



Appendix A.1

Plain Language Summary Beaver Dam Mine Project as Completed for the Updated 2021 Beaver Dam Mine EIS)



Atlantic Gold
A St Barbara Ltd Company

Plain Language Summary

**BEAVER DAM MINE PROJECT
ENVIRONMENTAL IMPACT STATEMENT**

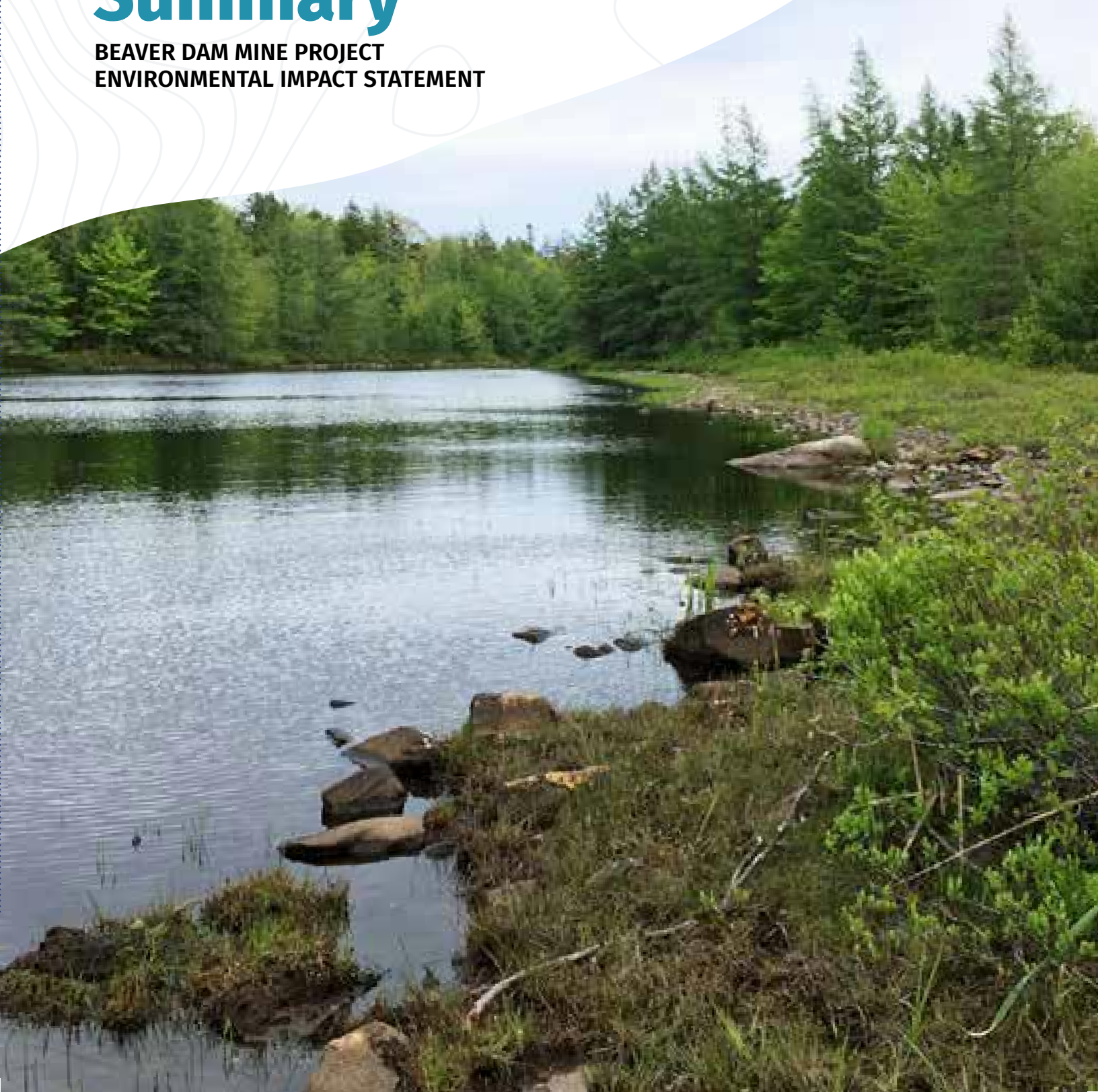




Table Of Contents

3	About
4	Project Overview
5	Sustainable Development at Beaver Dam Mine Project
6	Current Condition of the Project Site
8	Project Description
10	The Life of the Mine
12	The Environmental Assessment Process
14	Engaging Communities of Nova Scotia <ul style="list-style-type: none">· Meeting with the Mi'kmaq of Nova Scotia· Meeting with the General Public
16	Traditional Use by Mi'kmaq People <ul style="list-style-type: none">· Nearest Mi'kmaq Communities
18	The Natural & Human Environment Today <ul style="list-style-type: none">· Fish & Wildlife· Water· Current Use by Mi'kmaq Communities· Mi'kmaq Ecological Knowledge Study· Traditional Land and Resource Use Study (Millbrook First Nation)· Cultural and Heritage Resources· Recreational and Commercial Activities
22	Effects on the Natural & Human Environment <ul style="list-style-type: none">· Air· Light· Noise· Groundwater· Surface Water· Land· Animals· Fish· Birds· Cultural and Heritage Resources· Effects to the Mi'kmaq People
34	Environmental Monitoring
36	Reclamation
38	Environmental Management Programs
40	Benefits of the Project
41	Conclusions



About

The purpose of this booklet is to describe, in plain language, the proposed development of a gold mine at Beaver Dam (Marinette), in Halifax County, Nova Scotia. Atlantic Mining NS Corp. (Atlantic Gold) is the company that wants to develop this mine.

This is a plain language summary of the Environmental Impact Statement that Atlantic Gold first gave to the federal government in 2017. It is important to Atlantic Gold that you understand how they will build the mine. Atlantic Gold wants you to know how they will protect the environment during building, operating and closure of the mine.

Atlantic Gold is a mining company that is owned by St Barbara Limited (<https://stbarbara.com.au/about-us/>). St Barbara is an Australian company that bought Atlantic Gold in July 2019. Atlantic Gold estimates that its mines will be in operation and employ Nova Scotians until around 2030.

Project Overview

The purpose of the Beaver Dam Mine Project (the Project) is to mine and then transport ore from Beaver Dam to the existing Touquoy Mine for processing. The Project is located near Marinette, Nova Scotia, 17 km north of Sheet Harbour on Highway 224. The nearest Mi'kmaq communities are Beaver Lake Indian Reserve and Sheet Harbour Indian Reserve (Millbrook First Nation). Beaver Lake Reserve is 6 km southwest of the Project. Sheet Harbour Reserve is 23 km southeast of the Project. Other Mi'kmaq communities in the area include: Pictou Landing First Nation (70 km north of the Project), Millbrook First Nation (55 km northwest of the Project), Sipekne'katik First Nation (64 km west of the Project) and Paqtnkek First Nation (90 km northeast of the Project).

Atlantic Gold wants to start constructing the mine at the Project site in 2022. The company expects that the mine will operate for four years and provide more than 311 direct, full-time jobs. The Project will include:

- a surface mine
- a waste rock storage area
- a crusher area
- support buildings
- a haul road to transport ore from the Project to the Touquoy Mine

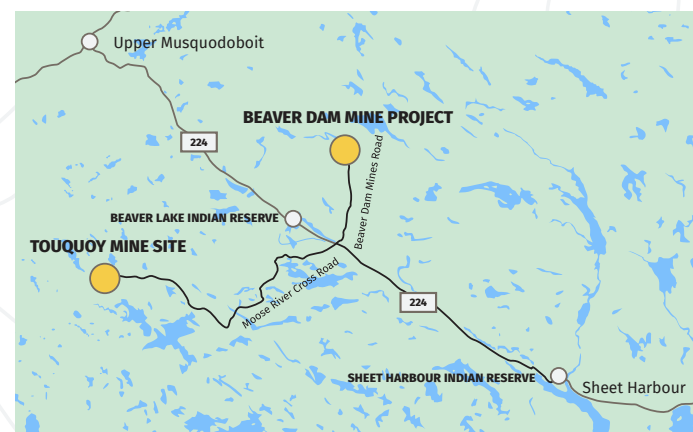
The company will upgrade the existing Beaver Dam Mines Road (from the Beaver Dam Mine Site to Highway 224) and the existing Moose River Cross Road and will also construct a 4 km section of new road on the west side of Highway 224. The upgraded and new road will connect to the existing Mooseland Road, which leads to the Touquoy Mine.

There will be no processing of ore at the Beaver Dam Mine Project. Therefore, there will be no use of cyanide or production or storage of tailings at the Project site.

The ore removed from the pit at the Project site will be trucked to the existing Touquoy Mine for all phases of processing into gold bars.

Atlantic Gold has been in operation in Nova Scotia since 2017. The company currently operates the Touquoy Gold Mine (Touquoy Mine) in Moose River, Nova Scotia. The Touquoy Mine currently employs more than 280 full-time employees and 40-70 contractors.

More information about the Project is available at: www.atlanticgold.ca



Sustainable Development at Beaver Dam Mine Project

Throughout the mining process, Atlantic Gold is committed to keeping the environment safe and healthy for people, plants, and animals. Atlantic Gold knows that the environment is important to you and your community.

The Beaver Dam Mine Project will be an environmentally safe mine site for present and future generations of Nova Scotians. The company is committed to making sure that all parts of the Project limits the impact of mining operations. Atlantic Gold commits to the people of Nova Scotia to follow, and to exceed wherever possible, all environmental laws and regulations.

Before construction starts, Atlantic Gold will develop Environmental Management Programs that workers will have to follow. These Programs will provide detailed instructions explaining how work is to be completed so that the environment is protected.

Atlantic Gold cannot build the mine unless it receives approval from the governments of Canada and Nova Scotia. To get approval the company has to go through a review of the entire Project. This process is called an Environmental Assessment.

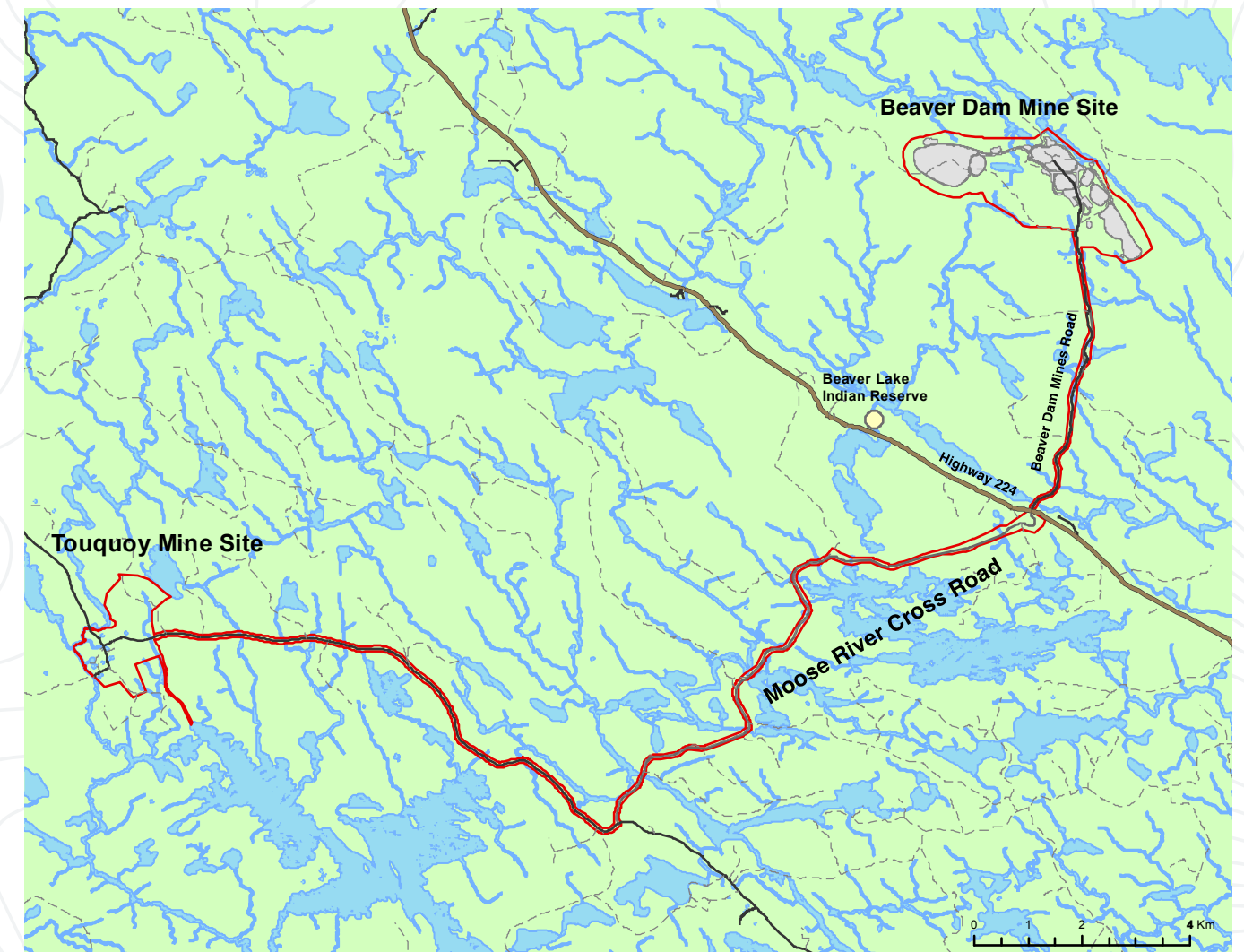




Current Condition of the Project Site

The Beaver Dam Mine Site is a privately-owned forested area and its main industrial use is forestry harvesting activities. The streams in the area support trout fishing and other recreational uses, such as canoeing and ATV use.

Atlantic Gold is not the first company to mine for gold in this area. The age of these older mines dates as far back as the late 1800s. There are remains of these older mines at the site including abandoned mine openings, a settling pond, and piles of waste rock and possible tailings, known as historic tails. The existing roads on the site also show that the area was used for mining and forestry activities in the past. Studies of the area show that previous mining companies removed ore and dug the settling pond in the 1970s and 80s. Atlantic Gold has committed to cleaning up the historical mine waste that underlies the proposed mine.





Project Description

The **Beaver Dam Mine Project** will include building a surface mine, two waste rock storage areas, a pad where crushing activities will occur and trucks will be loaded, and a haul road transporting ore to the Touquoy Mine. The Project will produce two million tonnes of gold-bearing ore per year.

SURFACE MINE

Atlantic Gold will dig a large surface pit in order to mine the gold at the Project. The pit will be 900 m (east/west) long and 300-450 m (north/south) wide and will have a maximum depth of 170 m.

CRUSHER AREA

The ore removed from the pit at the Project will be crushed at the crusher area. After crushing, the ore is placed in trucks and transported to the Touquoy Mine Site for processing into gold bars. The Touquoy Mine is around 30 km from the proposed Beaver Dam Mine Site.

WASTE ROCK STORAGE AREA

The rock that is excavated from the surface pit will be placed in two waste rock storage areas. These areas will range in height from 20 m to 45 m above the surface of the ground. This is about the same height as the hills around the site.

Atlantic Gold will build separate stockpiles of bushes, rocks, soil, and plants close to the waste rock storage area. These till and organics piles will help re-establish vegetation when the mine closes.

The waste rock will be placed according to standard practices and will ensure compliance with provincial regulations with respect to slopes, potentially acid generating material (if any), and surface water run-off.

WATER USE

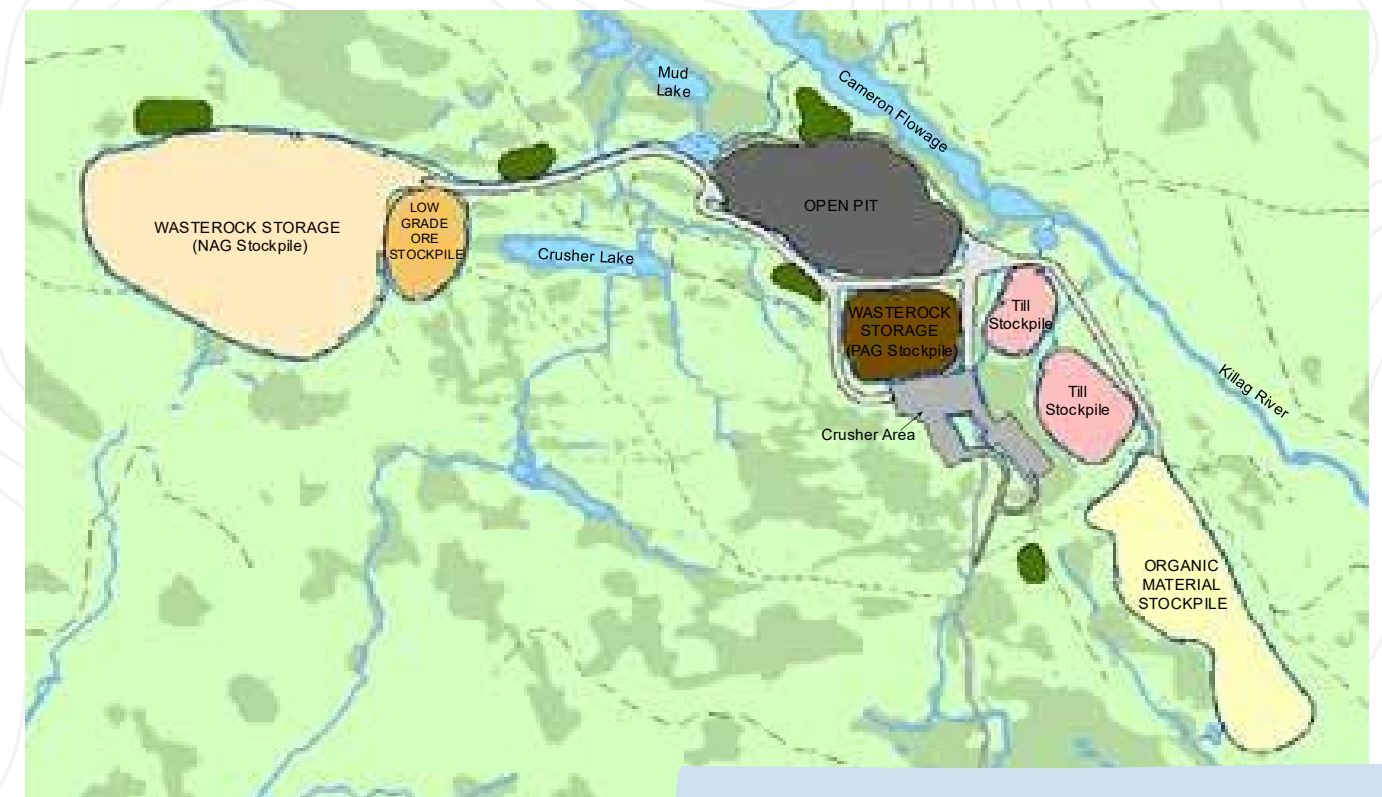
Water from the mine will be collected and stored in two ponds (called settling ponds) until water is tested to make sure it is safe to be let go or released to Cameron Flowage (Killag River). A third settling pond will collect water where it will also be tested before it can be released south to a creek in the Tent Lake watershed.

HAUL ROADS

Ore removed from the Project pit will be crushed and transported to the Touquoy Mine, 30 km west of the proposed Beaver Dam Mine Site. This route is 30.1 km long, 4 km of which is new construction. This is the route the transport trucks will take:

- Trucks carrying the ore will travel south on the upgraded Beaver Dam Mines Road and cross Highway 224.
- Once across the Highway, trucks will travel southwest along a 4 km stretch of new construction.
- Trucks will then travel west on the upgraded Moose River Cross Road. Trucks will then travel northwest on the existing Mooseland Road to the Touquoy Mine.
- Hauling will occur between 7 am and 11 pm daily.
- A total of 185 return truck trips per day are planned to transport ore to the Touquoy Mine Site.

BEAVER DAM MINE PROJECT



Other Facilities

In addition to the main components of the Project, a number of other facilities will be required.

ROADS

There will be roads around the site that allow the mine trucks to bring rock out of the pit to either the waste rock storage area or the crusher area, and smaller roads for regular vehicles to manage and monitor the site.

BUILDINGS

Atlantic Gold will build a gatehouse/ security check in, small administrative office, and workshop.

WATER MANAGEMENT PONDS

These ponds and collection ditches will be used to collect and store runoff water until it can be tested to make sure it is safe before being released to the environment.

Ore

Ore is a mineral which has a metal inside it. The ore at Beaver Dam contains gold.

Gold Bars

The ore will be brought to the Touquoy Mine where it will be processed into gold bars. The common current uses of gold are in dentistry and medicine, electronics and computers, medals and statues, and jewellery.

The Life of the Mine

Phase 1

CONSTRUCTION/PRE-PRODUCTION (1 YEAR)

Once Atlantic Gold receives approval from both governments, the company will begin constructing the Beaver Dam Mine Site. The main activities during Phase 1 (construction) include:

- Removing trees and shrubs from the area.
- Stockpiling extra topsoil cleared from the surface pit to use in reclamation when the mine closes.
- Managing the historical tailings in the soil and surface water where they are disturbed. The soils and water in the Beaver Dam area may be contaminated from past historical mining activities. Atlantic Gold will clean up any identified historical waste where required.
- Starting excavation of the mine pit. Additional work is required to understand the archaeological potential (including shovel testing) prior to development of the pit.
- Building the crushing infrastructure and site buildings.
- Removing trees and shrubs to prepare for haul road upgrades and new construction.
- Construction of the Haul Road—upgrades and new construction (4 km section).
- The total amount of land that will be impacted during construction at the Beaver Dam Mine Project is **200 hectares**. Most of this land is currently privately owned.

Phase 2

OPERATIONS (4 YEARS)

Atlantic Gold will begin mining gold at the Beaver Dam Mine Site once construction is complete. This is called the operation phase and the main activities will include:

- Mine operations – excavating and crushing ore.
- Managing the rock that is excavated but does not contain ore. This is called waste rock management. At Beaver Dam the company will build two waste rock storage areas to hold all the waste rock.
- Transporting ore to the Touquoy Mine (185 round trips per day) from 7am to 11pm for processing.
- Atlantic Gold will monitor air quality, wetlands, surface water, and groundwater. The company will also monitor the site for potential archaeological resources.
- Atlantic Gold will test the excess water before releasing it to Cameron Flowage (Killag River). If needed, water will be treated to make sure it is safe to release to environment.

No cyanide or other chemicals will be used at Beaver Dam. The ore will be transported on the Haul Road (upgraded logging roads and 4 km of new construction) to the Touquoy Mine processing facility for processing into gold bars.

Phase 3

CLOSURE (2+ YEARS)

In consultation with the Mi'kmaq and other communities, Atlantic Gold will create a Reclamation and Closure Plan. This plan will work towards making the mine site usable for hunting, fishing, ATVing, and other traditional pursuits such as berry picking once the mine is closed down.

Atlantic Gold will close the mine in two stages:

Reclamation Stage and Closure Stage.

Reclamation Stage:

- Atlantic Gold will remove all mine buildings and equipment.
- All waste rock will be covered with topsoil and reseeded in order to bring the area back to a naturalized condition.
- Surface water ponds will be removed and the mine pit will be flooded. This will create a lake with a shallow wetland border.
- Atlantic Gold will test the water quality in this new lake to make sure that it is safe and not affecting the surrounding environment.
- If needed, water will be treated to make sure it is safe to release to the environment.

Closure Stage:

- All the reclamation activities are completed.
- The site transitions to a natural, stable environment.
- The site will be available for use by Mi'kmaq and other communities.



The Environmental Assessment Process

In order for the Beaver Dam Mine Project to be built, Atlantic Gold needs approval from:

- The Impact Assessment Agency of Canada (IAAC)
- Nova Scotia Department of Environment (NSE)

As part of the Environmental Assessment, Atlantic Gold has to give these agencies a report called an Environmental Impact Statement (EIS). The Environmental Impact Statement is a written report that describes:

- the purpose and background of the Project
- the need for the Project
- the current environment (including plants, air, animals and water etc.) in the Project area
- the potential effects to the environment
- how Atlantic Gold will lessen those impacts
- how Atlantic Gold will reclaim the mine site once operations end
- how Atlantic Gold will monitor the environment and change operations if necessary, based on monitoring results

As part of the Environmental Assessment, Atlantic Gold has prepared this plain language summary to help communicate the key information found in the Environmental Impact Statement. This booklet is shorter than the Environmental Impact Statement. Atlantic Gold encourages you to look at the Environmental Impact Statement if you want more details.

It is important that you and your community understand how the company will build, operate and reclaim the Beaver Dam Mine Site. Atlantic Gold wants you to understand how the mine will affect the environment, and what the company will do to monitor and lessen these effects.



The full Environmental Impact Statement and other reports that will form the submission to the Impact Assessment Agency of Canada can be found at: <https://iaac-aeic.gc.ca/050/evaluations/proj/80111>

Environmental Assessment Process





Engaging Communities of Nova Scotia

Atlantic Gold shares information and engages with different people as part of the Environmental Assessment process. The company wants to know what you and your community think about the Beaver Dam Mine Project. That is why Atlantic Gold held meetings and open houses with people and organizations in Nova Scotia. There is also an Atlantic Gold office in Sherbrooke to provide information to people living on the Eastern Shore. Atlantic Gold also shares information about the Project through email newsletters, information sheets, speeches and press releases.

Meeting with the Mi'kmaq of Nova Scotia

Meeting with Mi'kmaq people is especially important to Atlantic Gold. The company respects all the Mi'kmaq communities in Nova Scotia and knows that Mi'kmaq people want to protect the land, water and animals for generations to come.

Atlantic Gold first started meeting with Mi'kmaq communities over ten years before the Touquoy Mine (Moose River) opened. The company continues to strengthen its relationship with Mi'kmaq people in the development of the Beaver Dam Mine Project. Over the past three years Atlantic Gold met with the following Mi'kmaq organizations and communities:

- Assembly of Nova Scotia Mi'kmaq Chiefs
- Kwilmu'kw Maw-klusuaqn Negotiation Office (KMKNO)
- Millbrook First Nation
- Sipekne'katik First Nation
- Pictou Landing First Nation
- Paqtnkek First Nation
- Native Council of Nova Scotia

At meetings, people wanted to know how the mine and haul road will affect the water, air, land and animals, and how Atlantic Gold will improve and manage the mine site once it closes.

Atlantic Gold will continue to meet with the Mi'kmaq to understand how the project may impact the communities. Atlantic Gold continues to be actively engaged with Millbrook First Nation, KMKNO, and Pictou Landing, Paqtnkek, and Sipekne'katik First Nations so that everyone can review and discuss the Project.



Meeting with the General Public

Atlantic Gold created the Community Liaison Committee (CLC) to give information about the Project to local communities in Nova Scotia. This volunteer committee is made up of people who live around the area of the Project site. The CLC meets four times a year with the company to discuss concerns and progress about the Project. Understanding the concerns of the public helps Atlantic Gold build a more sustainable mine at Beaver Dam.

Engagement with the Mi'kmaq of Nova Scotia

The "Mi'kmaq-Nova Scotia-Canada Consultation Terms of Reference" establishes a process for Crown (government) consultation with the Mi'kmaq of Nova Scotia that is unique in Canada. It is a three-party agreement between the federal and provincial governments and the Mi'kmaq of Nova Scotia that sets out clear steps for government-to-government consultation. Governments require that certain parts of the consultation process be conducted by companies, and the provincial government has guidelines for companies to follow. This is what is referred to as engagement.

Atlantic Gold is committed to meaningful engagement with the Mi'kmaq of Nova Scotia that includes providing all project information, support for technical review, ongoing dialogue regarding any potential impacts, and how those impacts may be mitigated or compensated. Prior and ongoing engagement through the KMKNO, Millbrook and Sipekne'katik First Nations on the Touquoy Mine and Beaver Dam Mine Project has built a good base of knowledge among Mi'kmaw communities over the last number of years regarding Atlantic Gold's projects in Nova Scotia.

Consultation with the federal and provincial governments is expected to continue through 2020 and 2021 as part of the Environmental Assessment (EA) process. Atlantic Gold is committed to continued engagement with the Mi'kmaq of Nova Scotia throughout the life cycle of the mines.

The Mi'kmaw Nation has lived and occupied the area now known as the Maritime Provinces and the southern Gaspé Peninsula since time immemorial. This area is known to Mi'kmaq people as Mi'kma'ki. The traditional homeland and archaeological findings have given evidence of Mi'kmaw presence in and around the area for more than 13,000 years.

<https://archives.novascotia.ca/genealogy/mikmaq>



Traditional Use by Mi'kmaq People

Atlantic Gold acknowledges and respects that the Beaver Dam Mine Project is in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq people. Since 2014, Atlantic Gold has met with Mi'kmaq communities about the development of this Project. The relationship with Mi'kmaq people is important and Atlantic Gold commits to continuing this in a positive way.

Traditional knowledge shows that the Mi'kmaq lived in semi-permanent and permanent settlements that were close to water - rivers, lakes, the ocean, and hunting areas. Preferred locations were the mouths of rivers where there were a lot of salmon, eel and other fish species. During fall and winter, Mi'kmaq families in the area traditionally moved inland. People used the Beaver Dam area to hunt and gather food and medicine to use during the cold months.

The Beaver Dam Mine Project lies within the traditional Mi'kmaw district of Eskikewa'kik. In English, Eskikewa'kik means "skin dressing territory" or "skin dressers place." Eskikewa'kik spans from Halifax County across to Guysborough County.

Atlantic Gold continues to work with the Mi'kmaq of Nova Scotia to ensure the traditional knowledge of the Mi'kmaq is heard and considered throughout the Project.

Nearest Mi'kmaq Communities

The nearest Mi'kmaw community to the Beaver Dam Mine Project is Beaver Lake Indian Reserve 17. This community is located approximately 6 km southwest of the Project. Beaver Lake is a satellite community associated with Millbrook First Nation. There are five homes and four small seasonal cottages or hunting camps located in Beaver Lake. Lands surrounding the Reserve are used for traditional hunting, trapping, fishing, gathering, and camping. The proposed haul road to transport ore from Beaver Dam Mine Site to the Touquoy Mine Site (where it will be processed into gold bars) has been adjusted to avoid travel on Highway 224 next to the Beaver Lake community.

Sheet Harbour Indian Reserve 36 is located approximately 23 km southeast of the Project. This reserve is also a satellite community associated with Millbrook First Nation. There are nine homes and approximately 25 people living there. The trucks carrying the ore travelling to the Touquoy Mine will not travel past this community.

In order to better understand traditional land use in Eskikewa'kik, Atlantic Gold employed the Confederacy of Mainland Mi'kmaq (CMM) to complete a Mi'kmaq Ecological Knowledge Study. The Millbrook First Nation has also completed a Traditional Land and Resource Use Study, which they have shared with Atlantic Gold to support the EA process. Atlantic Gold continues to work with all Mi'kmaq communities to understand how the land, animals and water are currently used. Working together with Mi'kmaq communities builds trust that Atlantic Gold is moving forward in ways that respect the people, land and waters of Mi'kma'ki.

NETUKULIMK

Netukulimk is a Mi'kmaw word that encompasses the concept of sustainability and responsible use of resources found in the natural environment.



The Natural & Human Environment Today

Atlantic Gold has studied the natural and human environments at the Beaver Dam Mine Project in great detail over the last five years. The natural environment includes the climate, water, plants and wildlife. The human environment includes economic activity and background noise, light and dust levels, communities close to the Project, land and resource use and cultural and heritage resources.

These studies give Atlantic Gold a clear picture of the current conditions at the Project site. The studies also help the company understand and minimize effects and maximize benefits when gold mining starts at Beaver Dam.

The Project is located in a rural part of Nova Scotia and baseline studies show that artificial light levels are low, which means that there is minimal human development in the area. The Beaver Lake IR is located 6 km from the Beaver Dam Mine Site and there are several local residences (seasonal and permanent) near the Beaver Dam Mine Site and along the Haul Road. The overall landscape within the Beaver Dam Mine Site is made up of historic mining, and current and past timber harvesting activities. The area includes both replanted new growth and undisturbed mature forests.

The Beaver Dam Mine Project is located in what scientists call the Eastern Ecoregion. The region reaches from the Bedford Basin to the town of Guysborough. The land is a combination of gently sloping hills, ridges and wetlands. This region is inland from the harsher Atlantic climate. The warmer summers and colder winters are ideal for the softwood forests of red spruce and hemlock.

Baseline Testing refers to testing that was done before any gold mining begins in the Beaver Dam Mine Site area.

Fish & Wildlife

The area within and surrounding the Beaver Dam Mine Site supports the following fish:

- American eel
- Banded killifish
- Brook trout
- Golden shiner
- Lake chub
- White sucker
- Yellow perch
- Brown bullhead
- Northern redbelly dace
- Ninespine stickleback
- Atlantic salmon (southern uplands)

Cameron Flowage (Killag River), Mud Lake, Crusher Lake, West River Sheet Harbour, Morgan River and other waterways within the Project Area provide habitat where fish overwinter, spawn, rear their young, and feed. Studies didn't find any Wood Turtles in the area, but biologists have observed Snapping Turtles in the Project Area.

Atlantic Gold studied birds and found that 103 species of birds live around the Beaver Dam area. Studies showed that hawks, kingfishers, jays, crows, ravens, grouse, pheasants and owls live around the Beaver Dam area.

This area is typical for rural Nova Scotia and studies show that it is home to many different types of animals including: moose, black bear, coyote, fox, otter, porcupine, toads, frogs and snakes. Signs of these animals included dens and nests, scat, tracks and forage sites.

Water

The Project is in a rural area of Halifax County that is sparsely populated. The nearest domestic well is about 5 kms away from the Project site.

Crusher Lake and Mud Lake are located within the Beaver Dam Mine Site. The Mine Site is located just south of Cameron Flowage (Killag River). The Beaver Dam Mine Site is within the West River Sheet Harbour Watershed. The Haul Road is 30 km long and travels through several watersheds.



Current Use by Mi'kmaq Communities

The Mi'kmaq of Nova Scotia shared with Atlantic Gold the importance of this area to the Mi'kmaq people. The company knows that Mi'kmaq communities continue to use this area to hunt, fish, hold ceremonies and gather food and medicines.

The Mi'kmaq Ecological Knowledge Study (MEKS) was completed from 2009-2017 with direct input from Mi'kmaq communities. The Traditional Land and Resource Use Study (TLRUS) was completed by, and with direct input from, the Millbrook First Nation. The purpose of these studies was to identify the Mi'kmaq people's use of land, water, animals and special places within the Beaver Dam Mine Project area.

The MEKS and the TLRUS found that there is moderate to high usage of traditional lands surrounding the Project and Haul Road.

Atlantic Gold's general understanding of the level of traditional use in the Project area is defined as moderate to high usage. This conclusion is based on information shared in the MEKS and TLRUS and ongoing discussions with the Mi'kmaq communities.



Mi'kmaq Ecological Knowledge Study

Mi'kmaq Ecological Knowledge Study (MEKS) has been defined in the Mi'kmaq Ecological Knowledge Protocol (Protocol) as "...the collection and adaptation of knowledge that Mi'kmaq people have with all components of the natural environment and the interrelationships between all life forms from a unique historical, cultural and spiritual level."

- The Protocol was ratified by the Assembly of Nova Scotia Mi'kmaq Chiefs on November 22, 2007 and outlines specific guidelines and conditions on the development of a MEKS in the province. The purpose of a MEKS is to identify and report any ecological concerns regarding the Project's impact on the Mi'kmaq people's use of land, resources and special places within the Project area.

- Methodology of this Study included the following components:

- Archaeological review of the Beaver Dam Mine Project.
- Historical survey of Mi'kmaq land use and occupancy.
- Two season ground surveys of local plant resources of special significance to the Mi'kmaq people within the Beaver Dam Mine Site and Haul Road.
- Community-based research on current Mi'kmaq land and resource uses, carried out between 2009 to 2016 in the neighbouring Mi'kmaq communities with Mi'kmaq knowledge about the Project area, its resources and current Mi'kmaq land use.

Traditional Land and Resource Use Study • Millbrook First Nation

- An Indigenous Traditional Land and Resource Use Study (TLRUS) was undertaken separately by Millbrook First Nation regarding historical and current use of the Project Area by the Millbrook First Nation.
- This study confirmed that the area is used frequently (weekly to yearly, depending on availability of species) by Millbrook First Nation for hunting, trapping, gathering/harvesting of plants and wood products, fishing, and modern-day camps for recreational purposes.

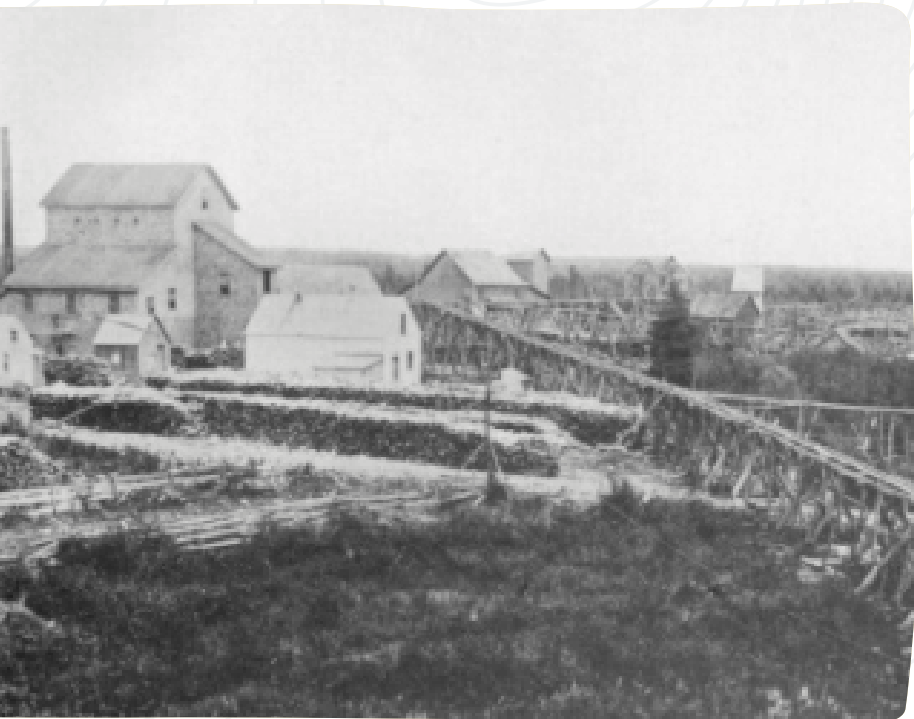


Cultural and Heritage Resources

In order to learn about the history of the land use, including how the Mi'kmaq people and others use of the area around the Project, Atlantic Gold hired the Cultural Resource Management Group. This group completed archaeological studies of the Beaver Dam area from 2009-2018. The study reviewed previous archaeological reports, land grants records, legal surveys, historical maps, local and regional histories, topography maps, aerial photos and satellite data.

As part of the study the Cultural Resource Management Group contacted the KMKNO's Archaeological Research Division and Millbrook and Sipekne'katik First Nations for information on potential traditional or historical Mi'kmaq use of the area.

The study found several areas that could contain Mi'kmaq archaeological resources, including an area along the north shores of Crusher Lake, and four individual areas along the southwestern shores of Cameron Flowage. The study also identified eight sites associated with historical mining activities and other domestic or industrial uses.



Unconfined tailings deposit next to stamp mill site Mooseland, Halifax Co. in 1897 (National Archives of Canada, PA 39899, edited; Smith et al., 2005)

Recreational and Commercial Activities

Land and resource use around the Beaver Dam area includes hunting and trapping, fishing, forestry, berry picking, and activities such as snowmobiling and boating. Both Indigenous and non-Indigenous people use this area. The main business in the area is forestry. There are also coastal communities to the south that have a long-standing lobster and fishing industries.





Effects on the Natural & Human Environment

Atlantic Gold is committed to developing the Beaver Dam Mine Project in a way that meets the needs of Mi'kmaq people and other Nova Scotians today and in the future. For the past five years, Atlantic Gold has studied and designed this Project to protect the land, air, water and animals. The company plans to lessen any harmful effects during construction, operation and closure of the mine.

It is important to understand how mining gold could affect the environment around Beaver Dam. Atlantic Gold hired scientists to study the Project site to find out what changes might happen to the environment as a result of mining. Atlantic Gold also met with people from communities who told the company that certain parts of the environment were especially important to study.

As a result of community engagement sessions and government guidelines, the scientists looked at different parts of the environment in this process. Scientists call the different aspects of the environment: **Valued Components** or **VCs**.

VCs include

- Air**
- Light**
- Noise**
- Groundwater**
- Surface Water**
- Land**
- Animals**
- Fish**
- Birds**
- Cultural and Heritage Resources**
- Effects to the Mi'kmaq People**

Air

Changes in air quality as a result of the Beaver Dam Mine Project will only happen close to the construction sites and roads. Changes will include more dust in the air as a result of construction and mining activities. Atlantic Gold will have programs in place that will ensure the air quality will comply with the levels that the government has decided are acceptable at the mine property boundary. Atlantic Gold will reduce dust at the Beaver Dam Mine Project by watering roads during dry periods. Along the Haul Road, Atlantic Gold will reduce dust by spreading a chemical dust suppressant. This dust suppressant to be used will be shown to be safe for surrounding waterways and animals. It is important to know that Atlantic Gold has to meet air quality standards set out by: NS Ambient Air Quality Guidelines, the Canadian Council of Ministers of the Environment (CCME) and Canada Wide Standards.

Light

Baseline testing showed that the natural light levels are low and the night sky is dark in the Beaver Dam area. This is because there are not a lot of businesses or residents close to the site. The Beaver Lake IR is located 6 km southwest of the Beaver Dam Mine Project, and there are several seasonal and permanent residences near the intersection of the Beaver Dam Mines Road and Highway 224 and along the Haul Road.

Although there are no government rules about the effects of light levels on the environment, Mi'kmaq communities told Atlantic Gold that light is important to the health of the environment. Testing shows that the lights at the Project site will only affect the area close to gold mining activities. This means that the light should not be seen beyond 2 km from the Beaver Dam Mine Site.





Noise

Activities such as construction, operation and hauling ore in trucks could affect the noise level at the Beaver Dam area. Therefore, it is important to Atlantic Gold to follow the government rules about noise levels. Pit and Quarry Guidelines limit the noise levels in the area.

Studies predict that noise levels will meet the Pit and Quarry Guidelines at the mine property boundary. Noise levels along the Haul Road will meet Pit and Quarry guidelines at the property boundary (30 m from the centerline of the road in each direction). Noise is predicted to slightly exceed evening guidelines (by a maximum of 10 m outside the property boundary) at specific locations with tight corners.

Atlantic Gold will continue to undertake regular maintenance of haul trucks and other mine vehicles to minimize noise. In addition, most mining trucks are equipped with low noise mufflers that reduce overall noise.

Groundwater

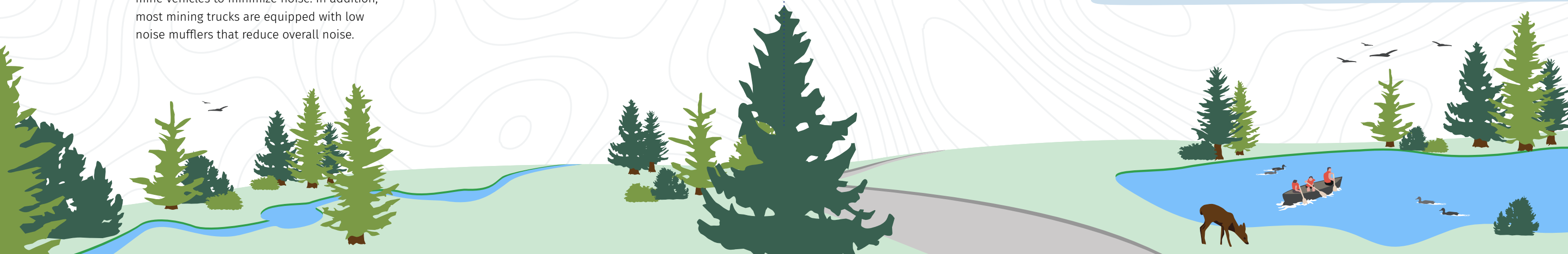
Groundwater is defined as water that is found in the soil and bedrock. In order to protect groundwater in the Project area, Atlantic Gold will build the waste rock storage areas under the guidance of government rules. These rules say that Atlantic Gold must understand the quality of this water. The small amount of water that comes from these facilities is called seepage. Atlantic Gold will construct the facilities to ensure that the minimum amount of water seepage reaches the groundwater. Studies have been completed to confirm the quality of the groundwater to ensure it won't affect fish, wildlife or humans.

Water Use at the Beaver Dam Mine Project

At community engagement sessions, people shared with Atlantic Gold their concerns about the effect of gold mining on water quality. Water quality is studied in two different ways—groundwater and surface water. Both are important resources in the Project area. There will be several activities at the mine that could affect these resources. The waste rock management facility could make changes to groundwater. Pumping water out of the open pit mine could change water levels within streams and wetlands near the pit.

Cameron Flowage (Killag River)

This is the name of a surface water body north of the Project. Excess water from mine operations and closure will be discharged into Cameron Flowage after it has been tested to make sure it is safe to release. A small amount of excess water from mine operations will be discharged south, into an unnamed creek in the Tent Lake watershed.





Surface Water

Surface water is defined as water that is found at surface locations such as lakes, rivers, streams and wetlands. Surface waters are located at the Beaver Dam Mine Project. Atlantic Gold has completed many studies to understand how the mine might impact local streams and wetlands and the animals that depend on them, especially fish.

Atlantic Gold will collect all rain and run off surface water that contacts rock piles and the open pit. This water will go into settling ponds during operations. Once the mine is closed this water will go into the mine pit. This water will help the pit re-fill with water.

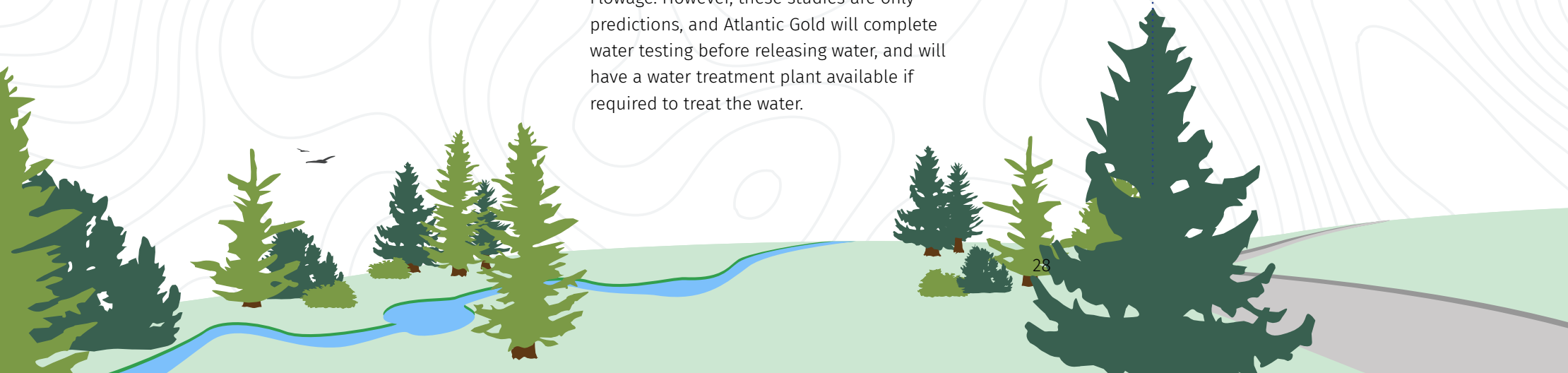
Collecting this water can have an effect on surrounding streams and wetlands, as water that would have supported those habitats will be re-directed. Studies have been completed to ensure that the effect to these habitats is minimal. If larger effects are predicted, Atlantic Gold must get a government permit to address the loss of habitat (wetlands, watercourses, fish and fish habitat). The permit also requires Atlantic Gold to replace lost habitat.

Atlantic Gold has also completed studies to understand how water moving through the exposed rock piles and the pit might change the quality of this water. This water will be collected in the settling ponds, where it will be tested, and then released when safe into Cameron Flowage. Studies have shown that the water released into Cameron Flowage will not impact the animals living in Cameron Flowage. However, these studies are only predictions, and Atlantic Gold will complete water testing before releasing water, and will have a water treatment plant available if required to treat the water.

The pit at the Touquoy Mine will be used to store tailings after processing of the Beaver Dam Mine Project ore. Once the pit fills with water (with tailings at the bottom of the pit), the water will flow to the Moose River. Studies have also been completed that show that this water won't harm animals that live in the Moose River. However, these studies are also only predictions and Atlantic Gold will complete water testing to make sure it is safe before it is released, and will have a water treatment plan prepared if required to treat the water.

Tailings

Tailings are the rock left behind after ore is crushed and gold is extracted. Tailings will not be generated or stored at the Beaver Dam site.





Land

The Beaver Dam Mine Project is covered in a variety of wetlands and forested areas. There will be a loss of some wildlife and plant habitat because of mining activities. There will be a loss of wetland habitat. Atlantic Gold has adjusted their plans to avoid the buffer zone for Boreal Felt Lichen habitat to the south of the Project Area. The company has avoided all confirmed locations of Frosted Glass Whiskers (a lichen) and will only impact one location of Blue Felt Lichen. Wherever possible, Atlantic Gold has made every effort to avoid lichens. These plants are considered species at risk by federal and provincial governments.

Animals

Studies show the Beaver Dam Mine Project could affect animals such as black bear, moose and beaver. Effects could include animals moving away from the mine to different habitat areas to avoid increased noise and light levels. Scientists know that animals do not generally live close to mining activities, especially when the mines are being built.

Atlantic Gold will develop a mainland moose monitoring program with the participation of the Mi'kmaq of Nova Scotia to determine moose activity during mining operations. This will help the company avoid areas where moose live, forage and travel through. Mainland moose is considered a species at risk by the provincial government.

Fish

Atlantic Gold found that the types and number of fish in the Project area is moderate.

The company plans to remove the historical settling pond when it builds the open pit. This will result in a loss of fish habitat. Atlantic Gold is working with the Department of Fisheries and Oceans Canada (DFO) to develop a fish habitat compensation plan. This plan will explain how the company will create other habitats when it disrupts areas where fish live and travel through. The company will engage with Mi'kmaq communities during this process. The company's priority will be to identify habitat compensation projects that will benefit Mi'kmaq communities.

Birds

Studies show that there are a variety of birds in the Beaver Dam area. Common species include Cape May warbler, Northern goshawk, and Blackburnian warbler. As a result of mining, birds will likely avoid the area. This potential avoidance could be due to changes in noise and light levels and the loss of habitat due to mining activities.

There are several species of birds that were observed in the Project Area that are considered at risk by provincial and federal governments. There will likely be some changes in the way the birds use the area. Atlantic Gold will follow federal and provincial laws that protect species at risk in the design and operation of the mine.

SPECIES AT RISK (SAR)

Is any type of plant or animal in danger of extinction or of disappearing from the province. Most of these types of animals and plants are facing problems caused by human activities and climate change.

Species at Risk (SAR) are legally protected under the Species at Risk Act (SARA) and/or the provincial Nova Scotia Endangered Species Act (NSES).

MITIGATION

Atlantic Gold will create Environmental Management Programs that will work to limit the impacts of mining activities on the natural environment including fish, animals and plants.

Within the Beaver Dam Mine Project, the impact of light on animals and birds will be reduced by installing lights facing downward and wherever possible, using motion-sensing lights.

Intact forest stands and wetlands will be avoided wherever possible during Project planning and design. Atlantic Gold will try to use previously disturbed areas (e.g., stands disturbed by historic mining and current timber harvesting) during construction and mining operations.

Cultural and Heritage Resources

FIVE AREAS OF POTENTIAL MI'KMAW ARCHAEOLOGICAL RESOURCES WERE IDENTIFIED WITHIN THE BEAVER DAM MINE SITE STUDY AREA

- All sites were determined to be potential areas used by Mi'kmaq people based on their proximity to a water source and terrain suitable for settlement/encampment.
- Area 1 is located on the north shoreline of Crusher Lake and is considered to have elevated archaeological potential. This area will not be impacted by the current design of the mine.
- Areas 2 and 3 are located on the southwestern shoreline of Cameron Flowage and are considered to have elevated archaeological potential. These areas will be affected by the development of the pit and associated infrastructure. Additional work is required to understand the archaeological potential (including shovel testing) prior to development of the pit.
- Areas 4 and 5 are located farther south than Areas 2 and 3, along the southwestern shoreline of Cameron Flowage, and are considered to have elevated archaeological potential. These areas will not be impacted by the current design of the mine.

EIGHT ARCHAEOLOGICAL SITES (HISTORICAL MINING AND DOMESTIC/INDUSTRIAL FEATURES) WERE IDENTIFIED WITHIN THE BEAVER DAM MINE STUDY AREA

- Sites 1-5 and Sites 7 and 8 will not be impacted by the current design of the mine.
- Site 6 will be impacted to allow for road development. Additional work is required to document this feature (shovel testing) prior to development of the mine.

SHOVEL TESTING

Prior to building the mine, Atlantic Gold will test the area for archaeological artifacts. Shovel testing is the first step to discover if an area has artifacts. To shovel test, archaeologists dig shallow holes, the dirt is sifted and artifacts are collected. The location of the artifacts is drawn on a map. While shovel testing does not disturb large areas of land, it does show where artifacts are located. It also shows whether or not sites need to be further examined. Consultation with the Mi'kmaq will be completed prior to shovel testing.

Effects to the Mi'kmaq People

The Environmental Impact Statement has concluded that the Beaver Dam Mine Project will potentially have the following effects on Mi'kmaq people:

- There will be some loss of plants in the Project area. These species also grow in areas surrounding and outside the Project area.
- There will be a reduction in land available for hunting, trapping, gathering, fishing, spiritual ceremonies and other Mi'kmaq traditional activities within the Project area.
- There is the potential that light, noise and dust from the construction and operation of the gold mine will affect birds and other wildlife. Animals tend to move to other areas, away from mining activities, and this is anticipated to happen at the Project.
- There will be loss of access, including a potential exclusion zone for the use of firearms, in traditional harvesting areas. This will reduce the overall area of access for Mi'kmaq hunters near the Project.
- During the approximate 8 years that Atlantic Gold will use the Project site for construction, operation and active reclamation of the mine, people will not be able to use it for traditional activities. After that time, the company will have reclaimed the Project site to a natural state, and it can be used once again for hunting, harvesting, spiritual ceremonies and recreational activities.
- No known physical and cultural sites that are important to Mi'kmaq people will be affected by the Project. Shovel testing will be completed on the southwestern shores of Cameron Flowage to further evaluate two areas of elevated potential for Mi'kmaq resources.
- There is a low risk to human health from the Project. This means that people will be able to continue to consume country foods, use plants and the water in the areas surrounding the Project.
- The mine will provide added employment and economic opportunities to the area, and the Mi'kmaq people are anticipated to benefit from this increased economic activity.



Environmental Monitoring

Atlantic Gold is committed to ongoing and regular environmental monitoring during construction, operation and closure of the mine. Results of environmental monitoring programs will help the company identify areas where additional work may be required to protect the environment during mine operations and closure. The company will monitor the natural environment including:

- water (groundwater and surface water)
- wetlands
- fish and fish habitat
- the physical environment (air quality and noise, if required)
- physical and cultural heritage
- changes at the community level

The results of environmental monitoring programs will be shared with the Mi'kmaq and other community members.



Reclamation

Atlantic Gold will create a Reclamation and Closure Plan in consultation with the Mi'kmaq of Nova Scotia and other local communities. The purpose of this plan is to return the site to make it safe for people and animals who will use the area when reclamation is complete.

Atlantic Gold will reclaim construction facilities such as the open pit, temporary roads, waste rock and soil tillage piles. The company's plan will include the following activities:

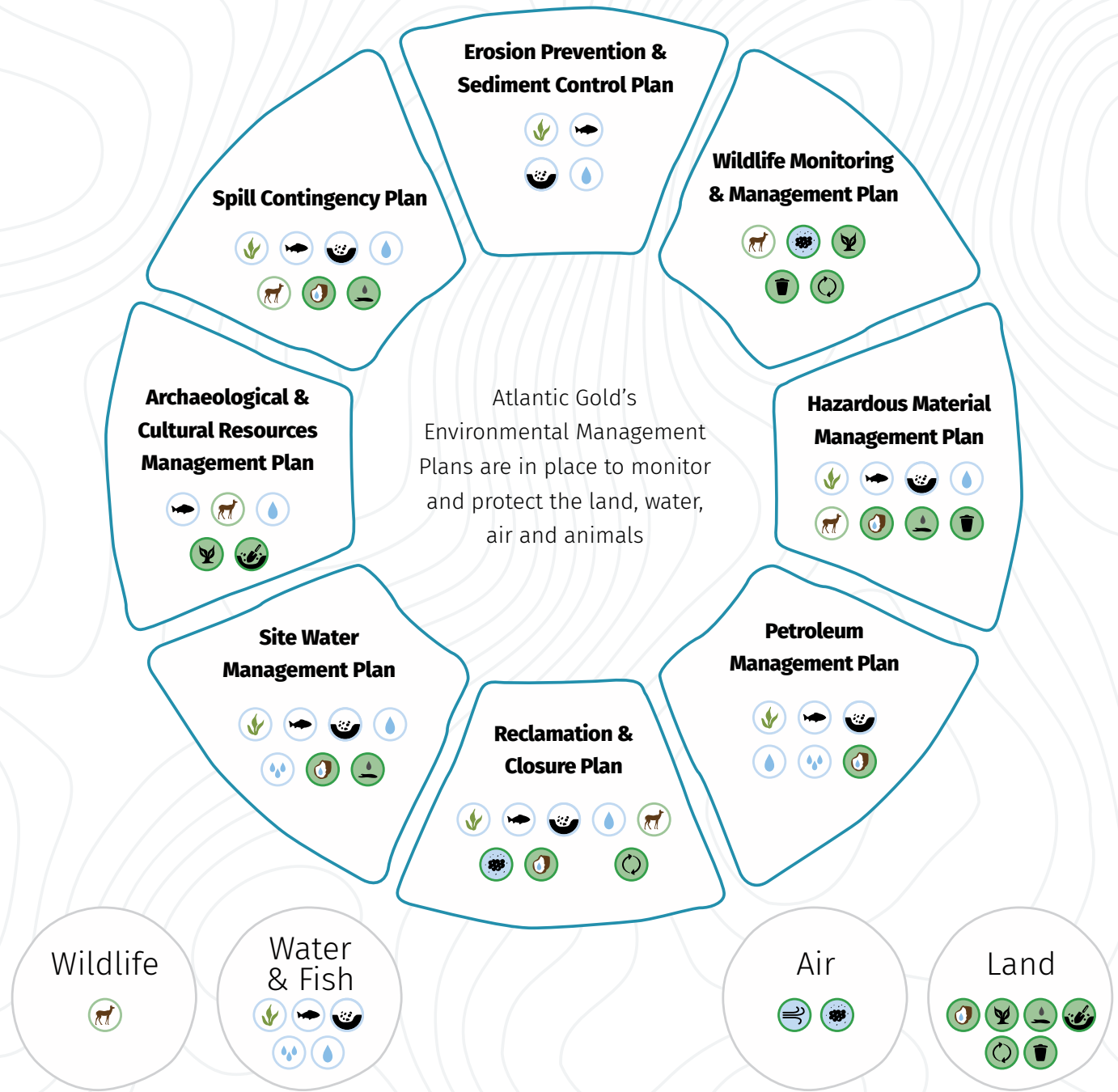
The open pit will be **filled with water to become a lake** with shallow wetland shores.

Waste rock piles will be **covered with soil and planted with grasses and trees.**

All other mine facilities (e.g. buildings and roads etc.) will be removed and **areas will be planted with grasses and trees.**

Water runoff from the site will be **carefully monitored and water treatment will be used** to make sure that it is safe for fish and people.

Environmental Management Programs



LEGEND

- Aquatic Life
- Fish
- Sediment Quality
- Water Quality
- Hydrology
- Wildlife
- Air Quality
- Dust
- Plants & Soils
- Seepage
- Spills
- Reclamation
- Archaeological Sites
- Waste



Benefits of the Project

448 Full-Time Jobs

created in Nova Scotia during construction and operations

\$31.2 Million

per year in value added to Nova Scotia (e.g., contracts and commercial opportunities during operations)

Educational

scholarships & bursaries

Training

& apprenticeship programs

311 Full-Time Jobs

created in Nova Scotia during operations

\$1.2 Million

in tax revenues per year to be paid to Halifax Regional Municipality during operations

Sponsorship

of Mi'kmaq and other local community recreational and cultural events

Conclusions

The Beaver Dam Mine Project has been designed and will be built so that significant environmental effects will not occur. These conclusions will be supported by the monitoring and reviewing of operations by Atlantic Gold and regulators to adjust plans as required during all phases of the Project.

It is Atlantic Gold's aim to reduce environmental impacts that could affect the land, water, fish, animals, cultural heritage, the Mi'kmaq traditional use of the and nearby communities. The company understands that a healthy environment is important to Mi'kmaq people. Concerns raised by Mi'kmaq, and other people, have been included in the design of the life of the mine—from construction and operation to reclamation of the Project site. The company will continue to look for your feedback and ideas on how to improve programs and operations at the Beaver Dam Mine Project.

Atlantic Gold commits to working with communities and people in Nova Scotia to provide employment and training opportunities at its mines. These economic and social benefits will improve the lives of communities in Nova Scotia.

ST. BARBARA'S VALUES STATEMENT

We act with **honesty and integrity**

We treat people with **respect**

We value **working together**

We **deliver** to promise

We strive to **do better**

ST. BARBARA'S VISION UNDERPINNED BY FOUNDATIONS OF...

Safe production

Capable and committed workforce

Environmental **sustainability**

Beneficial relationships with our communities

Respect for the rights and aspirations of our people

Ethical business dealings



Atlantic Gold
A St Barbara Ltd Company

Atlantic Mining NS Inc.
409 Billybell Way, Mooseland
Middle Musquodoboit
Nova Scotia, Canada B0N 1X0
atlanticgold.ca

Tel: +902.384.2772
Fax: +902.384.2259
stbarbara.com.au

