mainly found in older forests and wetland areas. No boreal felt lichen has been found in the PDA.

3.6.10 Terrestrial Fauna (Moose, Bats, Turtles)

Wildlife surveys focused on finding SAR and other important species that may live in the PDAs. These species are protected by provincial and federal laws.

From 2014 to 2020, targeted surveys were done at all three mine sites for certain species that were more likely to be present based on information collected from online analysis. These included bats, mainland moose, and wood turtles. Additional surveys for insects were also completed at the Old Mitchell Mine.

Researchers also recorded wildlife seen during other fieldwork. This included signs like tracks, nests, droppings, and feeding areas. Observations of insects and other small animals were also noted. These combined methods help show which species are present and how they use the PDAs.

More detailed surveys for mainland moose were guided by a provincial recovery plan. Surveys were completed from 2022 to 2024, these included winter tracking, counting droppings in spring, and using trail cameras to monitor movement use around 15-Mile Mine. Similar surveys were carried out at the Old Mitchell Mine in 2022.

Wildlife surveys will continue at all three sites through 2025. These include ongoing studies of turtles, moose, and bats to better understand how these species use the area.

15-Mile Mine

Wildlife surveys in the 15-Mile Mine PDA focused on species that may be at risk, including mainland moose, bats, and turtles.

Bat surveys started by reviewing records of old mine openings that could provide habitat. Field visits in 2017 and 2018 checked if these areas were suitable for bats.

Moose surveys were done along 40 survey routes, each about 1 km long, in different habitat types. These surveys took place in winter conditions in 2018, one spring condition survey (there was no snow cover) was done in February 2018 to look for droppings.

Wood turtle surveys were carried out in May 2018 in areas with suitable habitat. Researchers also looked for turtles during other fieldwork.

In total, 13 mammal species were recorded in the area. Mainland moose was the only SAR observed. No other protected mammals, amphibians, or reptiles were found.

No bat hibernation sites have been found within 5 km of the 15-Mile Mine PDA as per the Atlantic Canada Conservation Data Centre (ACCDC). Old mine openings were checked as possible bat habitats, but all were either sealed or filled with water. No bats were seen during any surveys or during other work.

The PDA is known to support mainland moose and is within an NSNRR significant moose concentration area. A total of 28 moose observations have been recorded, mostly during other types of field studies.

No wood turtles or snapping turtles were found during surveys or noted during other work. However, some areas along Seloam Brook may provide suitable habitat for turtles. There are also no known records of turtles within 5 km of the site as per the ACCDC.

Old Austen Mine

Wildlife surveys in the Old Austen Mine PDA searched for bats, mainland moose, and wood turtles.

Bat surveys were carried out in 2014 by checking old mine openings to see if they could be used for hibernation.

Moose surveys were done along six routes in different habitat types. These included winter tracking surveys in winter 2025 and a spring survey to count droppings in May 2015.

Wood turtle surveys were completed in May to June 2015 along one stream with suitable habitat. No other areas provided habitat in the Old Austen Mine PDA that needed further turtle surveys.

In total, 10 mammal species were recorded in the area, including mainland moose, which is a SAR.

No bat hibernation sites have been found within 5 km of the Old Austen Mine PDA as per the ACCDC. Old mine openings were checked, but most were sealed, filled in, or flooded. One opening was still accessible, but it is not likely to be used by bats. No bats were seen during any surveys or other field work.

The PDA is known to support mainland moose and is within an NSNRR significant moose concentration area. Moose tracks were found during surveys in 2014 and 2015, showing that moose use the area.

No reptile or amphibian SAR were recorded within 5 km of the site as per the ACCDC. Surveys did not find any wood turtles or suitable nesting areas for them. However, one snapping turtle and its nest were found in June 2019 by DFO staff. Some wetlands in the area may provide suitable habitat for turtles to survive the winter.

Old Mitchell Mine

Wildlife surveys in the Old Mitchell Mine PDA were carried out in 2015, 2017, and 2018. These included both targeted surveys and general observations of animals in the area.

Targeted surveys focused on bats, mainland moose, wood turtles, and insects. Old mine openings were checked in 2014 to see if they could provide habitat for bats.

Wood turtle surveys were done several times in spring 2015 in areas that could support them. Moose surveys were completed along seven routes, including winter tracking and spring surveys to look for droppings. Additional moose surveys were done in the winter of 2018 to cover more areas.

Insect surveys were carried out in June of 2017 by walking through different parts of the site.

A total of 13 mammal species were recorded in the PDA. No SAR or SOCI were identified among these mammals.

No suitable bat hibernation sites were found at the Old Mitchell Mine. Old mine openings were checked, but all were sealed, filled in, or flooded. Forested areas in the site could provide habitat for bats, but no bats or signs of roosting were observed.

The PDA is within an NSNRR significant moose concentration area, but no moose or signs of moose were found during surveys. Habitat for moose was observed within the Old Mitchell Mine PDA (includes habitat for summer feeding and winter/summer cover and areas suitable for birthing).

Wood turtles are known to occur within 5 km of the site as per the ACCDC. Important habitat exists in nearby streams. Although none were found during targeted surveys, two wood turtles were seen during other fieldwork in 2017 and 2018. Some parts of the site may provide suitable nesting and winter habitat. No snapping turtles were observed. As per the ACCDC snapping turtles have been documented within 10.5 km of the PDA.

No SAR or SOCI were found among insects during surveys.

3.6.11 Avifauna (Birds)

Birds are protected under federal (*Migratory Birds Convention Act, 1994* (MBCA 1994) and SARA) and provincial (*Wildlife Act* (1989)) laws. These laws make it illegal to harm birds, their nests, or their eggs without permission.

Bird surveys were carried out to identify migratory birds, SAR, and other important bird species in the PDAs. These surveys also help confirm if birds are nesting so that protections can be applied if needed.

Before fieldwork, researchers reviewed maps and existing data to identify likely bird habitats and plan survey locations. Survey methods were based on established national and regional guidelines used for environmental studies.

Based on this review different types of bird surveys were completed depending on the season and species being studied. These included spring and fall migration surveys, breeding bird surveys, night owl surveys, common nighthawk surveys, and raptor migration surveys.

Standard survey methods were followed to ensure consistent and reliable results. Although some of the guidance was originally developed for wind energy projects, it is also widely used for mining and quarry projects.

Bird surveys are still ongoing in the PDAs and will continue through 2025 and 2026.

15-Mile Mine

Bird surveys in the 15-Mile Mine PDA were completed in different seasons between 2017 and 2018. These included surveys for owls at night, migrating birds, breeding birds, common nighthawks, winter observations, and fall migration.

A total of 6,644 birds representing 89 species were recorded. This includes both planned surveys and birds seen during other fieldwork.

Six SAR were found in the area: eastern wood-pewee, Canada warbler, common nighthawk, evening grosbeak, rusty blackbird, and olive-sided flycatcher. Some of these species were likely breeding or possibly breeding in the area.

Twelve additional SOCI were also recorded. These included American goshawk, American kestrel, bay-breasted warbler, black-backed woodpecker, boreal chickadee, Canada (gray) jay, greater yellowlegs, pine siskin, purple finch, red crossbill, semipalmated plover, and spotted sandpiper.

Bird surveys have continued through 2024, and results will be combined with surveys planned for 2025 and 2026.

Old Austen Mine

Bird surveys in the Old Austen Mine PDA were completed between 2014 and 2019 in different seasons, including spring, summer, and fall. These surveys looked at breeding birds, migrating birds, raptors, owls, and common nighthawks.

A total of 6,521 birds representing 82 species were recorded during surveys and through incidental sightings during other fieldwork.

Eight SAR were identified in the area, including Canada warbler, common nighthawk, chimney swift, eastern wood-pewee, olive-sided flycatcher, barn swallow, peregrine falcon, and rusty blackbird.

Eleven additional SOCI were also recorded. These included American goshawk, bay-breasted warbler, black-backed woodpecker, blackpoll warbler, boreal chickadee, Canada (gray) jay, greater yellowlegs, pine siskin, red crossbill, Tennessee warbler, and Wilson's snipe.

Old Mitchell Mine

Bird surveys in the Old Mitchell Mine PDA were completed during different seasons between 2014 and 2018. These included surveys for owls, migrating birds, raptors, breeding birds, and common nighthawks.

A total of 6,676 birds representing 131 species were recorded through surveys and other field observations.

Eight SAR were found in the area: Canada warbler, chimney swift, common nighthawk, eastern wood-pewee, evening grosbeak, olive-sided flycatcher, peregrine falcon, and rusty blackbird. Suitable habitat for all of these species was present, and some, like Canada warbler and olive-sided flycatcher, were widely distributed and likely breeding.

Nine additional SOCI were also recorded. These included American goshawk, Baltimore oriole, bay-breasted warbler, boreal chickadee, Canada (gray) jay, fox sparrow, pine siskin, red crossbill, and vesper sparrow.

3.6.12 Species of Conservation Interest and Species at Risk

SAR are plants and animals protected by federal or provincial laws. These laws require plans to help protect and recover these species and their habitats when they are listed.

SOCI are not legally protected, but they are still considered important because their populations may be declining or under pressure from human activity or natural changes. SOCI are given a "S" rating by the ACCDC, they rank species with S1, S2 and S3. These rankings describe how rare or at risk a species is:

- S1 (Critically Imperiled): Very rare or facing a serious decline.
- S2 (Imperiled): Uncommon and declining or at risk.
- S3 (Vulnerable): Not rare, but still at risk due to some decline or limited numbers.

The COSEWIC also gives them a status of endangered, threatened or of special concern.

Before field surveys began, researchers reviewed existing online data to identify which species could be present in each PDA. This helped guide where and how surveys were done. A list of priority species was created using known habitat needs and regional species information. This list was then refined by checking whether suitable habitat actually exists in each PDA. For example, species that depend on lake habitat were removed from the list if no lakes were present in the PDA.

Field surveys were designed using established environmental assessment guidance. During fieldwork, researchers also recorded any SAR or SOCI they happened to see while studying other features. Survey methods are described in Section 3.6.8 to 3.6.11.

Survey work is still ongoing and will continue through 2025 and 2026. These studies focus on plants, lichens, birds, mammals, reptiles, and fish, with attention on species that are rare or sensitive.

15-Mile Mine

No priority reptiles or amphibians have been found during field studies. However, some areas along Seloam Brook may provide suitable habitat for snapping turtles to nest or spend the winter.

No bats or bat hibernation sites have been found in the PDA. There are also no known records of bats or hibernation sites within 5 km of the PDA as per ACCDC. Surveys for bat roosts and acoustic monitoring are still ongoing in 2025.

No important insect species have been identified so far.

Additional surveys are still underway in the PDA, focusing on birds, plants, lichens, fish, and other species that may be sensitive or require protection.

Old Austen Mine

No priority insect species have been found during baseline studies.

No bats or bat hibernation sites have been identified in the PDA. There are also no known records of bats within 5 km of the site as per the ACCDC. Surveys for bat roosts and acoustic monitoring are still ongoing in 2025.

Additional field studies are also continuing in the area. These include surveys for plants, lichens, birds, and fish to better understand where important species and habitats are located.

Old Mitchell Mine

No priority insects or mammals have been confirmed during field studies, including mainland moose. However, the PDA is known to support moose, and suitable habitat is present for feeding, shelter, and calving. Moose surveys and trail camera monitoring are continuing through 2025.

No bats or bat hibernation sites have been confirmed during fieldwork. Although existing records suggest bats may occur in the wider area (within 10.5km) as per the ACCDC, none have been directly observed, and no hibernation sites have been found so far. Surveys for bat roosting sites and acoustic monitoring are still ongoing.

Additional field studies are continuing in the area, including surveys for plants, lichens, birds, moose, reptiles, and fish, with a focus on identifying important species and habitats.

3.7 Socioeconomic Setting

Mi'kmaq language and terminology are used throughout this report. Based on best knowledge, Mi'kmaq is the plural, non-possessive form, while Mi'kmaw is the singular form. However, the names or organizations and direct quotes in this report are as stated by the organization that provided the information.

3.7.1 Mi'kmaq of Nova Scotia

The Mi'kmaq are the Indigenous people of Nova Scotia and hold Aboriginal and Treaty Rights including the Aboriginal Right to hunt, gather and fish, as well as the Treaty Right to hunt and gather, and to fish for a "moderate livelihood". These Rights apply throughout the year and across the province.

There are 13 Mi'kmaq First Nations in Nova Scotia (CIRNAC, 2025). The Mi'kmaw language belongs to the Eastern Algonquian language group (Government of Canada, 2025). In 2022, Nova Scotia passed the *Mi'kmaq Language Act*, officially recognizing Mi'kmaw as the province's original language (Office of the Commissioner of Official Languages, 2022).

Four Mi'kmaq First Nations have Reserve lands near the 15-Mile PDA: Millbrook First Nation, Pictou Landing First Nation, Sipekne'katik First Nation and Paq'tnkek Mi'kmaw Nation.

15-Mile Mine

The closest Reserve lands to the 15-Mile Mine PDA are Beaver Lake 17 and Sheet Harbour 36, both part of Millbrook First Nation and both 25 km from the 15-Mile PDA. Millbrook First Nation had a total registered population of 2,469 members as of July 2024, with about 39% living on Reserve (Table 3.7-1). No census data were available for four of Millbrook First Nation's Reserves: Truro 27A, Truro 27B, Truro 27C and Tufts Cove Indian Reserve.

Table 3.7-1 Registered Population of Millbrook First Nation (July 2024)

	Male	Female	Total	%
Registered Population on Own Reserve	479	491	970	39%
Registered Population on Other Reserves	21	18	39	2%
Registered Population on Own Crown Land	0	1	1	0%
Registered Population on Other Band Crown Land	1	1	2	0%
Registered Population on Non-Band Crown Land	1	0	1	0%
Registered Population Off Reserve	715	741	1,456	59%
Total Registered Population	1,217	1,252	2,469	100%

Source: CIRNAC, 2025

In 2021, the Millbrook 27 Reserve had the largest on-Reserve population and the youngest median age, about six years younger than the Halifax Regional Municipality and 11 years younger than the Nova Scotia average (Statistics Canada, 2023a, 2023b). See Table 3.7-2 for detailed population information.

Table 3.7-2 Millbrook First Nation on Reserve Population in 2021

Reserve	Population	Median Age	Indigenous Identity	Registered Status
Beaver Lake 17	20	NA	NA	NA
Cole Harbour 30	208	62.8	40	40
Millbrook 27	921	34.8	775	760
Sheet Harbour 36	10	NA	NA	NA

Source: Statistics Canada, 2023a

Old Austen Mine

The closest Reserve lands to the Old Austen Mine PDA are also Beaver Lake 17 and Sheet Harbour 36, both part of Millbrook First Nation. Information for Millbrook First Nation is presented in Table 3.7-1.

Old Mitchell Mine

The nearest Mi'kmaq community to the Old Mitchell Mine PDA is Paq'tnkek Mi'kmaw Nation. As of July 2025, the Nation had 616 registered members, with about 74% living on Reserve (Table 3.7-3).

Table 3.7-3 Registered Population of Paq'tnkek Mi'kmaw Nation (July 2024)

	Male	Female	Total	%
Registered Population on Own Reserve	200	228	428	69%
Registered Population on Other Reserves	11	22	33	5%
Registered Population On Own Crown Land	0	0	0	0%
Registered Population On Other Band Crown Land	0	0	0	0%
Registered Population on Non-Band Crown Land	0	0	0	0%
Registered Population Off Reserve	66	89	155	25%
Total Registered Population	277	339	616	100%

Source: CIRNAC, 2025

In 2021, Paq'tnkek-Niktuek 23 Reserve had a population of 372 people, with 94% identifying as Indigenous and a median age 18 years younger than the Nova Scotia average (Table 3.7-4). No census data were available for two of Paq'tnkek Mi'kmaw Nation's Reserves: Franklin Manon 22 and Welner 38.

Table 3.7-4 Paq'tnkek Mi'kmaw Nation on Reserve Population in 2021

Reserve	Population	Median Age	Indigenous Identity	Registered Status
Beaver Lake 17	20	NA	NA	NA
Cole Harbour 30	208	62.8	40	40
Millbrook 27	921	34.8	775	760
Sheet Harbour 36	10	NA	NA	NA

Source: Statistics Canada, 2023a

3.7.2 Indigenous Land and Resource Use

These sections are based on Mi'kmaq Ecological Knowledge Studies prepared for the previously proposed projects and updated based on changes to mine plans and designs. The Studies used a combination of sources, including a Traditional Land and Resource Use Study from First Nations, publicly available Indigenous Knowledge, and archaeological studies. Only public information is included.

15-Mile Mine

This section is based on a 2024 Mi'kmaq Ecological Knowledge Study prepared for the 15-Mile Mine completed by Membertou Geomatics Solutions. The study looked at Mi'kmaq land and resource use within a 5 km setback around the PDA. It used interviews with Mi'kmaq knowledge holders (members from Sipekne'katik First Nation, Millbrook First Nation and Pictou Landing First Nation), along with background research and fieldwork.

Mi’kmaq communities continue to use the Mi’kmaq Ecological Knowledge Study area for traditional activities such as fishing, hunting, and gathering. Close to (within 100 m) the PDA, community members reported fishing for trout and salmon and collecting plants like goldthread and mushrooms. Across the wider area, trout and bass fishing and deer hunting are common, and sweetgrass is one of the most frequently gathered plants.

Some of the species used by Mi’kmaq, including Atlantic salmon, American eel, and black ash, are considered at risk in Canada. These species are important for food, culture, and ceremonial purposes. Because of this, disturbance to their habitats could affect how Mi’kmaq communities use the land and carry out traditional practices.

The Mi’kmaq Ecological Knowledge Study also included information shared by community members about culturally important places, such as past settlements, travel routes, sacred areas, and stories tied to the land. Community concerns about the Project were also collected and are discussed in Section 1.6.3.

Old Austen Mine

The Confederacy of Mainland Mi’kmaq completed the first study for the Old Austen Mine (formerly the Beaver Dam Mine Project) in 2009, with updates in 2015 and 2016 to reflect changes in project design. Earlier studies covered a larger area, so they provided a broader understanding of land use.

The 2015 and 2016 study area covers a 5 km radius around the mine site and is located near two Reserves (Beaver Lake 17 and Sheet Harbour 36) associated with Millbrook First Nation. Mi’kmaq community members regularly use this area for traditional activities. Hunting is common, including deer, bear, rabbit, and grouse, with use depending on the season and availability. These activities are important for both food and cultural practices. Community members also gather berries, medicinal plants, and other natural resources for food, health, and cultural use.

No ceremonial sites were identified, but possible burial sites were noted west of Beaver Dam Road. Camps used for traditional and recreational purposes are also found throughout the area.

The Old Austen Mine site is within Eskikewa’kik, also known as the “skin dressing territory,” a traditional Mi’kmaq district (spanning from Halifax County to Guysborough County). The area continues to be actively used and remains culturally important for hunting and gathering food and for cultural practices. Community concerns and issues raised during the studies are summarized in Section 1.6.3.

Old Mitchell Mine

This section is based on a 2019 Mi’kmaq Ecological Knowledge Study completed for the Old Mitchell Mine (formerly the Cochrane Hill Gold Project). The study looked at Mi’kmaq land and resource use within a 5 km area around the mine site. It was based on an earlier, larger project design, so it covers a broader area than the current plan.

The study did not identify any confirmed current Mi’kmaq use of land or resources within or near the PDA. The nearest Mi’kmaq community, Paq’tnkek Mi’kmaw Nation, is about 39 km away. Baseline studies also did not find any unique ecological features or species of particular importance to Mi’kmaq communities. Based on this, current use of the area is expected to be low. However, some limited use may still occur, such as hunting, fishing, or plant gathering.

Historically, the rivers in this area were important travel routes and sources of food for the Mi’kmaq. St. Mary’s River is a salmon river and would have been an important resource for both food and cultural practices. Areas closer to Paq’tnkek-Niktuek 23 Reserve continue to be used for traditional hunting and gathering.

Comprehensive and Specific Land Claims

In 1976, Mi’kmaq leadership and representatives of several Mi’kmaw First Nations submitted a land claim covering all of Nova Scotia to Canadian and Nova Scotian Governments. The claim was not accepted for negotiation, as it was considered to have already been addressed under existing law.

Today, Nova Scotia prefers to address Mi’kmaq Rights and interests using negotiation instead of through court cases. This approach has led to agreements such as the Terms of Reference for a Mi'kmaq – Nova Scotia – Canada Consultation Process in 2010.

The Government of Canada is also working to resolve specific land claims. These claims relate to how land and assets were managed in the past, as well as the fulfilment of Treaties and agreements. In Nova Scotia, 22 claims have already been concluded and eight have been closed while six are still in progress. Some Mi’kmaw First Nations, including Annapolis Valley, Paq’tnkek, and Wagmatcook, are involved in specific claims.

3.7.3 Physical and Cultural Heritage

In Nova Scotia, known and unknown archaeological sites are protected under the *Special Places Protection Act*. If any potential archaeological materials or sites are accidentally discovered, activities must halt and the discovery must be reported to the provincial Special Places Program at the Department of Communities, Culture, Tourism and Heritage. Various archaeological studies prepared for the Project, conducted by a qualified firm Cultural Resource Management (CRM) Group Limited, included background research, field surveys, and consultation with Mi’kmaq organizations.

15-Mile Mine

Archaeological studies have been completed for the 15-Mile Mine PDA in 2008, 2018, 2019, and 2022 to support project planning. The studies included consultation with Mi'kmaq organizations such as Kwilmu'kw Maw-klusuaqn Negotiating Office Archaeological Research Division and First Nations (Millbrook and Sipekne'katik First Nations).

No officially recorded archaeological sites are listed in the provincial database (Maritime Archaeological Resource Inventory) for this area. However, because it has a history of settlement and industrial activity since the 1800s, undiscovered sites may exist.

The 2018 study identified areas with higher potential for archaeological resources. These may include both Mi'kmaq (pre-contact and historic) and Euro-Canadian sites. Fieldwork in 2008, 2018 and 2019 identified seven historic sites and three areas with potential for Mi'kmaq historic resources, including a possible burial site near Seloam Lake. Shovel testing and historical review is recommended in some of the areas if they are to be affected by Project development.

The most recent study in 2022 found no new cultural resources other than the previously identified areas. Some areas have already been disturbed by past development, further reducing the likelihood of intact sites. Overall, most of the remaining PDA is considered to have low archaeological potential.

Old Austen Mine

Archaeological studies were conducted at the Old Austen Mine site and nearby areas between 2008 and 2020. The mine site was determined to have high potential for archaeological resources including possible Mi'kmaq sites (both pre-contact and historic) and Euro-Canadian sites. However, some older features may have already been damaged or destroyed by past mining activities.

Thirteen areas were identified as having higher archaeological potential and were tested (shovel tests) in fall of 2020. Results showed one area with moderate to high potential for historic Euro-Canadian resources and two areas with potential for historic Mi'kmaq resources. No pre-contact Mi'kmaq artifacts were found during testing. Possible burial sites were identified in the wider study area, but they are located outside the PDA and would not be affected by the Project.

Old Mitchell Mine

Archaeological studies have been carried out at the Old Mitchell Mine site since 2014. Initial work identified three features linked to past mining activity. These were recommended for further study. Additional fieldwork in 2017 and 2018 confirmed these features, set protective buffer areas, and expanded surveys to cover the full Project footprint.

A more recent study in 2022 found no new archaeological sites. Some areas and features identified in earlier studies are still considered potentially important and should be avoided if possible. If they cannot be avoided, further study (such as shovel testing and detailed documentation) is recommended before development.

3.7.4 Socioeconomic Conditions

This section provides an overview of non-Indigenous communities near the PDAs. It includes general information on population, employment, economy, recreation, services, infrastructure, and traffic, using publicly available data and past field observations.

Regional information on Antigonish, Colchester, Guysborough, Pictou counties, and eastern Halifax Regional Municipality shows some socioeconomic challenges. Population growth has been slow, increasing only slightly between 2016 and 2021 (1.1%), and at a much lower rate than the rest of Nova Scotia (5%). The population is also aging, with more people over 65 (15.4%) and fewer people in the working-age group (declined by 2.8%). Unemployment is relatively high (13%) similar to the province (12.7%), but higher than in Halifax (11.4%). In addition, many working-aged people are not currently part of the labour force, indicating there may be available workforce potential.

15-Mile Mine

The 15-Mile Mine PDA is located within Halifax Regional Municipality. The closest communities are Malay Falls and Sheet Harbour, although detailed census data is not available for these specific communities. Overall, Halifax Regional Municipality's population increased between the last two census periods (see table 3.7-5). This follows a broader trend of population growth across Nova Scotia. Compared to the rest of the province, Halifax Regional Municipality also has a younger population, with a lower median age.

Table 3.7-5 Halifax Regional Municipality

Jurisdiction	Population			Median Age (2021)
	2016	2021	Change (%)	
Halifax Regional Municipality	403,131	439,819	9.1	40.4
Nova Scotia	923,598	969,383	5.0	45.6

Statistics Canada, 2023b

Although Halifax Regional Municipality has an aging population, more people are in the workforce, with labour force participation increasing to 68.5% in 2024. The main industries in Halifax Regional Municipality include health care, public administration, retail, professional services, and education. Employment patterns differ by gender, with more men working in public administration and

more women working in health care. Most housing in Halifax Regional Municipality consists of single detached homes, with relatively small household sizes (2-3 people).

Nearby, the community of Sheet Harbour provides key local services such as health care, schools, a public library, and emergency services. The surrounding area serves a population of about 5,000 people.

The economy of Sheet Harbour is mainly based on forestry, fishing, and tourism. The Port of Sheet Harbour supports economic activity by exporting wood products and importing materials such as wind turbine components. Tourism is present but less developed compared to other parts of Nova Scotia.

The area also offers recreational opportunities, including beaches, parks, and trails, as well as sites like Taylor Head Provincial Park and Spry Bay Lighthouse. Local groups (such as the Sheet Harbour ATV Club) regularly use nearby forests for outdoor activities.

Traffic near the 15-Mile Mine site is relatively low, with only a small number of vehicles using nearby roads daily. In 2022, a traffic county on Highway 374 near the PDA recorded an average daily traffic of 228 vehicles (Government of Nova Scotia, 2025b).

Old Austen Mine

The nearest community to the Old Austen Mine is Marinette, which is in Halifax Regional Municipality. Detailed census data is not available for Marinette, so regional data for Halifax Regional Municipality is used. See Table 3.7-5.

Housing in Halifax Regional Municipality is mainly single detached homes, with most owned by residents. Most homeowners are over the age of 55 (57%). Housing is generally considered affordable, with most households spending less than 30% of their income on housing.

Services are available in Sheet Harbour along with nearby Middle Musquodoboit. Emergency services are provided by the Royal Canadian Mounted Police and local fire departments. Most homes in the area rely on private wells for drinking water and septic systems for wastewater management. Solid waste is collected regularly and managed at regional facilities.

Recreational activities in the area include hunting, fishing, snowmobiling, and hiking. Local amenities include parks, fitness centres, and seasonal accommodations like motels and campgrounds.

Traffic in the area is low with relatively few vehicles using nearby highways each day. In 2022, traffic counts recorded an average daily traffic of 547 vehicles on Highway 224 near the PDA (Government of Nova Scotia, 2025b).

Old Mitchell Mine

The closest community to the Old Mitchell Mine PDA is Sherbrooke, located about 13 km to the south. Detailed census data are not available for Sherbrooke, so information from the larger Municipality of the District of St. Mary's is used. The population in this area declined slightly (3%) between the last two censuses. The population is older than the provincial average (12 years older than Nova Scotia), with a higher median age.

Table 3.7-6 Population of Municipality of the District of St. Mary's

Jurisdiction	Population			Median Age (2021)
	2016	2021	Change (%)	
St. Mary's Municipal District	2,233	2,161	-3.2	57.6
Halifax Regional Municipality	403,131	439,819	9.1	40.4

Statistics Canada, 2023b

The area around the Old Mitchell Mine PDA is sparsely populated, with a mix of permanent homes and seasonal cottages. Sherbrooke provides basic services such as a school and hospital while the Town of Antigonish, about 40 km away, offers a wider range of services.

The economy in the Municipality of the District of St. Mary's is based on agriculture, forestry, fishing, healthcare, education, and construction. Employment patterns differ by gender: more men work in resource-based industries and more women work in healthcare.

Housing is mainly single detached homes, with most owned by residents (90%), many of whom are over 55. Housing is generally affordable, with most households (91.9%) spending less than 30% of their income on shelter.

Traffic near the Old Mitchell Mine site is low due to the rural setting but increases closer to larger communities like Antigonish. A 2023 traffic survey recorded an average daily traffic count of 920 vehicles (eastbound and westbound combined) on Nova Scotia Trunk Highway 7 near the PDA. In 2023, the combined eastbound and westbound average daily traffic in the larger area was 7,249 vehicles.

4 Federal, Provincial, Territorial, Mi'kmaq and Municipal Involvement

4.1 Federal Funding Support

No federal funding or financial support is expected to be provided for the Project.

4.2 Federal Land Use

No federal lands are planned to be used to carrying out the Project.

4.3 Jurisdictional Involvement

As the 15-Mile Processing Hub Project will process more than 5,000 tonnes of ore per day, it may require a federal impact assessment under the *Impact Assessment Act* and *Physical Activities Regulations*. An Initial Project Description has been submitted to IAAC for a determination on whether a federal impact assessment is required for the Project.

The Project also requires a provincial environmental assessment under Nova Scotia's *Environment Act* and *Environmental Assessment Regulations*. This process examines how the Project could affect important matters like air and water quality, fish and wildlife, SAR, cultural and archaeological resources, human health, and local communities, including Mi'kmaq First Nations. Public and Indigenous consultation is required.

Canada and Nova Scotia are working toward a "one project, one review" approach. This means both governments aim to coordinate their efforts and possibly carry out a single, shared assessment instead of two separate ones.

In addition to these assessments, the Project will require various permits and approvals from federal, provincial, and possibly municipal authorities. Federal laws related to fish, birds, and SAR also apply. Both processes include consultation with Indigenous groups, stakeholders, and the public. The overall goal is to have a coordinated and efficient review process while still protecting the environment and respecting Indigenous Rights.

4.3.1 Federal

The Project will require approval from the federal government before construction and operation can begin. More details about specific permit requirements and the activities they apply to are provided in a Table 4.3-1.

Table 4.3-1 Federal Approvals Anticipated to be Required for the Project

Legislation	Physical Activity and/or Trigger	Regulatory Authority
Fisheries Act	Approval needed for any direct or indirect disturbance of fish or fish habitat.	DFO
Fisheries Act MDMER	Changes to Schedule 2 of the MDMER will likely be needed to allow the placement of mine waste in areas currently containing watercourses	ECCC
SARA	SARA permit needed for any activity that may affect species listed as extirpated, endangered, or threatened and which go against the Act's general or critical habitat bans.	DFO ECCC
Explosives Act Explosives Regulations	License, certificate, or enrolment may be needed under the Regulations to permit handling and storage of explosives.	Natural Resources Canada
Transportation of Dangerous Goods Act	Registration in Transport Canada Client Identification Database potentially needed for transportation of reagents, including cyanide	Transport Canada
Canadian Navigable Waters Act	Approval, notification, or exemption under Transport Canada's Navigation Protection Program may also be needed if any Project structures or activities could affect navigation.	Transport Canada

4.3.2 Provincial

The Project will also need various permits, approvals, and leases from the Nova Scotia government before it can proceed. More details about these requirements are provided in Table 4.3-2.

Table 4.3-2 Provincial Approvals Anticipated to be Required for the Project

Legislation	Physical Activity and/or Trigger	Regulatory Authority
Environment Act – Environmental Assessment Regulations	Environmental Assessment is needed because of the construction, operation and decommissioning of a mine.	NSECC
Environment Act – Activities Designation Regulations	An industrial approval is needed for the construction, operation or reclamation of a surface mine using explosives and procuring mineral bearing ore. Water approval and/or notifications will be required for any water withdrawal and watercourse or wetland alterations.	NSECC
NSESA and Regulations	The act prevents killing, injuring, disturbing, taking, or interfering with endangered or threatened species and/or their habitat.	NSNRR
Mineral Resources Act and Regulations	The Project will need a mineral lease and a bond for mining and the collection of royalties.	NSNRR
Crown Lands Act	Crown lands lease is needed for mining-related activities occurring on Crown lands.	NSNRR
Public Highways Act	Work Within Highway Right of Way permit is required for any activity/work on the roadway or within the highway right-of-way.	Nova Scotia Public Works

4.3.3 Municipal

The 15-Mile Mine and Old Austen Mine are in the Halifax Regional Municipality, while the Old Mitchell Mine is in the Municipality of the District of St. Mary's. The Project will need approvals from these municipal governments. More details are provided in a Table 4.3-3.

Table 4.3-3 Municipal Approvals Anticipated to be Required for the Project

Legislation	Physical Activity and/or Trigger	Regulatory Authority
National Building Code of Canada as administered through the municipal building permit process	Approval for construction and occupation of buildings	Halifax Regional Municipality
Halifax Regional Municipality Regional Plan – Eastern Shore (West) Plan Area	Industrial facilities and resource extraction are controlled by Halifax Regional Municipality Planning Strategy and Land Use By Laws	Halifax Regional Municipality
Municipality of the District of St. Mary's Municipal Planning Strategy	Industrial facilities and resource extraction are controlled by Municipality of the District of St. Mary's Municipal Planning Strategy and Land Use By Laws	Municipality of the District of St. Mary's Municipal

5 Potential Effects of the Project

This section explains how the Project could change the natural (e.g., water, wildlife, and land) and human environment (e.g., communities and land use). The proposed mitigation measures are well-established methods that are known to work, and expected to effectively reduce potential negative effects of the Project.

5.1 Potential Changes to Federally Regulated Environmental Components

5.1.1 Fish and Fish Habitat

The Project could affect fish and fish habitat (as defined in subsection 2(1) of the *Fisheries Act*) directly or indirectly. Potential effects on fish and fish habitat include direct habitat loss, changes to hydrology and water quality, and blasting activities.

Potential Effects

Project activities have the potential to affect fish and fish habitat in several ways. These include blasting, noise and pressure from explosions, erosion and sediment entering streams, and changes to water quality or flow caused by dust and wastewater discharges. These impacts could change or damage habitats that fish depend on. A summary of potential effects to fish and fish habitat organized by Project phase is provided in Table 5.1-1.

Table 5.1-1 Potential Effects to Fish and Fish Habitat

Potential Effect	Project Phase			
	Construction	Operation	Closure	Post-Closure
Blasting, noise and pressure from explosions	X	X		
Erosion and sediment entering streams	X	X	X	
Changes to water quality	X	X	X	X
Changes to flow	X	X		
Wastewater discharge	X	X	X	
Dust	X	X	X	

Fish, fish habitat, and aquatic SAR are protected under federal laws, including the *Fisheries Act* and SARA. If the Project causes serious harm to fish habitat (i.e., "Harmful Alteration, Disruption, or Destruction"), it will need federal approval under Section 35 of the *Fisheries Act*.

If mine waste or treated water is placed into waters where fish live, the affected water bodies will need to be officially listed in Schedule 2 of the federal MDMER before the activity is allowed.

Proposed Mitigation

Project design has been adjusted to reduce environmental impacts, especially to fish-bearing waters. Some parts of the mine (like open pits) cannot be moved, but other infrastructure (such as waste storage areas, roads, and the TMF) were redesigned to avoid watercourses. Overall, the updated design reduces impacts to watercourses by about 35% compared to an earlier project layout (Moose River Consolidated Project). This is further described in Section 2.6.3.

Where impacts cannot be avoided, the following measures will be implemented: fish will be safely removed from work areas before construction begins (fish rescue led by qualified biologists), in-water work will only happen during approved seasonal timing windows to avoid sensitive periods like spawning, erosion and sediment control plans will be used to prevent soil and sediment from entering water, and sediment barriers (like silt fences) will be installed and maintained until disturbed areas are stabilized and revegetated.

Blasting activities could indirectly affect fish behaviour and migration. To reduce this, the Project will follow federal guidelines for safe blasting near fish habitat (Measures to Avoid Causing Harm to Fish and Fish Habitat Including Aquatic Species at Risk Pertaining to Blasting, DFO 2018).

If damage to fish habitat cannot be avoided, the Project will need to provide compensation through an approved offset plan in accordance with the *Fisheries Act* and developed with regulators, Indigenous communities, and stakeholders.

The redesign of Seloam Brook includes building a new channel including features like pools, riffles, woody cover, and spawning areas to support fish. It also aims to maintain natural groundwater inputs and plant vegetation along the banks to help keep water temperatures suitable for fish.

Various environmental management and monitoring plans will be developed, including an Aquatic Effects Monitoring Plan for construction, operation, and closure. This plan will be developed under the requirements of the MDMER, *Fisheries Act* Authorization, provincial effects assessment, and NSECC wetland and watercourse approvals.

Regulatory Review and Best Management Practices

The *Fisheries Act* makes it illegal to carry out activities that could kill fish or seriously damage fish habitat (Harmful Alteration, Disruption, or Destruction), unless the work is authorized. If the Project cannot fully avoid or prevent these impacts, it must apply for permission through a *Fisheries Act Authorization*. This application must explain: how fish and fish habitat could be affected, what steps will be taken to avoid or reduce harm, and how any remaining impacts will be compensated for.

The potential impacts will also be reviewed through Nova Scotia's environmental assessment process.

In addition, the Project will follow federal guidelines for safe blasting near fish habitat, including setback distances and other protective measures to reduce harm. This will be done by following the Measures to Avoid Causing Harm to Fish and Fish Habitat Including Aquatic Species at Risk Pertaining to Blasting of DFO.

5.1.2 Aquatic Species

No aquatic species at risk, as defined in subsection 2(1) of Species at Risk Act, are known to occur in the Project Development Areas or are expected to be affected by the Project. Some species assessed by Committee on the Status of Endangered Wildlife in Canada, including Atlantic salmon and American eel, are present in nearby waters. Any possible impacts to these species will be managed using the same measures described for fish and fish habitat. The Project is located inland and does not include any marine areas, so it will not affect marine plants or marine environments.

5.1.3 Migratory Birds

The Project could affect migratory birds (as defined in subsection 2(1) of the MBCA 1994) in several ways. Migratory birds might be directly harmed if they collide with Project equipment or infrastructure. Their habitat could be reduced or fragmented by construction. In addition, noise, lights, and vibrations could disturb their normal behaviour and migration patterns, and changes to air or water quality could also have indirect effects by altering habitat.

Potential Effects Pathways

The Project could affect migratory birds and their habitats during both construction and operation. Clearing land, building roads, digging, and blasting during the breeding season could damage nests or nesting areas. Birds could also be injured or killed by vehicles, equipment, or vegetation clearing.

Some birds may also be attracted to the TMF and could mistakenly use it as a resting or staging area.

Noise, lighting, and vibration from the Project could disturb birds and change their behaviour, especially during sensitive times like migration or breeding.

Migratory birds and avifauna SAR are protected under federal laws (the MBCA 1994 and SARA), as well as provincial law (NSESA). It is also illegal under Nova Scotia *Wildlife Act* to disturb or destroy bird nests or eggs unless through approved activities like scientific research.

Proposed Mitigation

The Project has been designed to reduce impacts on migratory birds by avoiding sensitive habitats like wetlands and mature forests where possible. Instead, infrastructure has been placed mainly in already disturbed areas, such as existing roads or previously cleared land. The updated design also reduces the overall Project footprint by about 38% (described more in Section 2.6.3) compared to an earlier version (the Moose River Consolidated Project), which further lowers potential impacts.

To protect birds during construction and operation, several measures will be used:

- Nests will not be disturbed, and clearing will avoid the breeding season where possible.
- Nest surveys will be done before land clearing to check for active nests.
- If nests are found, protective buffer zones will be applied based on guidance from wildlife regulators (NSNRR and ECCC – Canadian Wildlife Services).
- Areas with bare soil (like stockpiles or borrow pits) will be managed to discourage ground-nesting birds.
- Noise, dust, and lighting will be controlled to reduce disturbance.
- Vehicle speed limits will be used to reduce the risk of bird collisions.

The Project will also include management plans to help protect wildlife, including birds. This will include tasks to reduce the chance of birds being attracted to the TMF, including installing deterrents like sound and visual devices. The management plan will also include monitoring requirements throughout the whole project. Lastly, it will have requirements for strict waste management to avoid attracting wildlife.

Wetlands will be monitored because they are important bird habitats, and the Project aims to maintain their function where they remain.

Finally, as the Project is completed, disturbed areas will be progressively restored with native vegetation to help rebuild habitat over time.

Regulatory Review and Best Management Practices

Migratory birds are protected under federal and provincial laws in Canada. The federal MBCA 1994 protects all migratory birds wherever they are in Canada, including land, air, and water. The 2022 regulations also protect certain bird nests for specific time periods. If a nest is found, it can be officially registered so that a required waiting period applies before any work can continue nearby. In Nova Scotia, it is also illegal to disturb or destroy bird nests or eggs without a permit as per the provincial *Wildlife Act*.

Migratory birds will be considered in the provincial environmental assessment process, following provincial wildlife guidance.

The Project will follow federal guidelines to avoid harm to migratory birds (ECCC, 2023), including using required setback distances around nests and sensitive areas. These distances will be determined in consultation with wildlife authorities (NSNRR and ECCC – Canadian Wildlife Services).

Any loss of wetlands, which are important bird habitats, will need to be compensated under Nova Scotia's wetland conservation policy.

5.1.4 Potential Changes to Federal Land Environment

The Project is not near any federal lands, and no work will take place on federal land, including First Nations reserve lands. As a result, it is not expected to affect federal lands.

Because of its size and inland location, the Project is also not expected to cause environmental impacts outside Nova Scotia or outside Canada.

5.1.5 Potential Changes to the Marine Environment

The Project is located far enough inland that it is not expected to affect the ocean or marine environment.

5.1.6 Potential Changes to Jurisdictional Waters

The Project is inland, so it is not expected to affect any shared or cross-border waters, such as waterways that cross provincial or international boundaries.

5.2 Potential Impacts to the Mi'kmaq – Environment and Land Use

The Company recognizes that the Project could affect the Mi'kmaq, including their culture and both traditional and current use of the land. Possible impacts include:

- Loss or disturbance of Mi'kmaq archaeological sites or resources
- Changes to access or use of land for activities like hunting, fishing, gathering, and trapping
- Effects on cultural practices connected to the land

Feedback from Mi'kmaq communities gathered through engagement is included in Section 1.6.3.

Overall, this section indicates the Project may have impacts on cultural heritage and traditional land use. These impacts are assessed in the following sections.

5.2.1 Physical and Cultural Heritage

Mi'kmaq archaeological resources include places, landscapes, sites, features, and objects of cultural importance (as defined in Mi'kmaw Archaeological Protocols published by Maw-lukutijik Saqmaq Assembly of Nova Scotia Mi'kmaw Chiefs). Provincial law protects heritage objects such as archaeological, historical, and fossil remains (The Nova Scotia *Special Places Protection Act*).

Potential Effects Pathways

Cultural heritage resources could be affected by Project activities like clearing land and building infrastructure. This could result in direct damage or indirect disturbance. Possible impacts, along with how they will be avoided or reduced and relevant regulations, are summarized below.

Archaeological studies have been carried out over many years at the three mine areas (15-Mile Mine, Old Austen Mine, and Old Mitchell Mine). These studies included field surveys, background research, and digging test pits. Some sites with possible archaeological value were identified at 15-Mile Mine and Old Mitchell Mine, but none were confirmed to be Mi'kmaq archaeological sites.

At the Old Austen Mine, one item with moderate to high potential historic value was found but has since been removed from the PDA. Two nearby areas were identified as having elevated potential for historic Mi'kmaq resources, but no actual pre-contact artifacts were discovered.

Proposed Mitigation

Areas that may contain Mi'kmaq archaeological resources within the Project site will be avoided where possible. If they cannot be avoided, specific protection and mitigation measures will be developed in consultation with Mi'kmaq communities and the Nova Scotia Museum.

A formal procedure will be created to protect archaeological and heritage resources during construction and operation and will include input from the Mi'kmaq.

If any Mi'kmaq archaeological materials are discovered during construction or operations, the Company will stop immediately, and contact the Nova Scotia Special Places Program Office, the Mi'kmaq of Nova Scotia, and Nova Scotia Museum.

Regulatory Review and Best Management Practices

The Project will follow all instructions and legal requirements to ensure archaeological resources are properly protected. If archaeological resources are found during construction or operation, a plan will be created to manage and protect them. This plan will be developed in consultation with the Mi'kmaq of Nova Scotia and the Nova Scotia Museum.

5.2.2 Land and Resource Use

Project activities may affect access to land and resource use through construction, operations, and changes to the landscape following closure. These effects may include restricted access to certain areas, fewer available natural resources, and changes to how the appearance of the land.

Potential Effects

The Company has worked with Indigenous-owned companies to complete Mi'kmaq Ecological Knowledge Studies. These studies document traditional land and resource use and help inform Project planning and regulatory processes. Completed or ongoing studies include:

- Beaver Dam Mines Mi'kmaq Ecological Knowledge Studies (2016)
- 15-Mile Mine Mi'kmaq Ecological Knowledge Studies (2018 and updated in 2024)
- Cochrane Hill Gold Project Mi'kmaq Ecological Knowledge Studies (2019, with an updated study started in June 2025).

The Project may limit Mi'kmaq traditional activities like hunting, fishing, trapping, gathering, and cultural practices in and around the PDAs, especially during construction and operation. Noise and light from the Project could also disturb wildlife and change their behaviour, which may make hunting more difficult and affect the overall experience of being on the land. In addition, Project infrastructure may be visible in the landscape, which could change the appearance of the land.

After the Project is finished, the landscape will be altered, with less forest cover in some areas. This could affect the availability of natural resources like fish, wildlife, and plants that support traditional practices even though the land will be accessible.

Proposed Mitigation

The Company will continue to use ecological information and Mi'kmaq traditional knowledge (from Mi'kmaq Ecological Knowledge Studies) in planning and design, where possible. Sensitive cultural and environmental areas will be identified and avoided or protected where feasible.

The Project design has been adjusted to reduce impacts, such as removing some infrastructure from sensitive areas, removing the Beaver Dam Haul Road and creating setbacks from important waterbodies such as the Killag River.

Work will be planned to reduce impacts during important times of year, such as wildlife breeding periods and sensitive wetland conditions.

A Wildlife Management Plan will be established to guide how wildlife is protected, including how to avoid and respond to wildlife encounters.

Ongoing engagement with the Mi'kmaq will continue to help identify and improve mitigation measures.

Regulatory Review and Best Management Practices

The Company will continue to use ecological information and Mi'kmaq traditional knowledge from the Mi'kmaq Ecological Knowledge Studies in Project design whenever possible. Provincial and federal guidance documents will be followed to ensure Indigenous knowledge is handled respectfully, protected, and used appropriately when working with Mi'kmaq communities. These guidance documents include:

- Proponents' Guide: The Role of Proponents in Crown Consultation with the Mi'kmaq of Nova Scotia (2011)
- IAAC Guidance: Protecting Confidential Indigenous Knowledge under the *Impact Assessment Act*
- IAAC Guidance: Indigenous Participation in Impact Assessment and Indigenous Policy Framework for Project Reviews and Regulatory Decisions

Effects on Mi'kmaq land and resource use will also be assessed through the Nova Scotia effects assessment process. In addition, existing federal and provincial laws that protect fish and wildlife and regulate dust, noise, vibration, and light will help reduce potential impacts on traditional land use.

5.3 Potential Impacts to the Mi'kmaq – Health, Social and Economic

The Company is continuing to work with the Mi'kmaq of Nova Scotia to understand their views on how the Project could affect their health, communities, and local economies. Feedback gathered so far is included in Section 1.6.3. Identified potential impacts include reduced or restricted access to traditional areas, temporary loss of land used for hunting, fishing, gathering, or trapping, and possible effects on the ability to practice cultural activities.

Potential Effect Pathways

The health and well-being of Indigenous Peoples, including the Mi'kmaq, are closely connected to access to traditional lands where activities such as hunting, fishing, and gathering take place. These activities provide not only food, but support cultural identity, mental wellness, and the passing of knowledge between generations. When access to traditional lands is restricted, it can disrupt cultural practices and contribute to health challenges, including food insecurity, stress, and loss of cultural connection.

A Community Wellness Study completed by Millbrook First Nation in 2021 for the Beaver Dam Mine Project found that Mi'kmaq communities in Nova Scotia often experience lower incomes and are more vulnerable to environmental and industrial impacts, including concerns about water quality and traditional foods. Community input also highlighted mental health impacts such as

stress, reduced access to recreational land, and changes to the landscape caused by development. The study also identified broader concerns in the region, including a higher risk of food insecurity.

The Company acknowledges that Mi'kmaq communities use the Old Austen Mine PDA and surrounding lands for recreation and non-commercial purposes, which are important for food security, cultural continuity, mental wellness, and community resilience. During construction, operation, and closure, access to these areas would be restricted, which may disrupt activities. Some individuals rely on these lands to gather food for themselves and their families. As a result, reduced access could affect food security, require people to travel further or use different areas, or lead to purchasing more store-bought food. This may increase financial pressure, reduce access to traditional foods, and limit opportunities for cultural practices and knowledge sharing between generations.

The Project may also have economic effects on Mi'kmaq communities. Reduced access to land and resources could limit traditional economic activities, potentially increasing reliance on purchased goods and raising household costs. While employment opportunities from the Project may provide financial benefits to some individuals and families, they could also create labour shortages in other local sectors, which may have broader impacts on community economic well-being of Indigenous Peoples.

Proposed Mitigation

Measures to reduce potential impacts of the Project will be developed through ongoing engagement with Mi'kmaq communities. Where feasible, ecological information and Mi'kmaq traditional knowledge from the Mi'kmaq Ecological Knowledge Studies will continue to be used in Project planning, including efforts to avoid or reduce impacts on identified sites by adjusting the Project footprint or timing of activities.

To address potential effects on labour availability and support participation in the workforce, the Company will maintain engagement with Mi'kmaq communities throughout all phases of the Project. This engagement will help develop an employment approach that aligns Project needs with community priorities and capacity. Where practical, employment practices will also consider community needs including availability of workers for essential local services.

The Company will work with Mi'kmaq communities to identify and implement measures such as training programs, apprenticeships, targeted employment opportunities, and environmentally focused jobs to support workforce participation and capacity building. Opportunities to develop a procurement strategy for Mi'kmaq-owned businesses will also be explored, along with support for community-led social programs where there is interest.

In addition, partnerships and Mutual Benefit Agreements may be developed where Mi'kmaq communities wish to pursue them. These agreements would be based on Mi'kmaq input and priorities and could include commitments related to employment, training, capacity development, and ongoing collaboration to support long-term socio-economic benefits.

Regulatory Review and Best Management Practices

The Company will use ecological information and Mi'kmaq traditional knowledge from Mi'kmaq Ecological Knowledge Studies in Project design where feasible. Federal and provincial guidance documents will be followed to support respectful use of Indigenous knowledge and to guide engagement with Mi'kmaq communities. These include:

- Proponents' Guide: The Role of Proponents in Crown Consultation with the Mi'kmaq of Nova Scotia (2011)
- IAAC Guidance: Protecting Confidential Indigenous Knowledge under the *Impact Assessment Act*
- IAAC Guidance: Indigenous Participation in Impact Assessment and Indigenous Policy Framework for Project Reviews and Regulatory Decisions

Potential effects on Mi'kmaq health, social conditions, and economic interests will be considered through the Nova Scotia environmental assessment process and through ongoing engagement with Indigenous groups. In addition, First Nations may choose to enter into agreements with the Company that provide benefits such as training and employment opportunities.

5.4 Potential Changes to Non-Federally Regulated Environmental Components

Although not required under the *Information and Management of Time Limits Regulations* of the *Impact Assessment Act*, this section describes potential changes to environmental components that are not federally regulated. This information is provided to help explain and better understand predicted effects on federally regulated components (Sections 5.1, 5.2, and 5.3). The discussion applies to the Project as a whole, except where effects differ by PDA.

5.4.1 Acoustic Environment (Noise)

Project activities can increase noise during construction and operation. This includes using heavy equipment and blasting.

Potential Effect Pathways

Project work may increase noise. This can happen during construction and operation, especially when using heavy equipment and blasting. Noise levels may be higher than what people usually hear in nearby rural areas. Workers, land users, and nearby residents may find this noise disruptive.

Potential negative effects on fish and fish habitat are discussed in Section 5.1.1. The Company will complete a noise study to better understand potential Project-related noise.

Proposed Mitigation

The Project will be designed to reduce noise where possible. Roads and infrastructure will be planned to keep haul distances as short as possible. Trees and plants will be left in place or encouraged to grow to help block noise, where practical. Berms will be built around open pits to reduce noise.

A certified contractor will create a blast management plan and detailed blast designs before work begins. Each blast will meet limits for ground vibration and air pressure near buildings, Project infrastructure, and fish habitat. Every blast will be monitored.

Equipment, vehicles, and haul trucks will be kept in good working order equipped with mufflers to reduce noise.

Noise will be monitored throughout the Project. Monitoring will follow the final Project design and all regulatory requirements. Noise and air pressure levels will be checked to monitor identified limits for nearby residents. If noise levels are above regulatory limits, additional steps will be taken to reduce them. These measures will help limit disturbance to people and wildlife, including those using the area for traditional activities or recreation.

Regulatory Review and Best Management Practices

Noise impacts will also be assessed through the provincial environmental assessment process in Nova Scotia. This follows the Proponent's Guide to Environmental Assessment (2025).

The Project will comply with workplace safety rules under the *Occupational Health and Safety Act*. These rules set limits for noise levels in the workplace. The limits are based on guidance from the American Conference of Governmental Industrial Hygienists.

The Project will also follow the Nova Scotia Pit and Quarry Guidelines. These guidelines establish rules for pit and quarry operations. They include limits for noise at property boundaries and require noise monitoring at those locations.

Noise will be measured and assessed using the Guidelines for Environmental Noise Measurement and Assessment (NSECC, 2023). These guidelines explain how to check if noise levels meet the allowed limits at nearby locations.

The Project must comply with the *Fisheries Act*, which protects fish and fish habitat. If harm to fish and fish habitat cannot be avoided, the Company must apply for approval and explain how it will reduce and offset impacts.

The Project will comply with all applicable regulations and guidance (Nova Scotia *Workplace Health and Safety Regulations*, Nova Scotia Pit and Quarry Guidelines (NSEL, 1999), relevant guidance). It will also follow best practices from DFO to reduce the effects of blasting on fish and fish habitat included in Measures to Avoid Causing Harm to Fish and Fish Habitat Including Aquatic Species at Risk Pertaining to Blasting (DFO, 2018).

5.4.2 Atmospheric Environment (Air Quality)

Project activities may affect air quality. This includes using mining equipment, blasting, crushing rock, and moving vehicles and mobile equipment in the PDAs. These activities can release dust and emissions into the air.

Potential Effects Pathways

The Project may affect local air quality. This is mainly due to emissions from fuel use in mining equipment and vehicle traffic within the PDAs. At certain times of the year, dust may also be produced from blasting, crushing, and moving equipment. People nearby may notice this depending on weather conditions and activity levels. Inside the PDAs, dust will mainly be a workplace health and safety issue for Project staff.

Outside the PDAs, dust may settle on nearby plants, soil, watercourses, and wetlands. Dust on plants and soil can change how vegetation grows and can indirectly affect wildlife habitat. When dust enters water, it can increase suspended solids. This can reduce water quality and affect fish. It may clog fish gills, reduce visibility in water, and affect food sources and habitat. It can also affect spawning areas by settling into gravel and covering eggs and insects.

Dust settling on land and water may also affect how Indigenous and non-Indigenous land users can use the area, especially if they avoid places where dust has built up.

The Company will use air modelling to predict how dust and emissions may spread so that issues can be better anticipated and effectively managed.

The Project will also produce GHG emissions from fuel use. GHG emissions contribute to climate change. A preliminary estimate of the Project's GHG emissions has been completed. This follows federal climate change assessment guidance. The results are included in Section 5.6.

Proposed Mitigation

Roads and infrastructure will be designed to keep haul distances as short as possible, where practical. Speed limits will be enforced on Project roads to reduce dust from vehicle traffic. These limits will follow provincial rules and industry standards.

A Dust Management Plan will be prepared for the Project. During dry weather, water or dust suppressants will be used on roads when needed potentially several times a day, depending on conditions. The water used for dust control will come from mine contact water that meets quality requirements. It will not be taken from natural water bodies. To reduce contributions to green house gas emissions from the Project, the Company will limit fuel use where possible.

This may include hiring locally where possible, buying materials locally, using shorter travel routes, and loading haul trucks more efficiently to reduce road trips.

Equipment, vehicles, and trucks will be well maintained and inspected regularly. This helps improve efficiency and reduce emissions (and leaks). All equipment will meet provincial and federal emissions standards.

Steps to reduce emissions will be described in an Air Quality Management Plan. Air quality will be monitored throughout the Project. Results will be compared to baseline conditions and regulatory limits, including limits under the Nova Scotia *Air Quality Regulations.*

To reduce GHG emissions, the Company will also limit vehicle idling and reduce cold starts where practical.

Regulatory Review and Best Management Practices

The Project will assess air quality and climate change impacts through the provincial environmental assessment process in Nova Scotia. This follows the Nova Scotia Proponent's Guide to Environmental Assessment (2025).

Air quality is regulated under the Nova Scotia *Air Quality Regulations*. These regulations set limits for air pollutants such as dust, CO, hydrogen sulphide, NO_2, ozone, and SO_2. Air quality will be monitored during the Project and compared to baseline levels and regulatory limits including Maximum Permissible ground level concentrations listed in Schedule A of the Nova Scotia *Air Quality Regulations*.

Workplace air quality must also follow the *Occupational Health and Safety Act*. Exposure limits are based on guidance from the American Conference of Governmental Industrial Hygienists.

The Project must follow the *Greenhouse Gas Emissions Regulations*. These rules aim to reduce emissions across the province and apply to facilities that produce more than 10,000 tonnes of carbon dioxide equivalent per year.

The Project will also follow the *Sustainable Development Goals Act*. This legislation sets provincial targets to reduce GHG emissions and reach net-zero emissions through reductions and offsets.

Nationally, the Project must follow the *Canadian Environmental Protection Act* and related regulations. These include rules for vehicle (light and heavy duty) emissions and substances that contribute to climate change or ozone depletion.

5.4.3 Visual Environment (Lighting)

Project activities may affect how the area appears. This includes increased light at night.

Potential Effects Pathways

Project activities will add artificial light, including vehicle headlights and lighting at the mill, roads, and open pits. This may increase light levels at night. Extra light could affect wildlife. It may also reduce people's, including Indigenous and non-Indigenous people's ability to enjoy the night sky.

A light impact assessment will be completed to understand the effects of increased artificial light. It will measure how much light reaches sensitive locations nearby. Light output will be calculated using manufacturer information and guidance from the ILE. Total light levels will be compared to recommended limits for before and after curfew periods.

Proposed Mitigation

Lighting will be designed to keep workers safe while reducing impacts on nearby areas. Lights will be aimed inward, so they do not shine outside the PDA. Equipment and vehicles will stay in set work areas, roads, and travel routes. Lighting will be limited to what is necessary. Lights will be shielded or angled toward work areas where possible. Motion-activated lights will be used where practical, so lights are only on when needed.

Regulatory Review and Best Management Practices

The Project will assess impacts to the visual environment through the provincial environmental assessment process in Nova Scotia. This follows the Proponent's Guide to Environmental Assessment (2025).

There are no specific laws in Nova Scotia or Canada that set direct limits for light levels. Instead, guidance from the ILE is commonly used to guide acceptable lighting levels and reduce unwanted light.

SARA protects SAR and their habitat. Lighting changes may affect these protected species or their habitat. The MBCA 1994 protects migratory birds. Artificial light can disturb natural light patterns and may affect birds, depending on their sensitivity.

5.4.4 Geology, Soils, and Sediment

Project activities such as pit development, construction of infrastructure, blasting, drilling, and material storage will disturb bedrock, soils, and sediments throughout the life of the Project. These disturbances can affect nearby soils, vegetation, surface water, and groundwater.

Potential Effects Pathways

Project activities will remove rock and soil over the life of the Project. This may affect geology, soils, and sediment.
It may also cause metal leaching and acid rock drainage (ML/ARD), as well as erosion and sediment runoff. These changes could affect surface water and groundwater quality.

Proposed Mitigation

The Project will try to avoid disturbing contaminated soils where possible. Infrastructure will be placed away from known historic tailings areas when it can. If historic tailings or waste rock must be moved or stored, it will be done following a management plan. This plan will explain how to handle these materials safely.

An erosion and sediment control plan will be in place before construction begins. This plan will help prevent dirty runoff from reaching nearby watercourses and wetlands. Sediment control fences will be installed in areas at risk of erosion, such as slopes. These fences will be checked and maintained until the land is stable and vegetation has grown back.

Disturbed areas will be kept as small as possible. These areas will be monitored to make sure erosion controls are working and to see if more action is needed. Soil and overburden removed during construction will be stored and later used to restore the site. Stockpiles will be designed with ditches to direct water to settling ponds before it is released.

A Water Management Plan will describe how water will be managed on site. This includes steps to reduce metal leaching, acid rock drainage, and sediment in water. Water that comes into contact with PDAs will be collected and treated in settling ponds before being released. Water quality will be tested to make sure it meets regulatory requirements before discharge.

Regulatory Review and Best Management Practices

The Company will assess impacts to geology, soil, and sediment through the environmental assessment process in Nova Scotia. This follows the Proponent's Guide to Environmental Assessment (2025).

The *Sulphide Bearing Material Disposal Regulations* set rules for handling and disposing of sulphide-bearing materials. These rules help reduce risks from ML/ARD.

At the federal level, the MDMER allow certain mine wastes, like tailings or waste rock, to be placed in water bodies if they are approved and listed under Schedule 2.

Any deposit of mine waste in waters where fish live must also meet requirements under the Fisheries Act.

Contaminated soil and sediment are regulated under the Nova Scotia *Contaminated Sites Regulations*. The Company must take reasonable steps to prevent, reduce, and fix contamination, and safely manage or remove contaminated materials.

Guidance from NSECC (A Guide to Developing Erosion and Sediment Control Plans) will be followed when developing the erosion and sediment control plan. This ensures the plan meets required standards.

5.4.5 Groundwater

Project activities could change groundwater levels and groundwater quality at the three PDAs. Groundwater levels may be affected by land clearing, compacted surfaces, and open pit mining, which can reduce how much water soaks into the ground. Groundwater quality could be affected by blasting materials, historic tailings and waste rock, acid rock drainage, and seepage from contact water.

Potential Effects Pathways

The Company will study groundwater (groundwater modelling) to better understand possible impacts near the three PDAs. Mining activities, such as digging pits, removing water (dewatering), and blasting, may lower the water table. This could reduce groundwater levels and affect nearby surface water, including wetlands. Blasting may also create more cracks in rock. This can allow water to move more easily underground. After mining ends in each pit, groundwater levels are expected to slowly recover.

Construction activities, such as building roads and stockpiles, can compact soil. This can reduce how much water soaks into the ground. As a result, groundwater recharge may decrease, and water levels may drop for a period of time compared to baseline. Most of these effects will happen during construction.

Blasting can leave small amounts of chemicals in the rock. These may include nitrogen compounds from explosives that did not fully detonate. These chemicals could move into groundwater and affect water quality. This effect may continue during the life of the Project, depending on how blasting materials spread.

All three sites already contain historic tailings. These have affected groundwater and surface water quality in the past (as shown by the baseline data summarized in Section 3.6.5). The Company plans to clean up these disturbed tailings from all three PDAs. This is expected to improve water quality in affected areas.

Some waste rock may produce acidic, metal-rich water if it comes into contact with rain or snow. To prevent this, runoff will be collected using ditches. Water that contacts waste rock will be captured and treated before being released. During operations and closure, a water management system will collect seepage from waste rock and the tailings storage area. Most of this water will be captured and treated. However, a small amount may enter groundwater and could affect water quality.

Proposed Mitigation

Baseline data will be used to understand how the Project may affect groundwater. This includes possible changes in water levels, water quality, and how groundwater connects to surface water. This information will also support groundwater modelling and help design mitigation and monitoring plans. Groundwater will be monitored throughout the life of the Project. This will help confirm predictions and allow changes to be made if needed.

The Project will be designed to protect groundwater where possible. Key measures include:

- Plan the mine layout to avoid groundwater recharge areas, such as wetlands, where practical.
- Reduce storage of potentially acid-generating waste rock on the surface by placing it in the TMF or mined-out pits, where possible.
- Collect and treat all water that comes into contact with PDAs before releasing it.
- Use secondary containment for fuel and chemical storage.

A Groundwater Management and Monitoring Plan will be developed and followed for all Project phases. Groundwater levels and quality will be checked regularly to identify any impacts. Monitoring results will be used to adjust water management practices and reduce any negative effects.

Regulatory Review and Best Management Practices

The Project will assess potential impacts to groundwater through the environmental assessment process in Nova Scotia. This follows the Proponent's Guide to Environmental Assessment (2025).

The *Fisheries Act* protects fish and fish habitat. It does not allow work that causes fish death or serious harm to fish habitat unless it is authorized. If impacts cannot be avoided or fully reduced, the Project must apply for a *Fisheries Act* Authorization. This application must explain the impacts, how they will be reduced, and how remaining effects will be offset.

5.4.6 Surface Water

The Project may affect surface water quality and quantity (water levels or flow) at each PDA. During construction and operation, water levels and flow may change. This can happen because of activities such as clearing vegetation, changing natural drainage, building open pits, and constructing buildings and processing areas.

Changes in groundwater levels may also affect surface water. This is because groundwater helps support the normal flow of water in streams.

Potential Effects Pathways

Changes to land use and land cover may increase runoff. Hard surfaces like roads and built areas do not absorb water well, so more water may flow over the ground. This can change how water moves through the area and may increase or decrease stream flows compared to natural conditions.

Changes in groundwater levels can also affect surface water (further discussed in discussed in Section 5.4.5). Groundwater helps feed streams, so changes underground can change stream flow above ground.

Water management structures, such as the TMF (15-Mile Mine only), collection ponds, and open pits, will also change how water naturally flows through the landscape. Water may be redirected away from project infrastructure, which could increase or decrease flows in nearby streams.

Surface water quality may be affected by contact with blasting materials, exposed rock, and soil. Blasting can leave behind nitrogen compounds from explosives. These can be carried in runoff from pit walls, waste rock, and tailings. Depending on the type of rock, metals and acidic water may also be released. When rain or snow interacts with potentially acid generating rock, it can create acidic, metal-rich runoff that may affect water quality.

Construction activities may cause soil and sediment to wash into nearby streams and wetlands. During operation, activities such as mining, crushing, hauling, and storing rock and ore can also create dust and fine particles. If these are carried into water, they can become sediment and affect water quality.

Proposed Mitigation

The Project will be designed to reduce effects on surface water where possible. This will include the following:

- All water that comes into contact with Project activities will be collected and treated before it is released. It will be treated to meet required regulatory standards.

- A Surface Water Management and Monitoring Plan will be developed for the Project. This plan will explain how water systems will be built, maintained, and monitored over time.
- Fuel and chemical storage areas will have secondary containment to prevent leaks or spills from reaching water.
- Runoff from the site will be managed using ditches and settling ponds. This will help trap sediment and prevent dirty water from entering nearby streams and wetlands.
- Land clearing will be planned to avoid periods of heavy rainfall when possible. Sediment controls, such as silt fences, will be used where needed to reduce erosion.

The mitigations listed above and other mitigations will be detailed in a Surface Water Management and Monitoring Plan that will be developed for the Project. Surface water will be monitored throughout all phases of the Project. Water quality and flow will be compared to site-specific water quality objectives and regulatory limits.

These site-specific water quality objectives will be based on background water conditions and environmental guidelines, including:

- Canadian water quality guidelines for freshwater ecosystems
- Nova Scotia environmental quality standards (Tier 1)

Water leaving the site will also be monitored. During operation, it will be compared to federal requirements under the MDMER. If water does not meet these standards, it will be treated before being released to the environment.

Regulatory Review and Best Management Practices

The Project will assess potential effects on surface water through the environmental assessment process in Nova Scotia. This follows the Proponent's Guide to Environmental Assessment (2025).

The *Fisheries Act* protects fish and fish habitat. It does not allow activities that cause fish death or serious harm to fish habitat unless approved. If impacts cannot be fully avoided or reduced, the Project must apply for a *Fisheries Act* Authorization. This application must explain the impacts, how they will be reduced, and how remaining effects will be offset.

The Project must follow monitoring and discharge requirements under the MDMER. These rules set conditions for testing and managing water that is released from mining activities.

A Surface Water Management and Monitoring Plan will be developed for the Project. This plan will include requirements from these federal regulations and will guide how water quality and effluent are monitored throughout the Project.

5.4.7 Wetlands

Wetlands may be affected by Project activities. This can include clearing land, removing vegetation and roots, filling in areas, and building Project infrastructure.

Potential Effects Pathways

Wetlands may be directly and indirectly affected by Project development, especially during the construction phase. Some wetlands may be partially or fully removed when land is cleared, vegetation is removed, areas are filled in, or infrastructure is built.

Outside of the Project footprint, wetlands are not expected to be directly removed. However, they may still be affected in other ways. Changes to surface water flow and groundwater levels can change how wetlands receive water. For example, drainage ditches, blasting, and lowering groundwater levels may reduce the amount of water feeding nearby wetlands. This could make wetlands drier and reduce how well they function. Wetlands may also be affected by:

- Removal of wetland plants
- Changes in water quality
- Introduction of invasive plant species
- Dust or sediment settling in wetlands

These changes may affect the health and quality of wetland habitats over time.

Proposed Mitigation

The Project is considering other locations for infrastructure where possible to avoid wetlands (further details available in Section 2.6.2). The current design already avoids about 42 hectares of additional wetland compared to the previous project layout.

Several measures will be used to protect wetland habitat quality, including:

- Keeping vegetation around wetlands where possible.
- Controlling invasive plant species during construction.
- Using erosion and sediment controls to prevent runoff from entering wetlands.

- Reducing dust during construction and operation.
- Collecting and treating contact water before it is released.

The Project will be designed to reduce changes to how water moves through wetlands. This includes avoiding unplanned draining or flooding where possible. Water management structures, such as culverts, will be installed to maintain natural water flow between wetlands and surrounding areas.

Wetlands will be monitored before, during, and after construction. This will help confirm predicted impacts and check whether mitigation measures are working. A wetland monitoring plan will be developed in consultation with NSECC. It will record baseline conditions and track changes over the life of the Project. The goal of the monitoring program is to ensure wetlands are protected over the long term after development.

Regulatory Review and Best Management Practices

Wetlands are protected in Nova Scotia under the *Environment Act* - Activities Designation Regulations (Nova Scotia, 1995a). Wetlands are also managed under the *Wetland Conservation Policy* (NSECC, 2019). This policy follows the goals of the *Federal Policy on Wetland Conserv*ation (Environment Canada, 1991).

If wetlands cannot be avoided, the Project must apply for approval under the provincial wetland alteration process. Any wetland that is removed or damaged must be replaced or compensated for. Applications and permits must be approved before any wetland disturbance occurs. The condition and protection of nearby connected wetlands will also be considered in this process.

Wetlands will be identified and monitored before construction begins. Monitoring will continue throughout the life of the Project, following direction from NSECC.

5.4.8 Terrestrial Habitat and Flora (Vegetation)

Project activities, especially during construction, may affect land-based plants and habitats. This includes activities like moving soil and clearing vegetation. These activities may directly remove plants and habitats. They may also cause indirect effects by changing or disturbing the surrounding environment.

Potential Effects Pathways

The Project may remove plants such as vascular plants and lichens. It may also remove or break up habitats, including parts of forested areas. There is also a risk of spreading invasive species. Habitat may be indirectly affected by dust, changes to surface water and groundwater flow and habitat being split up from clearing. Most of these effects will happen during construction, especially when land is cleared.

Plants within the Project footprint may be completely removed during construction and operation. Baseline studies have been used to identify sensitive habitats and locations where SAR may be present. This helps guide Project planning.

Clearing land can change local conditions. This may include more sunlight, changes in temperature and moisture, and shifts in plant communities. These are often called edge effects. Disturbed areas may also make it easier for invasive plant species to grow. Dust from Project activities may settle on plants and affect their health. Changes to surface water and groundwater may also affect vegetation, especially in areas that depend on high water levels, such as wetlands.

Proposed Mitigation

The Project design has been updated to reduce impacts on sensitive areas. Infrastructure locations have been adjusted and may continue to change as planning continues. Studies will be done to confirm if SAR are present. The results will be used to avoid or reduce impacts on these species and their habitat. The current Project design has reduced the overall footprint by about 38% compared to the previous plan. This helps limit impacts on land and plants.

The Project will include measures to protect plants and habitats, such as:

- Create and follow an erosion and sediment control plan.
- Use dust control measures across the site.
- Protect vegetation and keep buffer areas around wetlands, old-growth forest, and other sensitive areas.
- Control invasive plant species during construction.
- Transplant plants or collect seeds for species of concern, where needed.

Plans for managing wetlands on site will also help protect vegetation (further details in Section 5.4.7).

Some important plant species that are within the Project disturbance area may be moved to nearby suitable areas, where appropriate. This will be done in consultation with regulators and the Mi’kmaq of Nova Scotia.

The Company will also restore areas over time. Reclamation will begin during operations where possible and continue after the mine closes (this is called progressive reclamation). The goal is to re-establish native plant communities and support long-term habitat recovery.

Regulatory Review and Best Management Practices

Several laws and policies protect plant communities and rare species in Nova Scotia. Species listed as endangered or threatened are protected under SARA and the NSESA. These laws protect the species and the places they live.

Some rare lichens also have special protection rules on Crown land as described in At-Risk Lichens – Special Management Practices (NSNR, 2018). These rules limit how land can be used near known locations to avoid damage.

Guidance and policies are in place to protect forests, including old-growth forests. These include:

- Silvicultural Guide for the Ecological Matrix
- Old-Growth Forest Policy

These set rules and best practices for managing forests. For example, old-growth forests on Crown land must be protected, and development is limited within 100 m of these areas.

Impacts on land, plants, and habitats will be reviewed through the environmental assessment process in Nova Scotia. The Project will follow guidance from NSECC for assessing wildlife and habitat. Plans to protect the environment, such as erosion and sediment control plans, will also be reviewed as part of provincial and federal permitting.

5.4.9 Terrestrial Fauna (Wildlife)

The Project may affect land-based animals, such as mammals and reptiles/amphibians, and the habitats they depend on. During construction, habitat may be removed, which can directly affect animals living in those areas. During operations, animals may also be disturbed by noise, light, and other activity.

Potential Effects Pathways

The Project may affect wildlife by removing and breaking up habitat when land is cleared and roads are built. This can reduce the amount of suitable living space for animals and change how they use the area. It may also affect how animals find food, avoid predators, and move across the landscape. When habitat is broken into smaller pieces, it can make it harder for wildlife to travel and migrate.

More Project traffic may increase the risk of wildlife being hit by vehicles. Some species, such as wood turtles and snapping turtles, are especially at risk. They may be attracted to gravel roads or road edges for nesting and move slowly, making them more vulnerable.

Wildlife may also be harmed indirectly through poorer habitat quality or by coming into contact with contaminants. Wildlife may also be disturbed by noise, light, vibration, and increased human activity from the Project. These effects may impact sensitive species, including those protected under SARA and the NSESA.

Proposed Mitigation

The Project design has been updated to reduce effects on wildlife and their habitats. Infrastructure locations have been adjusted and may continue to change during planning to further avoid sensitive areas.

Wildlife studies are being done to identify where species live and how they use the area and the likelihood that they are present in the PDAs. This information helps improve Project design and reduce impacts. The overall Project footprint has been reduced by about 38% compared to the previous plan. This helps reduce impacts on wildlife and habitat.

Several measures will be used to reduce impacts on wildlife, including:

- Fencing, speed limits, and warning signs to reduce wildlife collisions.
- Keeping clear, open buffer areas along roads where possible to improve visibility.
- Maintaining wildlife corridors where possible so animals can move through the landscape.
- Reducing dust, noise, and light during construction, operation, and closure.

Wildlife management plans will include measures to prevent animals from entering high-risk areas like the TMF and open pits, especially during closure. Wildlife sightings will be recorded throughout all phases of the Project. Food and waste will be securely stored to avoid attracting animals. Wetlands will also be monitored because they provide important habitat for many species.

Wildlife surveys will continue in 2026 within the PDAs. The information collected will help improve understanding of which species are present, where they are found, how they use habitat, and how likely they are to occur in different areas. This information will be used to improve management measures and reduce impacts on wildlife.

The Company will carry out progressive reclamation during operations where possible. After closure, disturbed areas will be restored to support long-term wildlife habitat recovery.

Regulatory Review and Best Management Practices

Several laws in Nova Scotia protect wildlife and their habitats. SARA and the NSESA protect species listed as endangered or threatened. These laws also protect the areas where these species live and depend on.

The *Wildlife Act* includes protections for wildlife such as dens, nests, and habitats. It also makes it illegal to harm bird or turtle nests.

Some species and habitats have additional protection through Special Management Practices. These include:

- Mainland moose
- White-tailed deer wintering areas
- Wood turtles

These practices help protect important habitat features, reduce disturbance, and support at-risk species. These best management practices will be reviewed and used where possible to minimize effected to wildlife and their habitat.

Wildlife impacts will be reviewed through the environmental assessment process in Nova Scotia as per the Guide to Addressing Wildlife and Habitat in an Environmental Assessment Registration Document (NSECC, 2009). Project-specific plans, such as erosion and sediment control plans, will also be reviewed through regulatory processes.

Best practices used to protect wetlands (Section 5.4.7) and land habitats (Section 5.4.8) will also help protect wildlife.

5.4.10 Avifauna (Birds)

The Project may affect bird habitat by changing or removing it through direct or indirect disturbance. Birds may also be harmed directly if they collide with vehicles. Other possible effects include poorer air and water quality and disturbance from noise, light, and human activity. These effects are similar to those described for migratory birds (see Section 5.1.3).

Bird surveys (specifically avifauna surveys) will continue through 2026 to confirm which species are present and how they may be affected by the Project. The results of these surveys will be used to adjust Project design. This will help avoid or reduce impacts on birds and their habitats.

5.4.11 Species of Conservation Interest and Species at Risk

Possible effects of the Project on SAR and SOCI, along with general mitigation measures, are described in the relevant sections for each group of plants and animals (Sections 5.1.1 to 5.1.3 and 5.4.8 to 5.4.10). Specific mitigation measures for priority species are described in the sections that follow.

Potential Effects Pathways

Project activities may affect priority species more than other species. This is because priority species often need specific habitats, have smaller populations, and are more sensitive to disturbance. They may also be more important for commercial, recreation, or for the Mi'kmaq of Nova Scotia.

Proposed Mitigation

The Project will try to avoid SAR and SOCI wherever possible, especially during construction planning. Known locations of these species will be identified. Where possible, buffer zones will be created around them using best practices and standards.

The Project design has also been adjusted to reduce its footprint by about 38% compared to the previous plan. This helps reduce impacts on sensitive species and their habitats.

If priority plant species are directly affected, they may be moved to nearby suitable areas. This will be done where possible and in consultation with regulators, specialists, and the Mi'kmaq of Nova Scotia. If species are near PDAs but not directly affected, they will be monitored to check for any indirect impacts. Locations of sensitive or immobile species, and their buffer zones, will be clearly mapped and shared with workers.

A Wildlife Management Plan will be developed to guide protection and monitoring of priority wildlife such as moose, turtles, and bats. Bird species will be managed using general bird protection measures, since many are protected under the MBCA 1994.

Standard measures to protect wildlife include:

- Training workers to identify sensitive species and record sightings.
- Creating buffer zones around turtle habitats where possible.
- Timing construction to avoid sensitive periods like nesting or hibernation where possible.
- Using fencing, speed limits, and signs to reduce wildlife collisions.
- Keeping wildlife corridors open where possible so animals can move through the landscape.

Standard measures to protect fish and fish habitat are expected to reduce impacts on priority fish species. Any work in or near water will require permits under the *Fisheries Act* and provincial watercourse alteration process. These permits will include requirements to reduce harm and may include compensation if impacts cannot be fully avoided.

Regulatory Review and Best Management Practices

Several laws in Nova Scotia and Canada protect SAR and their habitats. Species listed as endangered or threatened are protected under SARA and the NSESA. These laws protect the animals and plants themselves, as well as the areas they use.

Important habitat areas are also protected:

- Critical Habitat under SARA (federal)
- Core Habitat under the NSESA (provincial)

These areas have rules that limit or restrict development.

Some species have extra protection through Special Management Practices. These help reduce disturbance and protect habitat. Examples include:

- At-risk lichens
- Mainland moose
- Bald eagle nests
- Wood turtles
- White-tailed deer wintering areas

Additional guidance also comes from federal and provincial recovery and management plans for SAR.

SAR will be considered through the environmental assessment process in Nova Scotia as per the Guide to Addressing Wildlife and Habitat in an Environmental Assessment Registration Document (NSECC, 2009).

The Company will work with the NSNRR and ECCC to determine any required permits under the provincial and federal SAR laws. These permits help reduce impacts on protected species and their habitats

5.5 Potential Impacts Based on Federal Work Designation

The Project is not a federal project and will not take place on federal lands. Therefore, it does not require assessment under federal work or undertaking requirements.

5.6 Estimate of GHG Emissions

A preliminary estimate of GHG emissions has been completed for the Project. The estimate includes emissions from:

- Mobile equipment (such as trucks and machinery)
- Fixed equipment
- Electricity use

Over the expected 11.4-year life of the Project, about 861 kilotonnes of CO_2 are expected to be produced. Most emissions come from electricity use (55%), followed by fixed equipment (37%) and mobile equipment (8%). Most electricity use (85%) will support the processing plant. The remaining 15% will be used for general site and administrative needs. The Company is studying the possible use of solar energy during operations to reduce emissions.

5.7 Waste and Emissions

5.7.1 Atmospheric Emissions

Direct Emissions and GHG

Most air emissions from the Project will come from dust that becomes airborne during normal activities. Smaller amounts will come from specific equipment and emission points. The biggest source of dust is expected to be from crushing and moving rock materials. Dust will also come from:

- Drilling and blasting
- Loading, unloading, moving, and compacting materials
- Building surface infrastructure
- Wind blowing over tailings storage areas, stockpiles, and exposed ground
- Traffic on access and haul roads

- At 15-Mile Mine only, emissions from propane use in plant systems (e.g., heating and processing equipment)

Dust will be reduced using several methods, including:

- Spraying water or dust suppressants at conveyor transfer points
- Using water trucks on roads to reduce dust from vehicle traffic
- Adding extra dust controls if needed during operations

Some of these activities will also produce GHG emissions. These are discussed in Section 5.6. The Project will use operational controls to meet required air quality and emissions standards.

Noise

Most noise from the Project will come from heavy equipment used during mining operations. The crushing area at the 15-Mile Mine will also be a main source of noise. The mill itself is not expected to be a major source of noise because the grinding equipment will be enclosed.

Blasting will create short-term loud noise, but it will only happen occasionally (up to once per day) and during daytime hours. Blasts will be designed to meet noise regulations.

Other noise will come from:

- Vehicle traffic, including reversing alarms
- Diesel generators
- Water pumps used for site water management

The Project will use operating controls to keep noise within acceptable levels.

Light

Most light will come from vehicle headlights and from lighting used for 24-hour operations. This includes lights on roads and pathways, around offices and work areas, and at the 15-Mile Mine near outdoor processing areas.

Where possible, lights will be aimed downward or inward to reduce how much light spreads outside the PDA. Additional measures may be used to limit light reaching nearby areas. In some cases, motion-activated lighting or similar technology will be used so lights are only on when needed.

5.7.2 Liquid Discharges

15-Mile Mine

Mine Water and Surface Contact Water

Water that comes in contact with mining activities will be collected and managed. This includes:

- Groundwater that seeps into the site
- Rain and snowmelt runoff from built up areas
- Water collected from ponds and the TMF

Water will be captured using ditches, sumps, and channels and directed into settling ponds so that sediment can settle out before the water is further managed or discharged.

Open pits will be equipped with pumps to remove water. This helps control water that collects in the pits. Contact water may contain:

- Sediment and naturally occurring metals from rock and soil
- Small amounts of ammonia from blasting explosives

All contact water in the PDA will be collected and treated before release into the environment. Most surface runoff is not expected to cause major water quality issues, but it may still contain naturally occurring metals such as aluminium and arsenic, as well as sediment. Water from ore, waste rock, and stockpiles may also contain suspended solids and dissolved metals. Some elements, such as sulphate, manganese, and calcium, may occur at higher levels, while others are expected to be low.

Collected water will first be reused in the process plant where possible. Any extra water will be treated before being discharged. Two possible discharge locations are being considered:

- Seloam Brook
- Anti Dam Flowage

If monitoring shows that water quality exceeds approved limits, the source will be investigated, and corrective actions will be taken.

A water treatment system is still being designed. It is expected to include:

- Settling ponds to remove sediment
- Active treatment of water from the TMF
- Chemical treatment (e.g., ferric sulphate, lime, and hydrogen peroxide) to remove contaminants like arsenic

The system design will be refined as engineering work continues to ensure water meets all required standards before release.

Domestic Sewage

The Project will produce only a small amount of domestic sewage because there will be no worker housing on site. Wastewater will come mainly from washrooms in office and administrative buildings. Sewage will be collected in septic tanks and treated using filter systems. Septage will be regularly pumped out by truck and taken off site to an approved disposal facility. This system will be designed to safely manage wastewater without releasing it into the environment.

Old Austen Mine

The Old Austen Mine will not have a TMF. Instead, water that comes in contact with mining activities will be collected and treated before being released into the environment. This water will come from:

- Surface runoff
- Seepage/leaching from materials on site
- Water pumped out of the open pits

Water will be collected using ditches, sumps, and diversion features and sent to sedimentation ponds. These ponds allow sediment to settle out before the water is discharged. Water is expected to contain similar types of contaminants as at the 15-Mile Mine as the geology and mining methods are similar. All discharged water will be regularly tested and monitored under regulatory requirements to ensure it meets MDMER and operating approvals. If results exceed limits, the source will be investigated, and corrective action will be taken.

Two possible discharge locations are being considered:

- Killag River
- Tent Lake watershed

Tent Lake is expected to receive only runoff from soil and topsoil storage areas. All other treated water would be released to the Killag River.

Further engineering work is still needed to fully design the water management system and ensure all discharge meets environmental standards.

See Section 5.7.2 for information on domestic sewage for Old Austen Mine.

Old Mitchell Mine

Old Mitchell Mine will not include a TMF or a processing plant. Because of this, water management will focus on collecting and treating runoff and seepage from mining areas before releasing it to the environment. Water will be collected from areas like pits and disturbed land using ditches, sumps, and diversion features. It will be directed to settling ponds, where sediment can settle out before discharge.

Water quality is expected to be similar to 15-Mile Mine because the geology and mining methods are similar. The main contaminants of concern are expected to include metals and nutrients. Sedimentation ponds and silt traps will be used to help remove these materials before water is released.

All discharged water will be regularly tested under regulatory requirements. If water quality exceeds limits, the source will be investigated, and corrective actions taken.

Two potential discharge locations are being considered:

- Cargill Lake
- A nearby northwest watercourse affected by the mine

The northwest watercourse could receive enough water to offset losses caused by mining activities, while the remaining treated water would be released to Cargill Lake. Further engineering work is needed to finalize the full water management system and ensure all discharged water meets environmental standards.

See Section 5.7.2 for information on domestic sewage for the Old Mitchell Mine.

5.7.3 Solid Waste

The Project will produce normal domestic waste during construction, operation, and closure. This includes items like food waste, glass, plastic, paper, clothing, and packaging materials. Recycling bins will be provided for materials like paper and plastics (based provincial and regional recycling systems). Materials will be collected for recycling.

Non-recyclable and general industrial waste will go into designated waste bins. This includes items that cannot be reused or recycled, such as:

- Scrap metal and wood
- Foam and non-recyclable packaging
- Used or damaged protective equipment
- Mixed waste that cannot be separated

Some materials will require special handling and disposal. These include:

- Contaminated soil from spills
- Waste (such as oils and fuels) from vehicle and equipment maintenance
- Chemical or reagent-related waste

These materials will be managed according to regulations and safety requirements and stored in controlled areas to prevent leaks or spills. They will be transported off site for disposal at approved facilities.

5.8 Cumulative Effects

The PDA is within the traditional Mi'kmaw district of Eskikewa'kik (which means "skin dressing territory" or "skin dressers place"), which extends from Halifax County to Guysborough County. There are many other past, present or proposed industrial activities within this district. This region has a long history of industrial activity, including:

- Historic gold mining
- Forestry operations on Crown land near the PDAs
- Existing and past hydroelectric infrastructure, including the East River Sheet Harbour Hydro System

The 15-Mile Mine PDA overlaps with some of this existing infrastructure (Nova Scotia Power Inc. hydroelectric infrastructure: East River Sheet Harbour Hydro System), but no overlap was identified with other projects.

At this stage, potential cumulative effects are mainly based on whether projects overlap in the same physical area. More detailed analysis of cumulative effects will be done in future regulatory submissions.

6 Closing

The Project involves building and operating the 15-Mile Processing Hub Project as an open-pit mining development in Nova Scotia. The design focuses on using existing facilities and infrastructure where possible. This reduces the need for new construction and shortens hauling distances.

The Project also includes cleanup of historic tailings, contaminated soil, and old waste rock. This work is expected to reduce ongoing pollution and improve water quality in the area.

The Project is expected to provide economic benefits, including:

- Jobs in rural and Indigenous communities
- Opportunities for local businesses
- Increased government revenue
- Investment in community programs.

This Initial Project Description describes the preliminary Project design. It has been updated over previous mine designs based on feedback from communities, regulators, and the Mi'kmaq of Nova Scotia. It will support early engagement with local communities and First Nations communities and help guide the upcoming regulatory review process.

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